



# **Turf**

Strategic Agrichemical Review Process  
(SARP)

April 2023

Hort Innovation  
Project – MT21005

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MT21005 –Strategic Agrichemical Review Process (SARP) Updates

**SARP Service Provider:**

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**Purpose of the report:**

This report was funded by Hort Innovation to investigate the pest problem, agrichemical usage and pest management alternatives for the turf industry across Australia. The information in this report will assist the industry with its agrichemical selection and usage into the future.

**Date of report:**

April 2023

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## **1. Summary**

A Strategic Agrichemical Review Process (SARP), through the process of a desktop audit and industry liaison;

- (i) Assesses the importance of the diseases, insects and weeds (plant pests) that can affect a horticultural industry;
- (ii) Evaluates the availability and effectiveness of fungicides, insecticides and herbicides (pesticides) to control the plant pests;
- (iii) Determines any gaps in the pest control strategy and
- (iv) Identifies suitable new or alternatives pesticides to address the gaps.

Alternative pesticides should ideally be selected for benefits of:

- Integrated Pest Management (IPM) compatibility
- Improved scope for resistance management
- Sound biological profile
- Residue and trade acceptance domestically and for export

The results of this process will provide the turf industry with sound pesticide usage for the future that the industry can pursue for registration with the manufacturer, or minor-use permits with the Australian Pesticide and Veterinary Medicines Authority (APVMA).

## **1.1 Diseases**

The high priority diseases are:

<b>Common Name</b>	<b>Scientific Name</b>
Black Smut	<i>Ustilago</i> spp.
Curvularia Leaf Spot	<i>Curvularia</i> spp.
Grey Leaf Spot	<i>Pyricularia grisea</i>
Take-All / Couchgrass Decline	<i>Gaeumannomyces graminis</i> var. <i>graminis</i> & <i>Gaeumannomyces Wanganui</i>

## **1.2 Insects and mites**

The high priority insect and mite pests are:

<b>Common Name</b>	<b>Scientific Name</b>
Armyworm	<i>Spodoptera</i> spp.
Fall Armyworm	<i>Spodoptera frugiperda</i>
Cutworms	<i>Agrotis</i> spp.
Eriophyoid Mites / Couch Mite	<i>Aceria</i> spp.
Grass Webbing Mites	<i>Oligonychus</i> spp.
Nematodes	Nematoda

## **1.3 Weeds**

The high priority weeds identified are:

<b>Common name</b>	<b>Scientific name</b>
Capeweed	<i>Arctotheca calendula</i>
Flatweed	<i>Hypochaeris radicata</i>
White Clover	<i>Trifolium repens</i>
Couch	<i>Cynodon dactylon</i>
Crowsfoot Grass	<i>Eleusine indica</i>
Cudweed	<i>Gnaphalium pennsylvanicum</i>
Dandelion	<i>Taraxacum officinale</i>
Flaxleaf Fleabane	<i>Conyza bonariensis</i>
Jo-jo Weed / Bindii	<i>Soliva sessilis</i>
Kikuyu Grass	<i>Pennisetum clandestinum</i>
African Lovegrass	<i>Eragrostis curvula</i>

<b>Common name</b>	<b>Scientific name</b>
Kyllinga Weed	<i>Cyperus sphaeroideus</i>
Mullumbimby Couch	<i>Cyperus brevifolius</i>
Nutgrass	<i>Cyperus rotundus</i>
Parramatta Grass	<i>Sporobolus africana</i>
Bahia Grass	<i>Paspalum notatum</i>
Paspalum	<i>Paspalum dilatatum</i>
Saltwater Couch	<i>Paspalum vaginatum</i>
Water Couch	<i>Paspalum distichum</i>
Rhodes Grass	<i>Chloris guyana</i>
Spurge	<i>Chamaesyce maculata</i>
Summer Grass	<i>Digitaria</i> spp.
Winter Grass / Annual Poa	<i>Poa annua</i>

#### **1.4 Plant Growth Regulators**

The high priority Plant Growth Regulator issues are:

<b>Issue</b>
Reduce vertical leaf growth

## **2. The Australian Turf Industry**

Turf covers live grass products grown for parks, gardens, residential and commercial properties, sporting venues and for land rehabilitation and landscape improvement purposes. Production occurs in all states and territories of Australia with the majority in New South Wales and Queensland. Production is year-round with a number of different varieties being grown, although there is a peak of production during the spring and summer months.

Total production for the year ending June 2021 was 44.2 million square metres<sup>1</sup>. Turf production was worth \$308 million.

Couch and Buffalo are the two most common varieties grown in Australia, each accounting for approximately 32% of production for the year ending June 2020. Kikuyu makes up a further 21% of total production and multiple varieties make up the remaining 15%.

### Turf Seasonality by State

State	20/21 million m2	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
New South Wales	14.6	High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low
Victoria	5.7	High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low
Queensland	16.8	High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low
Western Australia	3.1	High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low
South Australia	3.1	High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low
Availability legend		High	High	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	None

All turf production in Australia supplies the domestic market.

<sup>1</sup> Hort Innovation (2021). Australian Horticulture Statistics Handbook 2020/21. [online] Available at: <https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/grower-resources/ha18002-assets/australian-horticulture-statistics-handbook/>

## **3. Introduction**

### **3.1 Background**

Growers of some horticultural crops suffer from a lack of legal access to crop protection products (pesticides). The problem may be that whilst a relatively small crop area is valuable in an agricultural sense, it may not be of sufficient size for Agrichemical companies to justify the expense of registering a product use on that crop. Alternately, the disease, pest, or weed problem may be regional or spasmodic, making Agrichemical companies unwilling to bear the initial high cost of registering suitable pesticides.

Growers may face severe losses from diseases, pests and weeds due to a lack of registered or approved (via a permit) chemical control tools.

Environmental concerns, consumer demands, and public opinion are also significant influences in the marketplace related to pest management practices. Industry IPM practitioners must strive to implement best management practices and tools to incorporate a pest management regime where strategies work in harmony with each other to achieve the desired effects while posing the least risks.

In combination with cultural practices, pesticides are important tools in turf production and respective IPM programs. They control the various diseases, insects and weeds that affect the crop and can cause severe economic loss in modern high intensity growing operations. Pesticides are utilised during establishment and development, and to maximise quality and customer appeal.

As a consequence of the issues facing the turf industry regarding pesticide access, Hort Innovation undertook a review of the pesticide requirements via a Strategic Agrichemical Review Process (SARP) in 2017. The current project is to update the SARP with the latest information and progress.

The SARP process identifies diseases, insect pests and weeds of major concern to the turf industry. Against these threats, available registered or permitted pesticides are evaluated for overall suitability in terms of IPM, resistance, efficacy, trade, human safety and environmental issues. Where tools are unavailable or unsuitable the process aims to identify potential future solutions. Potential new risks to the industry are also identified.

The results will provide the turf industry with a clear outlook of gaps in existing pest control options. This report is not a comprehensive assessment of ALL pests and control methods used in turf but attempts to prioritise the major problems.

Exotic plant pests, not present in Australia, are not addressed in this document.



### **3.2 Minor use permits and registration**

From a pesticide access perspective, the APVMA classifies turf as a major crop. Turf fits within the category “non-food situations” under the description “turf areas (includes commercial turf farms, sports ovals, bowling greens, general lawn areas, etc”. Access to minor use permits can be relatively difficult unless a reasonable justification is provided in accordance with the APVMA’s minor use guidance<sup>2</sup>.

Possible justification for future permit applications could be based on:

- New disease, insect or weed identified as a cropping issue
- No pesticide approved for the problem
- Insufficient options for resistance management
- Current pesticides ineffective due to resistance
- Trade risk - current pesticides unsuitable where crop commodities will be exported
- IPM, environment or OH&S issues
- Loss of pesticides due to removal from market or chemical review restrictions
- Opportunity to extrapolate a use pattern when a new, effective pesticide is registered in another crop
- Alternate pesticide has overseas registration or minor use permit
- Market failure – insufficient return on investment for registrant.

With each of these options, sound, scientific argument is required to justify any new permit applications. Another option for the turf industry is for manufacturers to register new pesticides uses in the crop.

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<sup>2</sup> <https://apvma.gov.au/node/10931>

### **3.3 Methods**

The current update of the Turf Strategic Agrichemical Review Process (SARP), which was last updated in 2017, was conducted by desktop audit using industry information gathered during 2021-2023. The process included gathering, collating and confirming information:

<b>Process of Review</b>	<b>Activity</b>
Industry survey	Preparation and circulation of online industry survey to update priority pests and identify priority control gaps. Survey released: 17 November 2021 Survey closed: 28 February 2022 Limited responses were received for the survey and subsequent industry engagement proved difficult. The lack of feedback has resulted in low confidence that the updated priorities are accurate.
SARP data updated via a desktop audit	Updated registrations and permits Updated available and potential pesticides against low, moderate and high priority pests, including an assessment of their suitability Included information on regulatory risks from MT20007
Captured industry input	Collated and analysed survey results Consolidated and incorporated industry needs and insights

## **3.4 Results and discussions**

### **3.4.1 Detail**

Results and discussions are presented in the body of this document.

### **3.4.2 Appendices**

Refer to additional information in the appendices:

Appendix 1. Products available for disease control in turf

Appendix 2. Products available for control of insects and mites in turf

Appendix 3. Products available for weed control in turf

Appendix 4. Plant growth regulators available in turf

Appendix 5. Current permits for use in turf

Appendix 6. Turf Agrichemical Regulatory Risk Assessment

## **4. Diseases, Pests and Weeds of Turf**

Resistance management: To manage the risk of resistance development, integrated disease/pest/weed management (IDM/IPM/IWM) strategies should be adopted. The general principle is to integrate diverse chemical and non-chemical strategies; maximise efficacy; not rely on singular tools and rotate between different modes of action. It is always essential to follow all the label instructions. Specific resistance management strategies may apply. These can be found, along with other useful information, on the CropLife Australia website<sup>3</sup>.

In Chapter 4 information on regulatory risk derived from project MT20007 (Regulatory support and coordination) has been incorporated.

While care has been taken to ensure the accuracy of the information provided in this document the APVMA registered label and where relevant the APVMA approved permit must always be followed.

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<sup>3</sup> <https://www.croplife.org.au/resources/programs/resistance-management/>

## **4.1 Diseases of turf**

### **4.1.1 Disease priorities**

<b>Common name</b>	<b>Scientific name</b>
<b>High</b>	
Black Smut	<i>Ustilago</i> spp.
Curvularia Leaf Spot	<i>Curvularia</i> spp.
Grey Leaf Spot	<i>Pyricularia grisea</i>
Take-All / Couchgrass Decline	<i>Gaeumannomyces graminis</i> var. <i>graminis</i> & <i>Gaeumannomyces Wanganui</i>
<b>Low</b>	
Brown Patch	<i>Rhizoctonia solani</i>
Dollar Spot	<i>Sclerotinia homoeocarpa</i>
Pythium Blight / Grease Spot / Cottony Blight	<i>Pythium</i> spp.
Spring Dead Spot	<i>Ophiosphaerella</i> spp.
Helminthosporium Disease	<i>Bipolaris</i> spp., <i>Drechslera</i> spp., <i>Exserohilum</i> spp.
Anthracnose	<i>Colletotrichum graminicola</i>
Red Thread	<i>Laerisaria fuciformis</i>
Winter Fusarium	<i>Fusarium nivale</i>
Fairy Ring	<i>Basidiomycete</i>
Rust	<i>Puccinia</i> spp.

The disease priorities have been assumed as unchanged from the previous SARP report, with Black Smut, Curvularia Leaf Spot, Grey Leaf Spot and Take-All / Couchgrass Decline rated as high priority. Available and potential products for control of diseases are listed in Section 4.1.2.

Fungicides should be supplemented by cultural practices to increase airflow and minimise moisture in the turf sward. Mowing heights should be increased during periods of high disease risk and aeration can be improved by coring. The use of a balanced nutrient program and irrigating on longer intervals will also assist in managing disease infections.

### **Resistance Management**

Resistance by fungal pathogens to fungicides usually evolves following the intensive use of fungicides for disease control. In any fungal population there are likely to be individuals that have some degree of natural resistance, and which are less susceptible to fungicides, even before the chemicals are used. Resistance arises mainly through the incorrect use of fungicides, which selects for the resistant individuals. Continued use of a fungicide or fungicide chemical group can result in a significant build-up of resistant individuals in the fungal population – to the

point where that particular product, or other products from the same chemical group, is no longer effective. In some cases, removal of the selection pressure can result in the fungal population regaining its sensitivity to the fungicide group, but this is not always the case. The risk of fungicide resistance developing varies between different chemical groups and different fungal pathogens, such that specific strategies are recommended for those situations considered to carry the highest risk. Croplife has resistance management strategies in place for turf<sup>4</sup> relating to the management of various diseases.

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<sup>4</sup> [www.croplife.org.au/resources/programs/resistance-management/turf-various-diseases-2-draft-draft/](http://www.croplife.org.au/resources/programs/resistance-management/turf-various-diseases-2-draft-draft/)

#### 4.1.2 Available and potential products for priority diseases

**TABLE KEY:** Note that blank fields in the table indicate no information has been provided.

Availability		Regulatory risk (refer to Appendix 6)	
A	Available via either registration or permit approval	R1	Short-term: Critical concern over retaining access
P	Potential - a possible candidate to pursue for registration or permit	R2	Medium-term: Maintaining access of significant concern
P-A	Potential, already approved in the crop for another use	R3	Long-term: Potential issues associated with use - Monitoring required
Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Black Smut (<i>Ustilago</i> spp.)</b>							
<b>Priority: High</b>							
Rated as a high priority. Black Smut causes the grass to form flower heads where the seeds are replaced by black, powdery spores. The disease also weakens the root system, leading to greater susceptibility to drought and nutrient deficiencies. There are currently no fungicides available to control Black Smut, although incidental control may be achieved through the use of fungicides registered for control of other diseases. Routine mowing of the turf surface or mowing as flower heads appear will significantly reduce its expression.							
Propiconazole	3	Protectant & Curative	NG	P-A	QLD, NSW, VIC, SA & WA	Registered in couch turf for control of Spring Dead Spot. US registration for control of <i>Ustilago sp.</i> in turfgrass.	R3
Triadimefon	3	Protectant & Curative		P		US registration for control of <i>Ustilago sp.</i> in turfgrass.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Curvularia Leaf Spot</b> ( <i>Curvularia</i> spp.)							
<b>Priority: High</b>							
Rated as a high priority. Curvularia causes leaves to turn brown and die, progressing to irregular shaped patches of thinned turf. Infection is favoured by extended periods of warm, moist weather. Management options include increasing cut height, increasing air circulation, avoid over watering and maintain a healthy sward with a balanced nutrition program.							
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, <b>Curvularia Leaf Spot</b> , Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Curvularia Leaf Spot</b> , Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/ha of product per year.	-
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Helminthosporium, Winter Fusarium, <b>Curvularia Leaf Spot</b> , Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3
<b>Grey Leaf Spot (<i>Pyricularia grisea</i>)</b> <b>Priority: High</b> Rated as a high priority. Foliar disease that starts as tiny, brown leaf and stem lesions but can expand to large spots which are grey with purple to brown borders. Grey Leaf Spot is most severe during warm, humid weather. Management options include using longer irrigation cycles, reducing thatch by verti-cutting and avoid the use of herbicides when the disease is active. Grey Leaf Spot is more severe in newly established plantings with high nitrogen levels.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Grey Leaf Spot</b> , Helminthosporium Disease, Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 28 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Grey Leaf Spot</b> , Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, <b>Grey Leaf Spot</b> , Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Chlorothalonil	M5	Protectant & Curative	NG	A	NSW & WA	Registered in turf & lawns, bowling greens and golf greens for control of <b>Grey Leaf Spot</b> . Apply to the leaf as a curative application. Number of applications and retreatment interval not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, Dollar Spot, Fusarium Patch, Anthracnose, Helminthosporium Disease, <b>Grey Leaf Spot</b> and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2
Fluazinam	29	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, <b>Grey Leaf Spot</b> and Helminthosporium Disease. Spray when conditions are favourable for disease development and/or as soon as possible after first symptoms are detected. Make a second application 7-14 days later if conditions continue to favour disease development.	-
Fuopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Fusarium, Dollar Spot, Helminthosporium Disease, Brown Patch, <b>Grey Leaf Spot</b> and Rust. Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fusarium, <b>Grey Leaf Spot</b> , Helminthosporium Disease and Rust. Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, <b>Grey Leaf Spot</b> , Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, <b>Grey Leaf Spot</b> , Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, <b>Grey Leaf Spot</b> and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of Grey Mould and Powdery Mildew in grapes, berries and apples. US registration for suppression of <b>Grey Leaf Spot</b> in turfgrass.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Take-All / Couchgrass Decline</b> ( <i>Gaeumannomyces graminis</i> var. <i>graminis</i> & <i>Gaeumannomyces wanganui</i> ) <b>Priority: High</b> Rated as a high priority. This is a root disease that appears as irregular shaped patches of chlorotic turf. Underground roots initially appear white with black lesions, which progress rapidly to a black shortened rotted root system. Warm periods of prolonged rainfall and cloud cover will favour disease development. The most effective way to prevent Couchgrass Decline is to raise the mowing height during periods of high disease risk. Once disease is evident it may be necessary to use frequent applications of foliar nutrients as the root system is less able to access soil nutrients.							
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and <b>Take-All Patch / Couchgrass Decline</b> . For preventative control, spray in September to November, after renovation and recovery of active growth. Make a second application 1 month later. For early curative applications, spray as soon as possible after first symptoms are detected. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Triconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and <b>Take-All Patch / Couchgrass Decline</b> . Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot and <b>Take-All Patch</b> . Autumn strategy, use preventative applications in January to April, after renovation and recovery of active growth. Make a second application 1 month later. Spring and summer strategy, spray preventative treatments in September to November, after renovation and recovery of active growth, and make a second application 1 month later, or for early curative applications, spray as soon as possible after first symptoms are detected and make a second application 1 month later.	R3
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, Brown Patch, Fairy Ring and <b>Couchgrass Decline / Take-All Patch</b> . For preventative treatment, spray in early spring and late autumn, after renovation and recovery of active growth. Make a second application 1 month later. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 1 month later. Maximum number of applications per season not specified.	R3
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, <b>Ectotrophic Root Infecting Fungi</b> , Fairy Ring and Pythium. As a preventative treatment, apply after renovation and only when active growth occurs. Use a retreatment interval of 1 month, with no more than 2 consecutive applications. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 28 days. Maximum of 3 applications per season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Mefentrifluconazole (Maxtima) BASF	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, Spring Dead Spot, <b>Take-All Patch</b> and Take-All Root Rot. Apply prior to fungal infection or in the early stages of disease development, using a retreatment interval of 28 days. Do not apply more than a total of 10 L of product per hectare per year. Do not apply more than 2 sequential applications.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fairy Ring, Fusarium Patch, Lepista spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot and <b>Take-All Patch</b> . Apply in a preventative fungicide program. Begin application when conditions are favourable for fungal infection, prior to disease symptom development. Make 2 applications in autumn and 2 applications in spring at application intervals of 28 days. Do not apply more than 3 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring and <b>Take-All Patch</b> . Apply as a preventative fungicide in the spring and autumn. Make 2 applications 28 days apart prior to conditions becoming favourable for disease development. Do not use more than 6 applications per year.	R3
Triadimenol (Bayfidan)	3	Protectant & Curative	NG	A	ALL (excl. SA, NT)	Registered in turf for control of <b>Take-All Patch</b> . Use as a preventative treatment after soil fumigation. Apply 6-8 weeks after seeding and repeat every 8 weeks for 2 years. Maximum number of treatments not specified.	R3
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , <b>Ectropic Root Infecting Fungi</b> , Dollar Spot and White Helminthosporium. Make monthly preventative applications in the 3 months preceding the disease season. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Brown Patch</b> ( <i>Rhizoctonia solani</i> )							
<b>Priority: Low</b>							
Rated as a low priority. Brown Patch causes discoloured circular patches up to 1 metre in diameter. The disease is favoured by periods of high humidity and warm temperatures. Management options include increasing cut height, increasing air circulation, reduce thatch and use a balanced nutrition program to promote a healthy sward.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 28 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, Winter Fusarium, <b>Brown Patch</b> and Fairy Ring. Apply on a 21-28 day interval as part of a season-long preventative spray program. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Triconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, <b>Brown Patch</b> , Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Boscalid + Pyraclostrobin (Chivalry) Campbell	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Winter Fusarium, <b>Brown Patch</b> and Dollar Spot. Apply as a foliar spray on a 14-28 day schedule. Do not apply more than 2 consecutive applications. Maximum of 3 applications per year.	-
Captan	M4	Protectant	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> . Use as a preventative treatment from September to April, using a spray interval of 5-6 weeks. Apply no more than 5 applications per season.	-
Chloropicrin + Methyl Bromide	8A	Soil Fumigant	3	A	ALL	Registered in turf for control of Damping-Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> ). <b>For use by professional and registered fumigators only.</b>	-
Chlorothalonil	M5	Protectant & Curative	NG	A	ALL	Registered in turf & lawns, bowling greens and golf greens for control of <b>Brown Patch</b> . Apply to the leaf as a preventative or curative application. Use a retreatment interval of 7-14 days. Maximum number of applications not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of <b>Brown Patch</b> , Dollar Spot, Fusarium Patch, Anthracnose, Helminthosporium Disease, Grey Leaf Spot and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+12	Protectant & Curative	NG	A	ALL	Registered in bowling greens and golf courses for control of Anthracnose, <b>Brown Patch</b> , Dollar Spot, Helminthosporium Disease and Winter Fusarium. Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, <b>Brown Patch</b> , Fairy Ring and Couchgrass Decline / Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Maximum number of applications per season not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil (Medallion) Syngenta	12	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Dollar Spot, Helminthosporium Disease and Winter Fusarium. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-21 days later if required. Maximum number of applications per season not specified.	R3
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, <b>Brown Patch</b> , Dollar Spot, Fusarium, Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot and Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-28 days later if conditions continue to favour disease development. For curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-28 days later if required. Maximum number of applications per season not specified.	R3
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Fusarium, Dollar Spot, Helminthosporium Disease, <b>Brown Patch</b> , Grey Leaf Spot and Rust. Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Fluxapyroxad (Xzemplar) BASF	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Dollar Spot, Fairy Ring, Helminthosporium Complex and Leaf & Sheath Spot. Apply either as a preventative treatment prior to conditions that are favourable for fungal infection and prior to disease development, or as a curative treatment using shorter application interval and higher rates. Use a retreatment interval of 14-21 days. Do not apply more than 2 sequential applications, and do not exceed a total of 3.2L of product per ha per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Iprodione	2	Protectant & Curative	NG	A	ALL	Registered in recreational turf for control of <b>Brown Patch</b> , Dollar Spot, Spring Dead Leaf Spot and Helminthosporium Disease. Apply as a curative treatment on a 14 day interval, or as a preventative as a monthly spray program. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5. Maximum number of applications not specified.	R2
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Dollar Spot, Fusarium, Grey Leaf Spot, Helminthosporium Disease and Rust. Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2
Mancozeb	M3	Protectant	NG	A	ALL	Registered in turf for control of Fusarium, <b>Rhizoctonia</b> and Helminthosporium. Apply as a protective program at 7 day intervals throughout the susceptible season. Maximum number of applications not specified.	R2
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Mefentrifluconazole (Maxtima) BASF	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Dollar Spot, Spring Dead Spot, Take-All Patch and Take-All Root Rot. Apply prior to fungal infection or in the early stages of disease development, using a retreatment interval of 14 days. Do not apply more than a total of 10 L of product per hectare per year. Do not apply more than 2 sequential applications.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Curvularia Leaf Spot, Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Dollar Spot, Fairy Ring, Fusarium Patch, Lepista spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot and Take-All Patch. Apply as a preventative or curative treatment, using a retreatment interval of 14-28 days. Do not apply more than 3 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-
Quintozene (Terraclor)	14	Protectant	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> . Must be incorporated into the soil profile with 10-15mm of irrigation immediately after application. Maximum of 2 applications per year. Retreatment interval not specified.	R3
Quintozene + Thiram (Rhysol)	14+M3	Protectant	NG	A	ALL	Registered in turf for control of Rhizoctonia, <b>Brown Patch</b> , Helminthosporium, Sclerotinia and Fusarium. Apply when disease is first evident and repeat at 14 day intervals. Do not apply more than 2 sequential applications. Maximum number of treatments not specified.	R2
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, <b>Brown Patch</b> , Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
Thiram	M3	Protectant	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Helminthosporium Disease, Fusarium Patch and Damping Off. Apply at first sign of disease and repeat at 7-14 day intervals. Maximum number of treatments not specified.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of <b>Brown Patch</b> , Dollar Spot, Anthracnose, Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Brown Patch</b> , Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Rhizoctonia spp.</b> in artichoke, asparagus, brassica leafy vegetables, bulb vegetables, cucurbits, corn, fruiting vegetables, leafy vegetables, oilseeds, soybean, strawberry, sugar beet, tobacco and root & tuber vegetables.	-
Cyprodinil + Fludioxonil (Switch) Syngenta	9+12	Protectant		P		Registered for control of <b>Rhizoctonia spp.</b> in nursery stock.	-
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of Grey Mould and Powdery Mildew in grapes, berries and apples. US registration for control of <b>Brown Patch</b> in turfgrass.	-
<i>Streptomyces lydicus</i> WYEC108 (Actinovate) Novozymes Bioag	BM 02	Biological	NR	P		Registered for control of <b>Rhizoctonia</b> in ornamental grasses and as a seed treatment for control of <i>Fusarium</i> , <b>Rhizoctonia</b> & <i>Pythium</i> in vegetables.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Dollar Spot</b> ( <i>Sclerotinia homoeocarpa</i> ) <b>Priority: Low</b> Rated as a low priority. Dollar Spot causes small circular lesions. The fungus overwinters in the crown and roots of the turf but the infection usually only affects the upper parts of the sward. Continuous humidity in conjunction with warm days and cool nights will promote infection. Management options include maintaining adequate nitrogen levels, regular mowing, reducing thatch, increasing air circulation and using extended irrigation intervals.							
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, <b>Dollar Spot</b> , Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 21 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Dollar Spot</b> , Helminthosporium Disease, Anthracnose, Winter Fusarium, Brown Patch and Fairy Ring. Apply on a 21-28 day interval as part of a season-long preventative spray program. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, <b>Dollar Spot</b> , Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 21 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Boscalid (Midas) BASF	7	Protectant	NG	A	ALL	Registered in turf for control of <b>Dollar Spot</b> . Spray when conditions favour disease, generally from September to March. Use a retreatment interval of 14-28 days. Do not apply more than 2 consecutive applications, and do not exceed a total of 4 applications per season.	-
Boscalid + Pyraclostrobin (Chivalry) Campbell	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Winter Fusarium, Brown Patch and <b>Dollar Spot</b> . Apply as a foliar spray on a 14-28 day schedule. Do not apply more than 2 consecutive applications. Maximum of 3 applications per year.	-
Chlorothalonil	M5	Protectant & Curative	NG	A	ALL (excl. TAS)	Registered in turf & lawns, bowling greens and golf greens for control of <b>Dollar Spot</b> . Apply to the leaf as a preventative or curative application. Use a retreatment interval of 7-14 days. Maximum number of applications not specified.	R3
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, <b>Dollar Spot</b> , Fusarium Patch, Anthracnose, Helminthosporium Disease, Grey Leaf Spot and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+1 2	Protectant & Curative	NG	A	ALL	Registered in bowling greens and golf courses for control of Anthracnose, Brown Patch, <b>Dollar Spot</b> , Helminthosporium Disease and Winter Fusarium. Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Fluazinam	29	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Dollar Spot</b> , Fusarium, Grey Leaf Spot and Helminthosporium Disease. Spray when conditions are favourable for disease development and/or as soon as possible after first symptoms are detected. Make a second application 7-14 days later if conditions continue to favour disease development.	-
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Dollar Spot</b> , Helminthosporium Disease, Anthracnose, Brown Patch, Fairy Ring and Couchgrass Decline / Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Maximum number of applications per season not specified.	R3
Fludioxonil (Medallion) Syngenta	12	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Dollar Spot</b> , Helminthosporium Disease and Winter Fusarium. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-21 days later if required. Maximum number of applications per season not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, <b>Dollar Spot</b> , Fusarium, Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot and Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-28 days later if conditions continue to favour disease development. For curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-28 days later if required. Do not apply more than 2 consecutive applications. Maximum number of applications per season not specified.	R3
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Fusarium, <b>Dollar Spot</b> , Helminthosporium Disease, Brown Patch, Grey Leaf Spot and Rust. Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Fluxapyroxad (Xzemplar) BASF	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Dollar Spot</b> , Fairy Ring, Helminthosporium Complex and Leaf & Sheath Spot. Apply prior to fungal infection or in early stages of disease development. Use a retreatment interval of 14-28 days. Do not apply more than 2 sequential applications, and do not exceed a total of 3.2L of product per ha per year.	-
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Dollar Spot</b> , Fusarium, Grey Leaf Spot, Helminthosporium Disease and Rust. Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Dollar Spot</b> , Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Mefentrifluconazole (Maxtima) BASF	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Dollar Spot</b> , Spring Dead Spot, Take-All Patch and Take-All Root Rot. Apply prior to fungal infection or in the early stages of disease development, using a retreatment interval of 14-28 days. Do not apply more than a total of 10 L of product per hectare per year. Do not apply more than 2 sequential applications.	-
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Curvularia Leaf Spot, <b>Dollar Spot</b> , Helminthosporium Disease, Red Thread, Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Prochloraz	3	Protectant & Curative	NG	A	QLD, NSW, VIC, SA, WA & NT	Registered in turf for control of <b>Dollar Spot</b> . Apply in a monthly spray program when disease first appears. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5. Maximum number of treatments not specified.	R3
Procymidone (Sumisclex)	2	Protectant	NG	A	ALL	Registered in turfgrass for control of <b>Dollar Spot</b> , Black Helminthosporium and Spring Dead Spot. Apply at the first sign of disease and repeat at intervals of 3-4 weeks. Maximum number of treatments not specified. Do not apply to couch grass greens in the period April to September, or when couch grass is near dormancy.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Propiconazole	3	Protectant & Curative	NG	A	VIC	Registered in turf / bent grass for control of <b>Dollar Spot</b> . Spray when conditions are warm and humid, from September to March. Make a second application 14-28 days later if conditions continue to favour disease development. Maximum of 2 applications per year.	R3
					QLD, NSW, SA & WA	Registered in turf / bent grass, Qld Blue, Couch Grasses for control of <b>Dollar Spot</b> . Spray when conditions are warm and humid, from September to March. Make a second application 14-28 days later if conditions continue to favour disease development. Maximum of 2 applications per year. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	
Pydiflumetofen (Prosperity) Syngenta	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Dollar Spot</b> , Winter Fusarium and Spring Dead Spot. As a preventative treatment, apply prior to symptom development, when conditions are favourable to disease development. Re-apply after 14 days if required. For early curative treatment, apply at first signs of disease and reapply after 28 days if required. Do not apply more than 2 consecutive applications. Do not apply more than 2 L/ha of product per year.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Dollar Spot</b> , Fairy Ring, Fusarium Patch, Lepista spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot and Take-All Patch. Apply prior to fungal infection or in the early stages of disease development. Use an application interval of 14-28 days. Do not apply more than 2 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-
Quintozene + Thiram (Rhysol)	14+M3	Protectant	NG	A	ALL	Registered in turf for control of Rhizoctonia, Brown Patch, Helminthosporium, <b>Sclerotinia</b> and Fusarium. Apply when disease is first evident and repeat at 14 day intervals. Do not apply more than 2 sequential applications. Maximum number of treatments not specified.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Dollar Spot</b> , Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
Thiabendazole (Tecto)	1	Protectant	NG	A	ALL (excl. TAS)	Registered in turf for control of <b>Dollar Spot</b> . Apply as a protective spray when infection first appears and then at 2-3 week intervals if required.	-
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Dollar Spot</b> , Anthracnose, Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Triadimenol (Bayfidan)	3	Protectant & Curative	NG	A	ALL (excl. TAS, NT)	Registered in turf for control of <b>Dollar Spot</b> . Apply either as a monthly preventative treatment or as a curative on an as required basis. Maximum number of treatments not specified.	R3
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, <b>Dollar Spot</b> and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3
<i>Aureobasidium pullulans</i> (Botector) Nufarm	BM 02	Biological	NR	P		Registered for suppression of <b>Sclerotinia</b> in fruiting vegetables.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Oxathiapiprolin (Orondis Flexi) Syngenta	11+49	Protectant & Curative		P		Registered for suppression of <b>Sclerotinia</b> in brassica vegetables, cucurbits, endive, leafy vegetables and lettuce.	-
<i>Bacillus amyloliquefaciens</i> strain QST713 (Serenade Opti) Bayer	BM 02	Biological	NR	P		US registration for control of <b>Sclerotinia spp.</b> in leafy vegetables, legume vegetables, oil seed crops, peanuts, root/tuber and corm vegetables and kiwi fruit.	-
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Sclerotinia spp.</b> in alfalfa & clover, asparagus, fruiting vegetables, leafy vegetables, legume vegetables, oilseeds, soybean, tobacco and root & tuber vegetables.	-
Cyprodinil + Fludioxonil (Switch) Syngenta	9+12	Protectant		P		Registered for control of <b>Sclerotinia spp.</b> in nursery stock.	-
Fludioxonil + Pydiflumetofen (Miravis Prime) Syngenta	12+7	Protectant & Curative		P		Registered for control of <b>Sclerotinia</b> in lettuce, leafy vegetables and potato.	R3
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P		Registered for control of Yellow Sigatoka, Leaf Speckle and Cordana Leaf Spot in bananas. US registration for control of <b>Sclerotinia</b> in brassica leafy greens and sunflowers. Hort Innovation project ST17000 is generating data to support a label extension for control of <b>Sclerotinia</b> in leafy vegetables.	R3
Fluopyram + Trifloxystrobin (Luna Sensation) Bayer	7+11	Protectant & Curative		P		Registered for control of <b>Sclerotinia</b> in lettuce.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Pythium Blight / Grease Spot / Cottony Blight</b> ( <i>Pythium</i> spp.)							
<b>Priority: Low</b>							
Rated as a low priority. Pythium Blight appears suddenly during hot, humid weather, causing brown patches which can rapidly expand in size. Good drainage and avoiding over-watering are important strategies to minimise infection.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, <b>Pythium Leaf Blight</b> , Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply 2 consecutive applications at 14-21 day intervals. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, <b>Pythium Leaf Blight</b> , Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 14-21 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Triconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, <b>Pythium Leaf Blight</b> , Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 14-21 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Chloropicrin + Methyl Bromide	8A	Soil Fumigant	3	A	ALL	Registered in turf for control of Damping-Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> ). <b>For use by professional and registered fumigators only.</b>	-
Cyazofamid (Segway) ISK / UPL	21	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Pythium Leaf Blight</b> / Pythium Leaf Dysfunction. Apply consecutive sprays when conditions favour disease development and prior to the appearance of disease symptoms, using a retreatment interval of 21 days. Maximum number of treatments not specified.	-
Etridiazole (Terrazole)	14	Protectant	NG	A	ALL (excl. QLD)	Registered in turf for control of <b>Damping Off / Grease Spot</b> ( <i>Pythium</i> spp.) Apply either to newly seeded turf immediately after seeding with a retreatment interval of 5-7 days, or 5-10 day retreatment interval in established turf. Maximum number of treatments not specified.	-
Fosetyl-Aluminium	33	Protectant & Curative	NG	A	ALL	Registered in turf for control of <i>Pythium</i> spp. Begin preventative applications when conditions first favour disease and continue as long as conditions are favourable for disease at approximately 21 day intervals. Maximum number of treatments not specified.	-



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and <b>Pythium</b> . As a preventative treatment, apply after renovation and only when active growth occurs. Use a retreatment interval of 1 month, with no more than 2 consecutive applications. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 28 days. Maximum of 3 applications per season.	-
Metalaxyl-M (Subdue Maxx) Syngenta	4	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Pythium Leaf Blight</b> , Pythium Root Rot and Seedling Damping Off. Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 14-21 day intervals. Maximum of 4 treatments per season.	-
Methyl Bromide	-	Soil Fumigant	3	A	ALL	Registered in turf for control of Damping-Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> ). <b>For use by professional and registered fumigators only.</b>	-
Propamocarb (Previcur)	28	Protectant & Curative	NG	A	ALL	Registered in recreational turf for control of <b>Damping Off</b> . Apply on a 3-4 week retreatment interval. Maximum number of applications not specified.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fairy Ring, Fusarium Patch, <i>Lepista</i> spp., <b>Pythium Blight</b> , Pythium Root Dysfunction, Spring Dead Spot and Take-All Patch. Apply in a preventative fungicide program. Begin application when conditions are favourable for fungal infection, prior to disease symptom development. Apply at application intervals of 14 days. Do not apply more than 2 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Amisulbrom (Amishield 500WG) Nufarm	21	Protectant		P		Registered for control of Clubroot and suppression of <b>Damping Off</b> in brassica vegetables, and control of Powdery Scab and suppression of Pink Rot in potatoes.	-
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Pythium spp.</b> in artichoke, asparagus, brassica leafy vegetables, bulb vegetables, citrus, cucurbits, corn, fruiting vegetables, legume vegetables, oilseeds, soybean, strawberry and root & tuber vegetable.	-
Cyazofamid (Ranman) UPL	21	Protectant & Curative		P		Registered in Brassica leafy vegetable seedlings for the control of Downy Mildew. US registration for control of <b>Pythium spp.</b> in carrot, leafy greens, succulent-podded and succulent-shelled beans, tuberous and corm vegetables, tomato greenhouse transplants and greenhouse-grown bell peppers.	-
<i>Streptomyces lydicus</i> WYEC108 (Actinovate) Novozymes Bioag	BM 02	Biological	NR	P		Registered as a seed treatment for control of <i>Fusarium</i> , <i>Rhizoctonia</i> & <b>Pythium</b> in vegetables.	-
<b>Spring Dead Spot</b> ( <i>Ophiosphaerella</i> spp.)							
<b>Priority: Low</b>							
Rated as a low priority. Root disease that causes circular patches of bleached, dead grass, up to 1m in diameter. Roots of affected plants turn dark brown to black and are severely rotted. Spring Dead Spot favours cool, wet weather in the spring and autumn. Management options include preventative fungicides during late summer and autumn, good nutrition management, and improve drainage and reduce thatch.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and <b>Spring Dead Spot</b> . Apply as a soil drench and water in immediately. Spray in January to April, after renovation and recovery of active growth. Make a second application 1 month later. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, <b>Spring Dead Spot</b> and Take-All Patch / Couchgrass Decline. Spray in January to April, after renovation and recovery of active growth. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, <b>Spring Dead Spot</b> and Take-All Patch / Couchgrass Decline. In autumn, use a preventative strategy spraying in January to April with a second application 1 month later. In spring and summer, either use a preventative program with an application in September to November followed by a second application 1 month later, or an early curative application starting as soon as symptoms appear followed by a second application 1 month later. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, Dollar Spot, Fusarium Patch, Anthracnose, Helminthosporium Disease, Grey Leaf Spot and <b>Spring Dead Spot</b> . Apply in autumn, after renovation and recovery of active growth. Make a second application 28 days later. For additional protection another application can be applied in early spring.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, Helminthosporium Disease, Couchgrass Decline, <b>Spring Dead Spot</b> and Take-All Patch. Autumn strategy, use preventative applications in January to April, after renovation and recovery of active growth. Make a second application 1 month later. Spring and summer strategy, spray preventative treatments in September to November, after renovation and recovery of active growth, and make a second application 1 month later, or for early curative applications, spray as soon as possible after first symptoms are detected and make a second application 1 month later.	R3
Iprodione	2	Protectant & Curative	NG	A	ALL	Registered in recreational turf for control of Brown Patch, Dollar Spot, <b>Spring Dead Spot</b> and Helminthosporium Disease. Apply as a preventative treatment only, as a monthly soil drench through the year. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5. Maximum number of applications not specified.	R2
Mefentrifluconazole (Maxtima) BASF	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, <b>Spring Dead Spot</b> , Take-All Patch and Take-All Root Rot. Apply prior to fungal infection or in the early stages of disease development, using a retreatment interval of 21-28 days. Do not apply more than a total of 10 L of product per hectare per year. Do not apply more than 2 sequential applications.	-
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Curvularia Leaf Spot</b> , Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot and Fairy Ring. Apply as a preventative application in January to March. Make a second application 14 days later. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Procymidone (Sumisclax)	2	Protectant	NG	A	ALL	Registered in turfgrass for control of Dollar Spot, Black Helminthosporium and <b>Spring Dead Spot</b> . Apply as the first 2 sprays of a monthly program of 4 sprays beginning in February. Maximum number of treatments not specified. Do not apply to couch grass greens in the period April to September, or when couch grass is near dormancy.	R2
Propiconazole	3	Protectant & Curative	NG	A	QLD, NSW, VIC, SA & WA	Registered in couch turf for control of <b>Spring Dead Spot</b> . Apply as a soil drench and water in immediately, ensuring thorough mixing with the soil. Spray in January to March, after renovation and recovery of active growth. Make a second application one month later where infection is severe. Maximum of 2 applications per year. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Pydiflumetofen (Prosperity) Syngenta	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Winter Fusarium and <b>Spring Dead Spot</b> . Apply prior to symptom development in mid-summer to autumn (January to April). Make a second application 28 days later. Do not apply more than 2 consecutive applications. Do not apply more than 2 L/ha of product per year.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fairy Ring, Fusarium Patch, Lepista spp., Pythium Blight, Pythium Root Dysfunction, <b>Spring Dead Spot</b> and Take-All Patch. Apply in a preventative fungicide program. Begin application when conditions are favourable for fungal infection, prior to disease symptom development. Make 2 applications in autumn and 2 applications in spring at application intervals of 28 days. Do not apply more than 3 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Helminthosporium Disease</b> ( <i>Bipolaris</i> spp., <i>Drechslera</i> spp., <i>Exserohilum</i> spp.)							
<b>Priority: Low</b>							
Rated as a low priority. Symptoms can vary but generally appear as lesions or blotches on the leaves. Mature plants will usually recover from infection. Conditions that favour the disease are high humidity and poor air movement. Management options include the use of extended irrigation intervals, increasing air movement and drainage and avoiding stress with a good nutrition program and avoiding herbicide application when disease is present.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, <b>Helminthosporium Disease</b> , Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 21 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, <b>Helminthosporium Disease</b> , Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, <b>Helminthosporium Disease</b> , Anthracnose, Winter Fusarium, Brown Patch and Fairy Ring. Apply on a 21-28 day interval as part of a season-long preventative spray program. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, <b>Helminthosporium Disease</b> , Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, Dollar Spot, Fusarium Patch, Anthracnose, <b>Helminthosporium Disease</b> , Grey Leaf Spot and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+1 2	Protectant & Curative	NG	A	ALL	Registered in bowling greens and golf courses for control of Anthracnose, Brown Patch, Dollar Spot, <b>Helminthosporium Disease</b> and Winter Fusarium. Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Fluazinam	29	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot and <b>Helminthosporium Disease</b> . Spray when conditions are favourable for disease development and/or as soon as possible after first symptoms are detected. Make a second application 7-14 days later if conditions continue to favour disease development.	-
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, <b>Helminthosporium Disease</b> , Anthracnose, Brown Patch, Fairy Ring and Couchgrass Decline / Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Maximum number of applications per season not specified.	R3
Fludioxonil (Medallion) Syngenta	12	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, <b>Helminthosporium Disease</b> and Winter Fusarium. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-21 days later if required. Maximum number of applications per season not specified.	R3



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, <b>Helminthosporium Disease</b> , Couchgrass Decline, Spring Dead Spot and Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-28 days later if conditions continue to favour disease development. For curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-28 days later if required. Maximum number of applications per season not specified.	R3
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Fusarium, Dollar Spot, <b>Helminthosporium Disease</b> , Brown Patch, Grey Leaf Spot and Rust. Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Fluxapyroxad (Xzemplar) BASF	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fairy Ring, <b>Helminthosporium Complex</b> and Leaf & Sheath Spot. Apply prior to fungal infection or in early stages of disease development. Use a retreatment interval of 14-28 days. Do not apply more than 2 sequential applications, and do not exceed a total of 3.2L of product per ha per year.	-
Iprodione	2	Protectant & Curative	NG	A	ALL	Registered in recreational turf for control of Brown Patch, Dollar Spot, Spring Dead Leaf Spot and <b>Helminthosporium Disease</b> . Apply as a curative treatment on a 7-14 day interval, or as a preventative as a monthly spray program from February to May. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5. Maximum number of applications not specified.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot, <b>Helminthosporium Disease</b> and Rust. Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2
Mancozeb	M3	Protectant	NG	A	ALL	Registered in turf for control of Fusarium, Rhizoctonia and <b>Helminthosporium</b> . Apply as a protective program at 7 day intervals throughout the susceptible season. Maximum number of applications not specified.	R2
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, <b>Helminthosporium</b> , Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Curvularia Leaf Spot, Dollar Spot, <b>Helminthosporium Disease</b> , Red Thread, Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Procymidone (Sumisclex)	2	Protectant	NG	A	ALL	Registered in turfgrass for control of Dollar Spot, <b>Black Helminthosporium</b> and Spring Dead Spot. Apply at the first sign of disease. A second application may be required after 2-4 weeks. Maximum number of treatments not specified. Do not apply to couch grass greens in the period April to September, or when couch grass is near dormancy.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Quintozene + Thiram (Rhysol)	14+M3	Protectant	NG	A	ALL	Registered in turf for control of Rhizoctonia, Brown Patch, <b>Helminthosporium</b> , Sclerotinia and Fusarium. Apply when disease is first evident and repeat at 14 day intervals. Do not apply more than 2 sequential applications. Maximum number of treatments not specified.	R2
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, Fusarium, <b>Helminthosporium Disease</b> , Grey Leaf Spot, Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
Thiram	M3	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, <b>Helminthosporium Disease</b> , Fusarium Patch and Damping Off. Apply at first sign of disease and repeat at 7-14 day intervals. Maximum number of treatments not specified.	R2
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, <b>Helminthosporium</b> , Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Triadimenol (Bayfidan)	3	Protectant & Curative	NG	A	QLD, NSW & TAS	Registered in turf for control of <b>Helminthosporium Disease</b> . Apply during period of turf growth on a monthly program. Maximum number of treatments not specified.	R3
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Winter Fusarium, <b>Helminthosporium</b> , <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Zineb	M3	Protectant	NG	A	ALL (excl. WA)	Registered in turf for control of <b>Helminthosporium</b> . Apply as a preventative treatment every 14-21 days when disease threatens, or apply when disease first appears and repeat in 10 days. Maximum number of treatments not specified.	R2
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <i>Bipolaris maydis</i> in corn.	-
<b>Anthracnose (<i>Colletotrichum graminicola</i>)</b> <b>Priority: Low</b> Rated as a low priority. Infected leaves turn yellow to brown before dying. Basal stems and leaf sheaths rot and affected plants are easy to pull out. Warm, humid conditions favour disease development. Management options include use of a balanced nutrition program, irrigate just enough to prevent wilting, core aerate and overseed in autumn, avoid management practices which encourage humidity and extended leaf wetness and make preventative fungicide applications where disease is a chronic problem.							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 28 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, <b>Anthracnose</b> , Winter Fusarium, Brown Patch and Fairy Ring. Apply on a 21-28 day interval as part of a season-long preventative spray program. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of <b>Anthracnose</b> , Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Boscalid + Pyraclostrobin (Chivalry) Campbell	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Winter Fusarium, Brown Patch and Dollar Spot. Apply as a foliar spray on a 14-28 day schedule. Do not apply more than 2 consecutive applications. Maximum of 3 applications per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, Dollar Spot, Fusarium Patch, <b>Anthracnose</b> , Helminthosporium Disease, Grey Leaf Spot and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+12	Protectant & Curative	NG	A	ALL	Registered in bowling greens and golf courses for control of <b>Anthracnose</b> , Brown Patch, Dollar Spot, Helminthosporium Disease and Winter Fusarium. Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Fluazinam	29	Protectant	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot and Helminthosporium Disease. Spray when conditions are favourable for disease development and/or as soon as possible after first symptoms are detected. Make a second application 7-14 days later if conditions continue to favour disease development.	-
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, <b>Anthracnose</b> , Brown Patch, Fairy Ring and Couchgrass Decline / Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Maximum number of applications per season not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil (Medallion) Syngenta	12	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Dollar Spot, Helminthosporium Disease and Winter Fusarium. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-21 days later if required. Maximum number of applications per season not specified.	R3
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of <b>Anthracnose</b> , Brown Patch, Dollar Spot, Fusarium, Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot and Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-28 days later if conditions continue to favour disease development. For curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-28 days later if required. Do not apply more than 2 consecutive applications. Maximum number of applications per season not specified.	R3
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, <b>Anthracnose</b> , Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Mefentrifluconazole (Maxtima) BASF	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Dollar Spot, Spring Dead Spot, Take-All Patch and Take-All Root Rot. Apply prior to fungal infection or in the early stages of disease development, using a retreatment interval of 14 days. Do not apply more than a total of 10 L of product per hectare per year. Do not apply more than 2 sequential applications.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Curvularia Leaf Spot, Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, <b>Anthracnose</b> , Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, <b>Anthracnose</b> , Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Anthracnose</b> , Brown Patch, Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3
<i>Aureobasidium pullulans</i> (Botector) Nufarm	BM 02	Biological	NR	P		Registered for control of <b>Anthracnose</b> in berries.	-



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<i>Bacillus amyloliquefaciens</i> strain QST713 (Serenade Opti) Bayer	BM 02	Biological	NR	P		Registered for control of <b>Anthracnose</b> in avocado and mango.	-
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Anthracnose</b> in artichoke, asparagus, berries, cucurbits, fruiting vegetables, stone fruit, strawberry, tobacco and tree nuts.	-
BLAD (Problad Plus)	BM 01	Biological	NR	P		Registered for control of Brown Rot and Blossom Blight in stone fruit. US registration for control of <b>Anthracnose</b> in grapes and strawberries.	-
Cyprodinil + Fludioxonil (Switch) Syngenta	9+12	Protectant		P		Registered for control of <b>Anthracnose</b> in lettuce, nursery stock and strawberries.	-
Florypicoxamid (Adavelt) Corteva	21	Protectant & Curative		P		Registered for control of Septoria in wheat. New active from Corteva with activity on Septoria, Powdery Mildew, Botrytis, <b>Anthracnose</b> , Alternaria, Scab, Monilinia, Rust and <i>Mycosphaerella</i> spp.	-
Fluopyram + Tebuconazole (Luna Experience) Bayer	7+3	Protectant & Curative		P	ALL	Registered for control <b>Anthracnose</b> in custard apples, persimmons, passionfruit and olives.	R3
Mancozeb + Metalaxyl-M (Ridomil Gold MZ) Syngenta	M3+4	Protectant		P		Registered for control of <b>Anthracnose</b> in cucurbits and lettuce.	R2
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of Grey Mould and Powdery Mildew in grapes, berries and apples. US registration for control of <b>Anthracnose</b> in turfgrass.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Pydiflumetofen + Fludioxonil (Miravis Prime) Syngenta	7+12	Protectant & Curative		P		Registered in grapes, berries, leafy vegetables, lettuce and potato for control of various diseases. US registration for control of <b>Anthracnose</b> in almond, bushberries, grape & small fruit vine climbing (except fuzzy kiwifruit), strawberries and specific tree nuts.	R3
<p><b>Red Thread</b> (<i>Laerisaria fuciformis</i>)  <b>Priority: Low</b>  Rated as a low priority. Infected leaves turn brown and die, with pale red or orange fungal growths extending up to 10mm beyond leaf tips. Extended periods of foliar wetness and warm temperatures will favour infections and is exacerbated by poor plant nutrition. Management options include frequent mowing, maintaining balanced nutrition, maintain a neutral soil pH, increase air circulation and avoid frequent watering.</p>							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, <b>Red Thread</b> , Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 28 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, <b>Red Thread</b> , Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Curvularia Leaf Spot, Dollar Spot, Helminthosporium Disease, <b>Red Thread</b> , Spring Dead Spot and Fairy Ring. Begin application prior to or at the early stages of disease development. Use a retreatment interval of 14-21 days. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Fluazinam	29	Protectant	NG	P-A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot and Helminthosporium Disease. US registration for control of <b>Red Thread</b> in turfgrass.	-
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of Grey Mould and Powdery Mildew in grapes, berries and apples. US registration for control of <b>Red Thread</b> in turfgrass.	-
<b>Winter Fusarium (<i>Fusarium nivale</i>)</b> <b>Priority: Low</b> Rated as a low priority. Appears as small circular spots which range from orange/brown to light grey. Cool, moist conditions favour infection in areas with slow growing conditions and heavy thatch. Management options include use of a balanced nutrient program, increase air circulation and reduce thatch. US registration for control of							
Azoxystrobin	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, <b>Winter Fusarium</b> , Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off and Spring Dead Spot. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Do not apply more than 2 consecutive applications, use a retreatment interval of 28 days. Group 11 fungicides should not exceed 1/3 of the total fungicides used for the season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Azoxystrobin + Propiconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, <b>Winter Fusarium</b> , Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, <b>Winter Fusarium</b> , Brown Patch and Fairy Ring. Apply on a 21-28 day interval as part of a season-long preventative spray program. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, <b>Fusarium</b> , Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply in a preventative fungicide program containing fungicides from different groups. Begin applications before symptoms appear when conditions favour disease and continue while conditions remain favourable for disease development. Apply no more than 2 consecutive applications at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Boscalid + Pyraclostrobin (Chivalry) Campbell	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, <b>Winter Fusarium</b> , Brown Patch and Dollar Spot. Apply as a foliar spray on a 14-28 day schedule. Do not apply more than 2 consecutive applications. Maximum of 3 applications per year.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Chloropicrin + Methyl Bromide	8A	Soil Fumigant	3	A	ALL	Registered in turf for control of Damping-Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> ). <b>For use by professional and registered fumigators only.</b>	-
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Protectant & Curative	NG	A	ALL	Registered in intensively managed bowling greens, golf course fairways, greens and tees, racetracks and sports fields for control of Brown Patch, Dollar Spot, <b>Fusarium Patch</b> , Anthracnose, Helminthosporium Disease, Grey Leaf Spot and Spring Dead Spot. For curative treatment, apply on a 21-28 day interval. For preventative control, apply as a monthly spray program. Do not apply more than 2 consecutive sprays unless tank mixed with a fungicide from a different activity group.	R2
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+12	Protectant & Curative	NG	A	ALL	Registered in bowling greens and golf courses for control of Anthracnose, Brown Patch, Dollar Spot, Helminthosporium Disease and <b>Winter Fusarium</b> . Apply in a preventative program containing fungicides from different chemical groups. Begin applications before symptoms occur when conditions first favour disease and continue applications while conditions remain favourable for disease development. Apply at 28 day intervals. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3
Fludioxonil (Medallion) Syngenta	12	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Dollar Spot, Helminthosporium Disease and <b>Winter Fusarium</b> . For preventative treatment, spray when conditions are favourable for disease development. Make a second application 21 days later if conditions continue to favour disease development. For early curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-21 days later if required. Maximum number of applications per season not specified.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fludioxonil + Triticonazole (Tribeca)	12+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Dollar Spot, <b>Fusarium</b> , Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot and Take-All Patch. For preventative treatment, spray when conditions are favourable for disease development. Make a second application 14-28 days later if conditions continue to favour disease development. For curative application, spray as soon as possible after first symptoms are detected. Make a second application 14-28 days later if required. Maximum number of applications per season not specified.	R3
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Fusarium</b> , Dollar Spot, Helminthosporium Disease, Brown Patch, Grey Leaf Spot and Rust. Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Iprodione	2	Protectant & Curative	NG	A	ALL (excl. QLD)	Registered in recreational turf for control of <b>Fusarium Patch</b> . Apply as a curative treatment on a 14 day interval, or as a preventative as a monthly spray program. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5. Maximum number of applications not specified.	R2
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, <b>Fusarium</b> , Grey Leaf Spot, Helminthosporium Disease and Rust. Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2
Mancozeb	M3	Protectant	NG	A	ALL	Registered in turf for control of <b>Fusarium</b> , Rhizoctonia and Helminthosporium. Apply as a protective program at 7 day intervals throughout the susceptible season. Maximum number of applications not specified.	R2

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, <b>Winter Fusarium</b> , Ectotrophic Root Infecting Fungi, Fairy Ring and Pythium. As a preventative treatment, apply in a monthly spray program that includes fungicides from a different mode of action group. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 14-21 days. Maximum of 3 applications per season.	-
Pydiflumetofen (Prosperity) Syngenta	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, <b>Winter Fusarium</b> and Spring Dead Spot. Apply either as a preventative or early curative treatment, prior to symptom development or at first signs of disease development. Re-apply after 14-28 days if required. Do not apply more than 2 consecutive applications. Do not apply more than 2 L/ha of product per year.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fairy Ring, <b>Fusarium Patch</b> , <i>Lepista</i> spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot and Take-All Patch. Apply in a preventative fungicide program. Begin application when conditions are favourable for fungal infection, prior to disease symptom development. Apply at application intervals of 14-28 days. Do not apply more than 3 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-
Quintozene + Thiram (Rhysol)	14+M3	Protectant	NG	A	ALL	Registered in turf for control of Rhizoctonia, Brown Patch, Helminthosporium, Sclerotinia and <b>Fusarium</b> . Apply when disease is first evident and repeat at 14 day intervals. Do not apply more than 2 sequential applications. Maximum number of treatments not specified.	R2
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, <b>Fusarium</b> , Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Thiabendazole (Tecto)	1	Protectant	NG	A	ALL	Registered in turf for control of <b>Fusarium Patch</b> . Water in lightly. Repeat applications after 2-3 weeks may be required until disease is controlled.	-
Thiram	M3	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Helminthosporium Disease, <b>Fusarium Patch</b> and Damping Off. Apply at first sign of disease and repeat at 7-14 day intervals. Maximum number of treatments not specified.	R2
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Helminthosporium, <b>Winter Fusarium</b> , Curvularia Leaf Spot, Grey Leaf Spot and Fairy Ring. For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group.	-
Triadimenol (Bayfidan)	3	Protectant & Curative	NG	A	NSW, VIC & TAS	Registered in turf for control of <b>Winter Fusarium</b> . Apply thoroughly on a monthly program from end of March until danger of infection has passed. Maximum number of treatments not specified.	R3
Trifloxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, <b>Winter Fusarium</b> , Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot and White Helminthosporium. For preventative control apply on a 21-28 day interval when conditions are favourable for disease development. For curative control apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R3
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Fusarium spp.</b> in artichoke, asparagus, brassica leafy vegetables, bulb vegetables, cucurbits, corn, fruiting vegetables, legume vegetables, oilseeds, soybean, strawberry, root & tuber vegetables, wheat and barley.	-



Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<i>Streptomyces lydicus</i> WYEC108 (Actinovate) Novozymes Bioag	BM 02	Biological	NR	P		Registered as a seed treatment for control of <i>Fusarium</i> , <i>Rhizoctonia</i> & <i>Pythium</i> in vegetables and for control of <i>Fusarium</i> in tomatoes.	-
<b>Fairy Ring (Basidiomycete)</b> <b>Priority: Low</b> Rated as a low priority. Symptoms of Fairy Ring vary as they are not directly caused by fungal pathogens. The chemical and physical properties of the soil are changed as a result of infection, leading to secondary symptoms which are generally present in rings or arc shapes or irregular patterns. Fairy Rings are more severe on light soils with low fertility and poor moisture holding capacity and turf with a heavy thatch layer. Management options include reducing thatch and aerate the soil, irrigate deeply and employ a balanced nutrient program to promote a healthy sward.							
Azoxystrobin + Tebuconazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, Winter Fusarium, Brown Patch and <b>Fairy Ring</b> . Apply to green areas where Fairy Ring has previously occurred. Apply as a preventative from end of October to early November (prior to dry conditions) and reapply after 30 days if required. If disease symptoms are present at time of application, use the higher rate and reapply 30 days after the first application. Do not apply more than 2 consecutive applications, and do not apply more than 3 total applications per season.	R3
Azoxystrobin + Triticonazole	11+3	Protectant & Curative	NG	A	ALL	Registered in turf / lawns for control of Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, <b>Fairy Ring</b> , Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot and Take-All Patch / Couchgrass Decline. Apply preventatively when conditions are favourable for disease development or as an early curative as soon as possible after first symptoms are detected. Make a second application 21 days later. Apply no more than 2 consecutive applications. Apply in a preventative fungicide program containing fungicides from different groups. Do not apply more than 1 application per year on couch varieties C29, Greenless Park, National Park, Tifway, Sportsway and Wagga City.	R3

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Helminthosporium Disease, Anthracnose, Brown Patch, <b>Fairy Ring</b> and Couchgrass Decline / Take-All Patch. Apply preventatively when conditions are favourable for disease development or as an early curative as soon as possible after first symptoms are detected. Make a second application 21-28 days later. Maximum number of applications per season not specified.	R3
Flutolanil (Monstar) Campbell	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of <b>Fairy Ring</b> . Apply when ring becomes apparent and repeat at 2-4 week intervals up to a maximum of 3 applications per season. Coring affected areas before application may assist penetration.	-
Fluxapyroxad (Xzemplar) BASF	7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, <b>Fairy Ring</b> , Helminthosporium Complex and Leaf & Sheath Spot. Apply prior to fungal infection or in early stages of disease development. Use a retreatment interval of 14-28 days. Do not apply more than 2 sequential applications, and do not exceed a total of 3.2L of product per ha per year.	-
Mandestrobin (Rapidol) Sumitomo	11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, <b>Fairy Ring</b> and Pythium. As a preventative treatment, apply after renovation and only when active growth occurs. Use a retreatment interval of 1 month, with no more than 2 consecutive applications. As an early curative treatment, apply as soon as possible after first symptoms are detected, using a retreatment interval of 28 days. Maximum of 3 applications per season.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
Penthiopyrad (Velista) Syngenta	7	Protectant	NG	A	ALL	Registered in turf for control of Anthracnose, Brown Patch, Curvularia Leaf Spot, Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot and <b>Fairy Ring</b> . Apply preventatively when conditions are favorable for disease development or as an early curative as soon as possible after first symptoms are detected. Make a second application 21 days later. Do not apply more than 2 consecutive applications and do not exceed 7.5 kg/h of product per year.	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, <b>Fairy Ring</b> , Fusarium Patch, Lepista spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot and Take-All Patch. Apply as a preventative or curative treatment, using an application interval of 14-28 days. Do not apply more than 3 sequential applications. Do not apply more than a total of 6 L of product per hectare per year.	-
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, <b>Fairy Ring</b> and Take-All Patch. Apply in late winter / early spring as a preventative treatment when mean soil temperatures reach 13-16°C over 5 days at a 5cm depth. Make a second application 28 days later. Do not use more than 6 applications per year.	R3
Tolclofos-Methyl (Shiba) Sumitomo	14	Protectant	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Anthracnose, Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot and <b>Fairy Ring</b> . For early curative treatment, spray as soon as possible after first symptoms are detected. Repeat treatment after 14-21 days. For preventative treatment, apply a maximum of 2 sprays per season in a monthly spray program that includes fungicides from a different mode of action group. Coring or spiking the turf thatch prior to application will assist penetration.	-
Polyoxin D Zinc Salt (Intervene) Nufarm	19	Protectant		P		Registered for control of Grey Mould and Powdery Mildew in grapes, berries and apples. US registration for suppression of <b>Fairy Ring</b> in turfgrass.	-

Disease / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Regulatory Risk
<b>Rust</b> ( <i>Puccinia</i> spp.) <b>Priority: Low</b> Rated as a low priority. Rust causes foliar spots that start out yellow and turn yellowish to reddish-brown in colour as the disease progresses. Individual plants will slow in growth and can die in severe cases. Infections are favoured by warm, moist conditions. Resistant varieties are available as a management option, but other strategies include increasing aeration, maintaining balanced nutrition and using extended irrigation intervals where possible.							
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Fusarium, Dollar Spot, Helminthosporium Disease, Brown Patch, Grey Leaf Spot and <b>Rust</b> . Apply on a 14-28 day spray interval to established turf when conditions are favourable for disease development. Apply a maximum of 4 applications per year.	-
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Protectant & Curative	NG	A	ALL	Registered in turf for control of Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot, Helminthosporium Disease and <b>Rust</b> . Apply when conditions are favourable for disease development. For preventative control, apply on a 21-28 day interval. For curative control, apply on a 14-21 day interval. Do not apply more than 2 consecutive sprays unless mixed with a protectant fungicide from group 14, 28, M2, M3, M4 or M5.	R2
Tebuconazole	3	Protectant & Curative	NG	A	ALL	Registered in turf for control of Dollar Spot, Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, <b>Rust</b> , Fairy Ring and Take-All Patch. Apply on a 14-28 day interval when conditions are favourable for disease development. Do not use more than 6 applications per year.	R3
<i>Bacillus amyloliquefaciens</i> strain MBI 600 (Serifel) BASF	BM 02	Biological	NR	P		Registered for control of Botrytis in grapevines and strawberries. US registration for control of <b>Puccinia spp.</b> in brassica leafy vegetables and corn.	-

## **4.2 Insect and other pests of turf**

### **4.2.1 Insect and other pest priorities**

<b>Common name</b>	<b>Scientific name</b>
<b>High</b>	
Armyworm	<i>Spodoptera</i> spp.
Fall Armyworm	<i>Spodoptera frugiperda</i>
Cutworms	<i>Agrotis</i> spp.
Eriophyoid Mites / Couch Mite	<i>Aceria</i> spp.
Grass Webbing Mites	<i>Oligonychus</i> spp.
Nematodes	Nematoda
<b>Moderate</b>	
Millipedes	Diplopoda
<b>Low</b>	
Ants	Formicidae
Scarab Beetles	Scarabaeidae
African Black Beetle	<i>Heteronychus arator</i>
Slaters / Woodlice	Porcellionidae

The insect and other pest priorities are similar to the previous SARP report, with Armyworm, Fall Armyworm, Cutworms, Eriophyoid Mites, Grass Webbing Mites and Nematodes rated as high priority. Available and potential products for insect, mite and other pests are listed in Section 4.2.2.

The broad range of insect and mite pests in turf increases the importance of adopting an Integrated Pest Management approach. Pest management strategies should aim to use multiple methods of control, including cultural, biological and chemical measures.

### **Resistance Management**

Insecticide resistance is a risk to effective control for some insect groups, particularly if there is an over-reliance on a limited number of insecticides. Growers should adhere to the resistance management strategies outlined on the CropLife website<sup>5</sup>. Growers should not exceed the maximum number of applications permitted on the insecticide label.

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<sup>5</sup> [www.croplife.org.au/resources/programs/resistance-management/](http://www.croplife.org.au/resources/programs/resistance-management/)

## 4.2.2 Available and potential products for priority insects and other pests

**TABLE KEY:** Note that blank fields in the table indicate no information has been provided.

Availability		Regulatory risk (refer to Appendix 6)	
A	Available via either registration or permit approval	R1	Short-term: Critical concern over retaining access
P	Potential - a possible candidate to pursue for registration or permit	R2	Medium-term: Maintaining access of significant concern
P-A	Potential, already approved in the crop for another use	R3	Long-term: Potential issues associated with use - Monitoring required
Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG
IPM – indicative overall impact on beneficials (based on the Cotton Pest Management Guide 2022-23 and cotton use patterns)			
VL – Very low; L – Low; M – Moderate; H – High; VH – Very High; - not specified			

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
<b>Armyworm (<i>Spodoptera</i> spp.)</b>								
<b>Priority: High</b>								
Rated as a high priority. Lawn Armyworms are a major pest during summer and autumn, causing severe damage to turf on bowling and golf surfaces where they attack leaves, stems and seedheads. Lawn Armyworm is a damaging pest when in the larval life stage.								
<i>Bacillus thuringiensis</i>	11C	Biological	NR	A	ALL	Registered in turf for control of <b>Armyworm</b> , Cotton Bollworm, Native Budworm, Cabbage Moth, Cabbage White Butterfly, Loopers, Light Brown Apple Moth and Vine Moth. Apply to newly hatched larvae, late in the afternoon or early evening. Apply a minimum of 2 sprays separated by no more than 3 days initially, and then reapply at 3-5 day intervals. Maximum number of applications not specified.	VL Bee:L	-
Beta-Cyfluthrin	3A	Contact	NG	A	ALL	Registered in turf for control of <b>Armyworm</b> , Cutworm, Webworm, Billbug, Argentine Stem Weevil, African Black Beetle, Mole Crickets, Couch Mite, Ants and Grasshoppers. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Bifenthrin	3A	Contact	NR	A	ALL	Registered in turf for control of <b>Lawn Armyworm</b> , Sod Webworm, Argentine Stem Weevil, African Black Beetle, Billbug, Black Ant, Coastal Brown Ant, Funnel Ant, Meat Ant, Sugar Ant and Stinging Ant. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	R3
Chlorantraniliprole (Acelepryn) Syngenta	28	Ingestion	NG	A	ALL	Registered in turfgrass for control of Lawn Curl Grub, African Black Beetle, Argentinian Scarab, Argentinian Stem Weevil, Billbug, <b>Lawn Armyworm</b> , Black Cutworm and Sod Webworm. Apply when pest / damage is observed. Retreatment interval and number of applications not specified.	L Bee:VL	-
Chlorpyrifos	1B	Contact	NG	A	ALL (excl. TAS)	Registered in turf for control of <b>Lawn Armyworm</b> . Spray over whole area when infestation is present. When pests are moving, treat strip over and in advance of infestation. Apply follow up treatments as required. Retreatment interval and number of applications not specified.	H Bee:H	R1
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Contact & Ingestion	NG	A	ALL	Registered in established turf for control of African Black Beetle, Argentinian Scarab, June Beetle, Argentine Stem Weevil, Billbug, Black Cutworm and <b>Lawn Armyworm</b> . Apply as foliar spray during spring and summer when pests are present. Retreatment interval and number of applications not specified.	H Bee:VH	R2
Diazinon	1B	Contact	NG	A	NSW, QLD, VIC & WA	Registered in turf for control of <b>Grass-Eating Caterpillars</b> . Apply to mown turf and repeat as necessary. Number of applications and retreatment interval not specified.	H Bee:H	R2
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Contact	NR	A	ALL	Registered in turf for control of African Black Beetle, Billbug, Blackheaded Pasture Cockchafer, Funnel Ants, Couch Mite, <b>Armyworm</b> , Cutworm, Webworm and Wingless Grasshopper. Apply as a foliar spray at the time of caterpillar feeding. Retreatment interval and number of applications not specified.	VH Bee:H	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Imidacloprid + Beta-Cyfluthrin	4A+3A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>Lawn Armyworm</b> , Cutworm, Webworm, Argentine Stem Weevil, Billbug, African Black Beetle, Mole Crickets, Couch Mite, Ants, Argentinian Scarab, Pruinose Scarab and Grasshoppers. Apply to mown turf and irrigate treated areas after application. Repeat every 7-14 days as needed. Maximum number of treatments not specified.	VH Bee:VH	R2
Indoxacarb (Advion) Syngenta	22A	Ingestion	NG	A	ALL	Registered in golf greens and surrounds, fairways for control of Black Cutworm and <b>Lawn Armyworm</b> . Apply immediately when pest activity is observed. Retreatment interval and number of applications not specified.	L Bee:H	R3
Permethrin	3A	Contact	NR	A	QLD & NSW	Registered in lawns, ovals and amenity areas for control of <b>Lawn Armyworm</b> . Apply at first sign of damage and as required. Number of applications and retreatment interval not specified.	VH Bee:H	-
Tetraniliprole (Tetrino) Bayer	28	Ingestion	NG	A	ALL	Registered in turf for control of African Black Beetle, Argentine Scarab, Billbug, Argentine Stem Weevil, <b>Lawn Armyworm</b> , Cutworm and Sod Webworm. Apply to mown turf when insects or damage first appear. Repeat as required. Retreatment interval and number of applications not specified.	L-M Bee:VH	-
Trichlorfon	1B	Contact	G:2	A	QLD, NSW, WA & NT	Registered in turf for control of Lawn Grub and <b>Lawn Armyworm</b> . Apply as soon as pest is present and repeat treatment as new hatchings occur. Retreatment interval and number of applications not specified.	H Bee:H	R2
Emamectin (Proclaim Opti) Syngenta	6	Ingestion		P		Registered for control of <b>Armyworm</b> in brassica vegetables, fruiting vegetables, leafy vegetables, brassica leafy vegetables, legume vegetables. lettuce, root & tuber vegetables and strawberries.	M Bee:H	-
Methoxyfenozide (Prodigy)	18	Ingestion		P		Registered for control of <b>Armyworm</b> in peppers, eggplant, okra and tomato.	VL Bee:VL	-
Spinetoram (Success Neo) Corteva	5	Ingestion		P		Registered for control of <b>Armyworm</b> in forage brassicas, brassica leafy vegetables, brassica vegetables, radish, swede and turnip.	M Bee:H	-



Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for control of Diamond Back Moth, Cabbage White Butterfly and suppression of Heliothis in brassica vegetables and brassica leafy vegetables, suppression of Onion Thrips and Plague Thrips in bulb vegetables, control of Two Spotted Mite and Cucumber Moth and suppression of Broad Mite, Bean Red Spider Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in cucurbits, and control of Two Spotted Mite and Broad Mite and suppression of Tomato Russet Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in fruiting vegetables.	-	-
<p><b>Fall Armyworm</b> (<i>Spodoptera frugiperda</i>)  <b>Priority: High</b>  Rated as a high priority. Fall Armyworm is more destructive than Lawn Armyworm, and it also has the capacity to disperse across large distances.</p>								
Chlorantraniliprole (Acelepryn) Syngenta PER89290	28	Ingestion	NG	A	ALL (excl. VIC)	Permitted in turf production for control of <b>Fall Armyworm</b> . Treat when pests appear, targeting eggs at hatch or small larvae before the pest becomes entrenched. Do not exceed 0.56 kg/ha of active ingredient per year. Retreatment interval not specified.	L Bee:VL	-
Indoxacarb (Advion) Syngenta PER89286	22A	Ingestion	NG	A	ALL (excl. VIC)	Permitted in turf production for control of <b>Fall Armyworm</b> . Treat when pests appear, targeting eggs at hatch or small larvae before the pest becomes entrenched. Retreatment interval and number of applications not specified.	L Bee:H	R3
Methomyl (Lannate) PER89293	1A	Contact	NG	A	ALL	Permitted in turf production for control of <b>Fall Armyworm</b> . Treat when pests appear, targeting eggs at hatch or small larvae before the pest becomes entrenched. Maximum of 4 applications per season. Retreatment interval not specified.	H Bee:H	R2

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Emamectin (Proclaim Opti) Syngenta	6	Ingestion		P		Registered for control of <b>Fall Armyworm</b> in sweet corn and permitted for control of <b>Fall Armyworm</b> in capsicum, brassica vegetables, root & tuber vegetables, leafy vegetables, brassica leafy vegetables, sweet corn, strawberries, lettuce, cucurbits, legume vegetables, fruiting vegetables, grapes, celery and blueberries.	M Bee:H	-
Spinetoram (Success Neo) Corteva	5	Ingestion		P		Permitted for control of <b>Fall Armyworm</b> in capsicum, sweet corn, ginger, bulb onions, leek, spring onion, shallot, galangal and olives.	M Bee:H	-
Spinosad (Entrust Organic) Corteva	5	Ingestion		P		Permitted for control of <b>Fall Armyworm</b> in banana, brassica vegetables, brassica leafy vegetables, cucurbits, culinary herbs, fruiting vegetables, leafy vegetables, legume vegetables, root & tuber vegetables, stalk & stem vegetables, berryfruit, citrus, coffee, pome fruit, stone fruit, tropical & sub-tropical fruit (inedible peel), ornamentals, grapes and sweet corn.	L Bee:L	-
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for control of Diamond Back Moth, Cabbage White Butterfly and suppression of Heliothis in brassica vegetables and brassica leafy vegetables, suppression of Onion Thrips and Plague Thrips in bulb vegetables, control of Two Spotted Mite and Cucumber Moth and suppression of Broad Mite, Bean Red Spider Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in cucurbits, and control of Two Spotted Mite and Broad Mite and suppression of Tomato Russet Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in fruiting vegetables.	-	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
<b>Cutworms</b> ( <i>Agrotis</i> spp.)								
<b>Priority: High</b>								
Rated as a high priority. Cutworm larvae shelter during the day, and at night they cut off young plants at the crown and pull them into their burrow to feed. This leads to bald patches around the burrow, usually about the size of a golf ball.								
Beta-Cyfluthrin	3A	Contact	NG	A	ALL	Registered in turf for control of Armyworm, <b>Cutworm</b> , Webworm, Billbug, Argentine Stem Weevil, African Black Beetle, Mole Crickets, Couch Mite, Ants and Grasshoppers. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	-
Chlorantraniliprole (Acelepryn) Syngenta	28	Ingestion	NR	A	ALL	Registered in turfgrass for control of Lawn Curl Grub, African Black Beetle, Argentinian Scarab, Argentinian Stem Weevil, Billbug, Lawn Armyworm, <b>Black Cutworm</b> and Sod Webworm. Apply when pest / damage is observed. Retreatment interval and number of applications not specified.	L Bee:VL	-
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Contact & Ingestion	NG	A	ALL	Registered in established turf for control of African Black Beetle, Argentinian Scarab, June Beetle, Argentine Stem Weevil, Billbug, <b>Black Cutworm</b> and Lawn Armyworm. Apply as foliar spray during spring and summer when pests are present. Retreatment interval and number of applications not specified.	H Bee:VH	R2
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Contact	NR	A	ALL	Registered in turf for control of African Black Beetle, Billbug, Blackheaded Pasture Cockchafer, Funnel Ants, Couch Mite, Armyworm, <b>Cutworm</b> , Webworm and Wingless Grasshopper. Apply as a foliar spray at the time of caterpillar feeding. Retreatment interval and number of applications not specified.	VH Bee:H	-
Imidacloprid + Beta-Cyfluthrin	4A+3A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Lawn Armyworm, <b>Cutworm</b> , Webworm, Argentine Stem Weevil, Billbug, African Black Beetle, Mole Crickets, Couch Mite, Ants, Argentinian Scarab, Pruinose Scarab and Grasshoppers. Apply to mown turf and irrigate treated areas after application. Repeat every 7-14 days as needed. Maximum number of treatments not specified.	VH Bee:VH	R2

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Indoxacarb (Advion) Syngenta	22A	Ingestion	NG	A	ALL	Registered in golf greens and surrounds, fairways for control of <b>Black Cutworm</b> and Lawn Armyworm. Apply immediately when pest activity is observed. Retreatment interval and number of applications not specified.	L Bee:H	R3
Tetraniliprole (Tetrino) Bayer	28	Ingestion	NG	A	ALL	Registered in turf for control of African Black Beetle, Argentine Scarab, Billbug, Argentine Stem Weevil, Lawn Armyworm, <b>Cutworm</b> and Sod Webworm. Apply to mown turf when insects or damage first appear. Repeat as required. Retreatment interval and number of applications not specified.	L-M Bee:VH	-
Broflanilide (Vedira) BASF	30	Contact & Ingestion		P		Registered as an Ant bait in industrial, commercial, agricultural and domestic buildings. It also has potential uses as a seed treatment for the control of Wireworms and other soil pests, and a foliar treatment for the control of chewing pests in various crops.	H Bee:VH	-
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for control of Diamond Back Moth, Cabbage White Butterfly and suppression of Heliothis in brassica vegetables and brassica leafy vegetables, suppression of Onion Thrips and Plague Thrips in bulb vegetables, control of Two Spotted Mite and Cucumber Moth and suppression of Broad Mite, Bean Red Spider Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in cucurbits, and control of Two Spotted Mite and Broad Mite and suppression of Tomato Russet Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in fruiting vegetables.	-	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
<b>Eriophyoid Mites / Couch Mite</b> ( <i>Aceria</i> spp.) <b>Grass Webbing Mites</b> ( <i>Oligonychus</i> spp.) <b>Priority: High</b> Rated as a high priority. Couch Mite are microscopic and live under the leaf sheath. Infestations are recognisable through plant injury symptoms. Initial symptoms are a slight yellowing of leaf tips followed by shortening of internodes and leaves. Severe infestations cause stand loss. Grass Webbing Mites cause dead spots on leaves and eventually leaf dieback. Brown patches develop in the turf which may be covered with a distinctive protective webbing. Mites are favoured by hot, dry weather. Avoid excessive nitrogen applications and preserve beneficial species through the use of IPM practices.								
Abamectin	6	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>Couch Mite</b> . Best results are achieved if applied as populations begin to build. Retreatment interval and maximum number of treatments not specified.	M Bee:H	-
Abamectin + Clofentezine	6+10A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>Couch Mite</b> . Apply in an early curative situation, after first symptoms are apparent. Best results are achieved is applied as populations begin to build. Retreatment interval not specified. Maximum of 2 applications per season.	M Bee:H	-
Beta-Cyfluthrin	3A	Contact	NG	A	ALL	Registered in turf for control of Armyworm, Cutworm, Webworm, Billbug, Argentine Stem Weevil, African Black Beetle, Mole Crickets, <b>Couch Mite</b> , Ants and Grasshoppers. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	-
Clofentezine	10A	IGR / Contact	NR	A	ALL	Registered in turf for control of <b>Couch Mite</b> and False Spider Mite. Apply in an early curative situation, after first symptoms are apparent. Best results are achieved is applied as populations begin to build. Retreat at a 10-14 day interval. Maximum of 2 applications per season.	L Bee:L	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Clothianidin + Clofentezine + Abamectin	4A+10A+6	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Billbug, Argentine Stem Weevil, Argentinian Scarab, Mole Cricket, African Black Beetle, Ground Pearl, <b>Couch Mite</b> and Couch Fly. Apply in an early curative situation, after first symptoms are apparent. Best results are achieved is applied as populations begin to build. Retreatment interval not specified. Maximum of 2 applications per season.	H Bee:VH	R2
Diafenthiuron (Higran) Syngenta	12A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>Couchgrass Mite</b> . Apply in an early curative situation, after first symptoms are apparent. Best results are achieved is applied as populations begin to build. Do not apply consecutive sprays. Minimum retreatment interval 6 weeks. Maximum number of treatments not specified.	L Bee:M	-
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Contact	NR	A	ALL	Registered in turf for control of African Black Beetle, Billbug, Blackheaded Pasture Cockchafer, Funnel Ants, <b>Couch Mite</b> , Armyworm, Cutworm, Webworm and Wingless Grasshopper. Apply as a foliar spray, ensuring good penetration of the thatch. Retreatment interval and number of applications not specified.	VH Bee:H	-
Etoazole (Paramite)	10B	IGR / Contact	NG	A	ALL	Registered in turf for control of mites, including <b>Couch Mite</b> . Apply as soon as first symptoms appear, ensuring good penetration of the thatch. Maximum of 1 application per season.	L Bee:VL	-
Imidacloprid + Beta-Cyfluthrin	4A+3A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Lawn Armyworm, Cutworm, Webworm, Argentine Stem Weevil, Billbug, African Black Beetle, Mole Crickets, <b>Couch Mite</b> , Ants, Argentinian Scarab, Pruinose Scarab and Grasshoppers. Apply to mown turf and irrigate treated areas after application. Repeat every 7-14 days as needed. Maximum number of treatments not specified.	VH Bee:VH	R2
Acequinocyl (Kanemite) UPL	20B	Contact & Ingestion		P		Registered for control of Two Spotted Mite in pome fruit and stone fruit.	L Bee:L	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
<i>Beauveria bassiana</i> (Velifer) BASF	UNF	Biological		P		Registered for suppression of Two Spotted Mite in protected vegetables and ornamentals.	L Bee:L	-
Chlorfenapyr (Secure) BASF	13	Contact & Ingestion		P		Registered for control of Carmine Mite in apples, pears and peaches.	M Bee:H	-
Isocycloseram (Simodis) Syngenta	30	Ingestion		P		Registered for control of Diamond Back Moth, Cabbage White Butterfly and suppression of Heliothis in brassica vegetables and brassica leafy vegetables, suppression of Onion Thrips and Plague Thrips in bulb vegetables, control of Two Spotted Mite and Cucumber Moth and suppression of Broad Mite, Bean Red Spider Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in cucurbits, and control of Two Spotted Mite and Broad Mite and suppression of Tomato Russet Mite, Western Flower Thrips, Tomato Thrips, Melon Thrips, Plague Thrips and Heliothis in fruiting vegetables.	-	-
Spiromesifen (Oberon) Bayer	23	Ingestion		P		Not currently registered in AU but under development with Bayer and Hort Innovation for multiple commodities. US registrations for mites in various crops.	M Bee:VL	-
Tebufenpyrad (Pyranica) Sipcam	21A	Contact & Ingestion		P		Registered for control of various mites in apples, cucumbers, pears, peaches and ornamentals.	M Bee:H	-
<b>Nematodes</b> (Nematoda)								
<b>Priority: High</b>								
Rated as a high priority. Nematodes are microscopic, soil dwelling pests that feed directly on plant roots. This causes loss of vigour due to restricted water and nutrient uptake. Nematicides should be supported by a range of practices that promote a healthy sward, such as maintaining a balanced nutrient program, raising the cutting height and using deep, infrequent irrigation.								
Chloropicrin + Methyl Bromide	8A	Soil Fumigant	3	A	ALL	Registered in turf for control of <b>Nematodes</b> and Insects. <i>For use by professional and registered fumigators only.</i>	-	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Fluopyram (Indemnify) Bayer	N-3	Contact	NG	A	ALL	Registered in turf for control of <b>Sting Nematode, Spiral Nematode, Sheath Nematode, Ring Nematode, Root Lesion Nematode, Root-Knot Nematode</b> and <b>Stubby Nematode</b> . Apply as a preventative treatment when conditions are favourable for root growth. Reapply as needed after 28 days when nematode pressure is high. Apply a maximum of 1.25L/ year (2 applications). Or apply as a curative spot treatment over smaller areas where outbreaks are severe. Repeat up to 4 times per year at a minimum spray interval of 14 days.	-	-
Garlic Extract	-	Contact	NR	A	ALL	Registered in amenity turf grass for control of <b>Parasitic Nematodes</b> . Apply as a spray onto the surface of the turf. Sequential applications at 7-14 day intervals may be required. Do not use more than 3 consecutive applications. Maximum of 6 applications per year.	L Bee:L	-
Methyl Bromide	-	Soil Fumigant	3	A	ALL	Registered in turf for control of <b>Nematodes</b> and Insects. <i><b>For use by professional and registered fumigators only.</b></i>	-	-
Abamectin (Tervigo) Syngenta	6	Contact		P		Registered for control of Root Knot Nematode in cucurbits, fruiting vegetables, potato and sweet potato.	M Bee:H	-
Cyclobutryfluram (Tymirium)	N-3			P		Nematicide in development from Syngenta.	-	-
Fluazaindolizine (Salibro Reklmel) Corteva	N-UN	Contact		P		Registered for control of Root Knot Nematode in cucurbits, fruiting vegetables and root & tuber vegetables.	-	-
Fluensulfone (Nimitz) Adama	-	Contact		P		Registered for control of Root Knot Nematode in pepper, carrot, chilli, cucurbits, eggplants, okra, potato, sugarcane, sweet potato and tomato.	-	-



Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
<b>Millipedes</b> (Diplopoda)								
<b>Priority: Moderate</b>								
Rated as a moderate priority. Millipedes are an occasional pest that usually won't feed on turf. Control options are limited.								
Chloropicrin + Methyl Bromide	8A	Soil Fumigant	3	A	ALL	Registered in turf for control of Nematodes and <b>Insects. For use by professional and registered fumigators only.</b>	-	-
Methyl Bromide	-	Soil Fumigant	3	A	ALL	Registered in turf for control of Nematodes and <b>Insects. For use by professional and registered fumigators only.</b>	-	-
Broflanilide (Vedira) BASF	30	Contact & Ingestion		P		Registered as an Ant bait in industrial, commercial, agricultural and domestic buildings. It also has potential uses as a seed treatment for the control of Wireworms and other soil pests, and a foliar treatment for the control of chewing pests in various crops.	H Bee:VH	-
<b>Ants</b> (Formicidae)								
<b>Priority: Low</b>								
Rated as a low priority. Ants usually establish their colonies in sunny locations in well-drained soils. They are a nuisance pest and can be controlled by use of insecticides to treat the nests. Multiple treatments are often required.								
Beta-Cyfluthrin	3A	Contact	NG	A	ALL	Registered in turf for control of Armyworm, Cutworm, Webworm, Billbug, Argentine Stem Weevil, African Black Beetle, Mole Crickets, Couch Mite, <b>Ants</b> and Grasshoppers. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	-
Bifenthrin	3A	Contact	NR	A	ALL	Registered in turf for control of Lawn Armyworm, Sod Webworm, Argentine Stem Weevil, African Black Beetle, Billbug, <b>Black Ant, Coastal Brown Ant, Funnel Ant, Meat Ant, Sugar Ant</b> and <b>Stinging Ant</b> . Apply to areas where ants are active. Where possible spray directly into nests. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	R3

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Chlorpyrifos	1B	Contact	NG	A	QLD, NSW & WA	Registered in turf for control of <b>Funnel Ant</b> . Spot spray each mound and repeat if necessary. Retreatment interval and number of applications not specified.	H Bee:H	R1
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Contact	NR	A	ALL	Registered in turf for control of African Black Beetle, Billbug, Blackheaded Pasture Cockchafer, <b>Funnel Ants</b> , Couch Mite, Armyworm, Cutworm, Webworm and Wingless Grasshopper. Apply as a foliar spray and irrigate immediately after application. Retreatment interval and number of applications not specified.	VH Bee:H	-
Fipronil	2B	Contact	NG	A	ALL	Registered in turf for control of Argentine Stem Weevil, <b>Funnel Ant</b> and Mole Cricket. Apply to the turf surface at the first signs of pest activity. Ensure incorporation with at least 6mm of rainfall or overhead irrigation immediately after application. Do not apply more than 2 times per year. Retreatment interval not specified.	M Bee:VH	R2
Hydramethylnon	20A		NR	A	ALL	Registered in turf for control of Singapore Ant, <b>Coastal Brown Ant, Tropical Fire Ant, Red Imported Fire Ant</b> and <b>Greenhead Ant</b> . Apply evenly to infested area. Apply late in the afternoon when ants are active and re-treat as required. Number of applications and retreatment interval not specified.	L Bee:H	-
Hydramethylnon + Pyriproxyfen (Synergy Ant Bait)	20A+7C	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>Ants</b> . Apply in the early spring or summer at the first sign of pest activity. Do not apply more than 2 applications per year with a minimum interval of 4 weeks.	L Bee:H	-
Imidacloprid + Beta-Cyfluthrin	4A+3A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Lawn Armyworm, Cutworm, Webworm, Argentine Stem Weevil, Billbug, African Black Beetle, Mole Crickets, Couch Mite, <b>Ants</b> , Argentinian Scarab, Pruinose Scarab and Grasshoppers. Apply to mown turf and irrigate treated areas after application. Repeat every 7-14 days as needed. Maximum number of treatments not specified.	VH Bee:VH	R2

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Metaflumizone (Siesta) BASF	22B	Ingestion	NG	A	ALL	Registered in turf for control of <b>Nuisance Ants</b> . Apply in early morning or late afternoon and retreat at a minimum of 30 days after if required. Do not use more than 6 applications per year.	M Bee:M	-
Pyriproxyfen (Distance Ant Bait) Sumitomo	7C	Ingestion	NR	A	ALL	Registered in turf for control of <b>Invasive &amp; Nuisance Ants</b> . Apply in the early spring or summer at the first sign of pest activity. Do not exceed 3 applications per year and a minimum of 3 months between each treatment.	VL Bee:L	-
Broflanilide (Vedira) BASF	30	Contact & Ingestion		P		Registered as an <b>Ant</b> bait in industrial, commercial, agricultural and domestic buildings.	H Bee:VH	-

**Scarab Beetles** (Scarabaeidae)

**African Black Beetle** (*Heteronychus arator*)

**Priority: Low**

Rated as a low priority. Scarabs and Beetles are soil dwelling pests that feed by chewing off turf roots in the shallow soil just below the thatch. Plants lose the ability to access moisture effectively and this causes water-stress symptoms. Insecticide control should be targeted to juvenile life stages.

Bendiocarb	1A	Contact	NG	A	ALL (excl. TAS)	Registered in turf for control of <b>Black Beetle</b> . Apply when adult beetles are present (September-November and late January-February). Retreatment interval and maximum number of treatments not specified.	H Bee:H	-
Beta-Cyfluthrin	3A	Contact	NG	A	ALL	Registered in turf for control of Armyworm, Cutworm, Webworm, Billbug, Argentine Stem Weevil, <b>African Black Beetle</b> , Mole Crickets, Couch Mite, Ants and Grasshoppers. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	-
Bifenthrin	3A	Contact	NR	A	ALL	Registered in turf for control of Lawn Armyworm, Sod Webworm, Argentine Stem Weevil, <b>African Black Beetle</b> , Billbug, Black Ant, Coastal Brown Ant, Funnel Ant, Meat Ant, Sugar Ant and Stinging Ant. Apply to mown turf when pest is evident and repeat as necessary. Retreatment interval and maximum number of treatments not specified.	VH Bee:H	R3

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Chlorantraniliprole (Acelepryn) Syngenta	28	Ingestion	NR	A	ALL	Registered in turfgrass for control of Lawn Curl Grub, <b>African Black Beetle, Argentinian Scarab, Argentinian Stem Weevil</b> , Billbug, Lawn Armyworm, Black Cutworm and Sod Webworm. Apply before or at peak egg hatch (mid-September for African Black Beetle and Argentine Stem Weevil, mid-December for Argentinian Scarab). Retreatment interval and number of applications not specified.	L Bee:VL	-
Chlorpyrifos	1B	Contact	NG	A	QLD, NSW, VIC & WA	Registered in turf for control of <b>African Black Beetle</b> . Apply to turf when pests appear. Retreatment interval and number of applications not specified.	H Bee:H	R1
					ALL (excl. QLD)	Registered in turf for control of <b>Argentine Stem Weevil</b> . Apply to turf when pests appear. Apply as late in the day as possible. Retreatment interval and number of applications not specified.		
Clothianidin (Stealth) Sumitomo	4A	Contact & Ingestion	NG	A	ALL	Registered in turfgrass and lawns for control of <b>African Black Beetle</b> . Apply at peak egg hatch, generally in spring to early summer or when small larvae are present. Retreatment interval and number of applications not specified.	M Bee:VH	R2
Clothianidin + Clofentezine + Abamectin	4A+10A +6	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Billbug, <b>Argentine Stem Weevil, Argentinian Scarab</b> , Mole Cricket, <b>African Black Beetle</b> , Gound Pearl, Couch Mite and Couch Fly. Treat Argentine Stem Weevil and Argentinian Scarab when peak numbers (preventatively) or when first visual symptoms are observed (curatively) typically around late September to January. For African Black Beetle, apply at peak egg hatch in late-September to mid-November, or when small larvae are present. Retreatment interval not specified. Maximum of 2 applications per season.	H Bee:VH	R2

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Contact & Ingestion	NG	A	ALL	Registered in established turf for control of <b>African Black Beetle, Argentinian Scarab</b> , June Beetle, <b>Argentine Stem Weevil</b> , Billbug, Black Cutworm and Lawn Armyworm. Apply prior to or at peak egg hatch (African Black Beetle late September to mid-October, Argentinian Scarab early December, Argentine Stem Weevil late September to December). Retreatment interval and number of applications not specified.	H Bee:VH	R2
Diazinon	1B	Contact	NG	A	ALL (excl. QLD)	Registered in turf for control of <b>Argentine Stem Weevil</b> . Apply to mown turf and repeat as necessary. Number of applications and retreatment interval not specified.	H Bee:H	R2
					ALL (excl. TAS)	Registered in turf for control of <b>African Black Beetle</b> . Apply to mown turf and repeat as necessary. Number of applications and retreatment interval not specified.		
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Contact	NR	A	ALL	Registered in turf for control of <b>African Black Beetle</b> , Billbug, Blackheaded Pasture Cockchafer, Funnel Ants, Couch Mite, Armyworm, Cutworm, Webworm and Wingless Grasshopper. Apply as a foliar spray and irrigate immediately after application. Retreatment interval and number of applications not specified.	VH Bee:H	-
Fipronil	2B	Contact	NG	A	ALL	Registered in turf for control of <b>Argentine Stem Weevil</b> , Funnel Ant and Mole Cricket. Apply to the turf surface at the first signs of pest activity. Ensure incorporation with at least 6mm of rainfall or overhead irrigation immediately after application. Do not apply more than 2 times per year. Retreatment interval not specified.	M Bee:VH	R2
Imidacloprid	4A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Black Beetle, <b>Argentinian Scarab, Pruinose Scarab</b> and Billbug. Apply at peak egg hatch, from mid spring to mid summer. Retreatment interval and maximum number of treatments not specified.	M Bee:M	R2

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Imidacloprid + Beta-Cyfluthrin	4A+3A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of Lawn Armyworm, Cutworm, Webworm, <b>Argentine Stem Weevil</b> , Billbug, <b>African Black Beetle</b> , Mole Crickets, Couch Mite, Ants, <b>Argentinian Scarab</b> , <b>Pruinose Scarab</b> and Grasshoppers. Apply at peak egg hatch (mid-spring to mid-summer) and irrigate treated areas after application. Retreatment interval and maximum number of treatments not specified.	VH Bee:VH	R2
Indoxacarb (Advion) Syngenta	22A	Ingestion	NG	A	ALL	Registered in golf greens and surrounds for control of <b>Argentine Stem Weevil</b> . Two seasonal treatment opportunities should be targeted. Apply late winter / early spring when overwintered adults are observed to minimise egg laying and population build up. Make a second application early summer as a treatment for adults and foliar feeding larvae.	L Bee:H	R3
Indoxacarb + Novaluron (Plemax) Adama	22A+15	Ingestion	NG	A	ALL	Registered in turf for control of <b>Argentine Stem Weevil</b> , Billbug and <b>African Black Beetle</b> . Apply when peak numbers are observed or when first visual symptoms are observed for Argentine Stem Weevil. For African Black Beetle, apply at peak egg hatch (late September to mid November) or when small larvae are present. Do not apply more than 3 applications per season. Retreatment interval not specified.	M Bee:H	R3
Malathion	1B	Contact	1	A	SA, NSW, VIC, WA & NT	Registered in bowling and golf greens for control of <b>Argentine Stem Weevil</b> . Lightly water grass after application. Retreatment interval and number of applications not specified.	H Bee:H	R3
Tetraniliprole (Tetrino) Bayer	28	Ingestion	NG	A	ALL	Registered in turf for control of <b>African Black Beetle</b> , <b>Argentine Scarab</b> , Billbug, <b>Argentine Stem Weevil</b> , Lawn Armyworm, Cutworm and Sod Webworm. Apply to mown turf as a preventative treatment before peak egg-hatch (mid-spring to mid-summer) or as a curative treatment when first visual symptoms of damage occur. Retreatment interval and number of applications not specified.	L-M Bee:VH	-

Pest / Active Ingredient (Trade Name)	Chemical group	Activity	WHP, days	Availability	States	Comments	Impact on beneficials	Regulatory Risk
Thiamethoxam (Meridian) Syngenta	4A	Contact & Ingestion	NG	A	ALL	Registered in turf for control of <b>African Black Beetle</b> and Billbug. Apply prior to or at peak egg hatch, mid spring to early summer, or when small larvae are present. Retreatment interval and number of applications not specified.	M Bee:H	R2
Broflanilide (Vedira) BASF	30	Contact & Ingestion		P		Registered as an Ant bait in industrial, commercial, agricultural and domestic buildings. It also has potential uses as a seed treatment for the control of Wireworms and other soil pests, and a foliar treatment for the control of chewing pests in various crops.	H Bee:VH	-
<b>Slaters / Woodlice</b> (Porcellionidae)								
<b>Priority: Low</b>								
Rated as a low priority. Slaters do not usually infest turf. They prefer moist, well-mulched environments so removing thatch and maintaining good aeration should discourage them.								
Iron Powder	-	Contact	G:3	A	ALL	Registered in turf for control of Grey Field Slugs, Common Brown Snail, Small Brown Snail, White Snails and <b>Slaters / Woodlice</b> . Apply evenly to turf surface. Do not heap pellets. Retreatment interval and number of applications not specified.	-	-
Broflanilide (Vedira) BASF	30	Contact & Ingestion		P		Registered as an Ant bait in industrial, commercial, agricultural and domestic buildings. It also has potential uses as a seed treatment for the control of Wireworms and other soil pests, and a foliar treatment for the control of chewing pests in various crops.	H Bee:VH	-

## **4.3 Weeds in turf**

### **4.3.1 Weed priorities**

<b>Common name</b>	<b>Scientific name</b>
<b>High</b>	
Capeweed	<i>Arctotheca calendula</i>
Flatweed	<i>Hypochaeris radicata</i>
White Clover	<i>Trifolium repens</i>
Couch	<i>Cynodon dactylon</i>
Crowsfoot Grass	<i>Eleusine indica</i>
Cudweed	<i>Gnaphalium pensylvanicum</i>
Dandelion	<i>Taraxacum officinale</i>
Flaxleaf Fleabane	<i>Conyza bonariensis</i>
Jo-jo Weed / Bindii	<i>Soliva sessilis</i>
Kikuyu Grass	<i>Pennisetum clandestinum</i>
African Lovegrass	<i>Eragrostis curvula</i>
Kyllinga Weed	<i>Cyperus sphaeroideus</i>
Mullumbimby Couch	<i>Cyperus brevifolius</i>
Nutgrass	<i>Cyperus rotundus</i>
Parramatta Grass	<i>Sporobolus africana</i>
Bahia Grass	<i>Paspalum notatum</i>
Paspalum	<i>Paspalum dilatatum</i>
Saltwater Couch	<i>Paspalum vaginatum</i>
Water Couch	<i>Paspalum distichum</i>
Rhodes Grass	<i>Chloris guyana</i>
Spurge	<i>Chamaesyce maculata</i>
Summer Grass	<i>Digitaria</i> spp.
Winter Grass / Annual Poa	<i>Poa annua</i>
<b>Moderate</b>	
Annual (Wimmera) Ryegrass	<i>Lolium rigidum</i>
Chickweed	<i>Stellaria media</i>
Marshmallow	<i>Malva parviflora</i>



<b>Common name</b>	<b>Scientific name</b>
Onion / Guildford Grass	<i>Romulea rosea</i>
Onion Weed	<i>Nothoscordum borbonicum</i>
Yellow Wood Sorrel / Creeping Oxalis	<i>Oxalis corniculata</i>
Pearlworts	<i>Sagina</i> spp.
Perennial Ryegrass	<i>Lolium perenne</i>
Ribwort / Common Plantain	<i>Plantago lanceolata</i>
Spiny Emex	<i>Emex australis</i>
Wireweed / Hogweed	<i>Polygonum aviculare</i>
<b>Low</b>	
Liverseed Grass	<i>Urochloa panicoides</i>
Purple Top	<i>Verbena bonariensis</i>
Rat's Tail Fescue / Silver Grass	<i>Vulpia myuros</i>
Sorrel	<i>Acetosella vulgaris</i>
Sowthistle	<i>Sonchus oleraceus</i>
Spear Thistle	<i>Cirsium vulgare</i>
Stemless Thistle	<i>Onopordum acaulon</i>
Tumbleweed / Russian Thistle	<i>Salsola australis</i>

The weed priorities have been assumed as unchanged from the previous SARP report, with Capeweed, Flatweed, White Clover, Couch, Crowsfoot Grass, Cudweed, Dandelion, Flaxleaf Fleabane, Jo-Jo Weed / Bindii, Kikuyu Grass, African Lovegrass, Kyllinga Weed, Mullumbimby Couch, Nutgrass, Parramatta Grass, Bahia Grass, Paspalum, Saltwater Couch, Water Couch, Rhodes Grass, Spurge, Summer Grass and Winter Grass / Annual Poa rated as high priority. Available and potential products for control of weeds are listed in Section 4.1.2. Potential products listed have been selected according to activity on the pest weed. No information is available regarding the safety of these options to use over the top of turfgrass, although in some cases the use of a non-selective herbicide may be considered as a spot-spray treatment.

### **Resistance management**

There are confirmed cases of resistance in Australia for Awnless Barnyard Grass (Group 9 at more than 200 sites), Feather Top Rhodes Grass (Group 9 at 4 sites) and Blackberry Nightshade (Group 22 at 2 sites).

Specific resistance management strategies for high resistance risk (1 and 2) and moderate resistance risk (0, 3, 4, 5, 9, 10, 12, 14, 15, 22, 27 and 34) herbicide modes of action are available on the CropLife Australia webpage<sup>6</sup>.

This report uses the new numerical herbicide mode of action classifications. Refer to the CropLife website<sup>7</sup> to compare these to the previous alphabetical classifications.

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<sup>6</sup> <https://www.croplife.org.au/resources/programs/resistance-management/herbicide-resistance-management-strategies-2/>

<sup>7</sup> [https://www.croplife.org.au/wp-content/uploads/2021/07/A2-poster\\_03\\_FINAL.pdf](https://www.croplife.org.au/wp-content/uploads/2021/07/A2-poster_03_FINAL.pdf)

### 4.3.2 Available and potential products for weed control

**TABLE KEY:** Note that blank fields in the table indicate no information has been provided.

Availability			
A	Available via either registration or permit approval		
P	Potential – a possible candidate to pursue for registration or permit		
P-A	Potential, already approved in the crop for another use		
Resistance risk		Regulatory risk (refer to Appendix 6)	
		R1	Short-term: Critical concern over retaining access
**	Moderate resistance risk	R2	Medium-term: Maintaining access of significant concern
***	High resistance risk	R3	Long-term: Potential issues associated with use - Monitoring required
Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Capeweed</b> ( <i>Arctotheca calendula</i> )							
<b>Priority: High</b>							
Rated as a high priority. Annual broadleaf weed that germinates in the cooler months and is widespread in temperate regions. Capeweed seeds and grows prolifically and is difficult to control with knockdown herbicides.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Capeweed</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Capeweed</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, <b>Capeweed</b> , Catsear, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Capeweed</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, <b>Capeweed</b> , Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, <b>Capeweed</b> , Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, White Clover, Wild Radish, <b>Capeweed</b> (up to 4 leaf stage), Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, Plantain, <b>Capeweed</b> , Cats Ear, Bin-dii (Jo-Jo), Cudweed and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, <b>Capeweed</b> , Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, White Clover, Brome Grass, Plantain, Chickweed and <b>Capeweed</b> . Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Capeweed</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Nonanoic Acid	-	Turf / Spot Spraying	Registered in turf (spot-spraying) for control of Fat Hen, Potato Weed, Stinking Roger, Couch Grass, Chickweed, Lambs Tongue, Peppergrass, <b>Capeweed</b> , Common Storksbill and Clover. Spray to emerged weeds. Reapplication at around 7 days may be necessary if regrowth occurs. Maximum number of applications not specified.	NR	A	ALL	-
Carfentrazone (Hammer)	14**	Rough Grass / Turf Areas	Registered in rough grass / turf areas for control of Marshmallow and Stinging Nettle. Registered for control of <b>Capeweed</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts and assorted tropical & sub-tropical fruits.	NR	P-A	ALL	-
Chloridazon (Pyramin)	5**		Registered for control of <b>Capeweed</b> in fodder beet, red beet, silverbeet, baby leaf spinach and baby leaf beet.		P		-
Flumioxazin (Chateau)	14**		Registered for control of <b>Capeweed</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Isoxaben (Gallery)	29**		Registered for control of <b>Capeweed</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fencelines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Capeweed</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Capeweed</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Capeweed</b> in apples, peaches and peppermint.		P		-
<b>Flatweed</b> ( <i>Hypochoeris radicata</i> )							
<b>Priority: High</b>							
Rated as a high priority. Broadleaf perennial weed that is highly competitive and will grow and reproduce year round in many regions. It is difficult to control, especially plants with well-established root systems.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Flatweed</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, perennial broadleaf weeds including <b>Flatweed</b> , and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, <b>Catsear</b> , Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Carfentrazone + MCPA	14+4**	Established Turf	Registered in established turf for control of Moss, Carrot Weed, Clover, Cudweed, Dandelion, Docks, Fat Hen, <b>Flatweed</b> / Catsear, Pearlwort and Plantains. Apply a second application at 14 days after the first application. Maximum number of applications not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of <b>Cats Ear</b> , Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, <b>Catsear</b> , Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Diflufenican + MCPA +Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, Plantain, Capeweed, <b>Catsear</b> , Bin-dii (Jo-Jo), Cudweed and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Disodium Methy Larsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, <b>Catsear</b> , Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, <b>Catsear</b> , Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Flatweed</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, <b>Catsear</b> , Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, <b>Catsear</b> , Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Isoxaben (Gallery)	29**		Registered for control of <b>Flatweed</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fencelines, right of way and industrial situations.		P		-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>White Clover</b> ( <i>Trifolium repens</i> )							
<b>Priority: High</b>							
Rated as a high priority. Annual broadleaf weed that generally grows in the cooler months. It is highly competitive and can be difficult to control once plants get large.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Clover</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Carfentrazone + MCPA	14+4**	Established Turf	Registered in established turf for control of Moss, Carrot Weed, <b>Clover</b> , Cudweed, Dandelion, Docks, Fat Hen, Flatweed / Catsear, Pearlwort and Plantains. Apply a second application at 14 days after the first application. Maximum number of applications not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, <b>Clovers</b> , Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, <b>Clovers</b> , Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, <b>White Clover</b> , Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	Registered in turf for control of <b>White Clover</b> , Plantain, Capeweed, Cats Ear, Bin-dii (Jo-Jo), Cudweed and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Disodium Methyalarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, <b>Clovers</b> , Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Fluroxypyr + Florasulam (Outshine) Adama	4**+2***	Established Turf	Registered in established turf for control of <b>White Clover</b> , Bindii, Bathurst Burr, Noogoora Burr, Marshmallow, Pigweed and Sowthistle. Apply to weeds after emergence from autumn to early spring. Retreat in 4-6 weeks if required. Maximum number of applications not specified.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, <b>White Clover</b> , Brome Grass, Plantain, Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, <b>White Clover</b> and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
Isoxaben + Florasulam (Turzine Pro) Corteva	29**+2***	Established Turf / Except golf & bowling greens	Registered in established turf for control of <b>White Clover</b> and Bindii. Apply to actively growing weeds. One application per year only.	NG	A	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, Ryegrass, Onion Grass, Bindii, Caustic Weed, <b>White Clover</b> , Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Nonanoic Acid	-	Turf / Spot Spraying	Registered in turf (spot-spraying) for control of Fat Hen, Potato Weed, Stinking Roger, Couch Grass, Chickweed, Lambs Tongue, Peppergrass, Capeweed, Common Storksbill and <b>Clover</b> . Spray to emerged weeds. Reapplication at around 7 days may be necessary if regrowth occurs. Maximum number of applications not specified.	NR	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>White Clover</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and <b>White Clover</b> . Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Quinclorac (Drive) BASF	4**	Established Turf / Green Couch, Hybrid Couch, Japanese Lawngrass, Marine Couch, Perennial Ryegrass, Bentgrass, Kentucky Bluegrass	Registered in established turf for control of Summer Grass and <b>White Clover</b> and suppression of Kikuyu Grass. Apply to actively growing weeds. Best control is generally achieved in autumn. Number of applications and retreatment interval not specified.	NR	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, <b>White Clover</b> and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Ethofumesate (Tramat)	15**	Established Turf	Registered in established turf for control of Winter Grass. Registered for control of <b>Clover</b> in oilseed poppy and onions.	NG	P-A	ALL (excl. QLD)	-
Isoxaben (Gallery)	29**		Registered for control of <b>Clover</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fence lines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Subterranean Clover</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
<b>Couch</b> ( <i>Cynodon dactylon</i> )							
<b>Priority: High</b>							
Rated as a high priority. Couch Grass is an aggressive and highly competitive perennial grass that grows year-round in most areas. Herbicide control is effectively provided it is targeted to young, actively growing weeds. Multiple applications are usually required.							
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, perennial broadleaf weeds and grasses including <b>Couch Grass</b> . Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Nonanoic Acid	-	Turf / Spot Spraying	Registered in turf (spot-spraying) for control of Fat Hen, Potato Weed, Stinking Roger, <b>Couch Grass</b> , Chickweed, Lambs Tongue, Peppergrass, Capeweed, Common Storksbill and Clover. Spray to emerged weeds. Reapplication at around 7 days may be necessary if regrowth occurs. Maximum number of applications not specified.	NR	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, <b>Couch</b> , <b>Hybrid Couch</b> , Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
2,2-DPA (Dalapon)	0**		Registered for control of <b>Couch Grass</b> in citrus and vines.		P		-
Norflurazon (Zoliar)	12**		Registered for suppression of <b>Couch Grass</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Terbacil	5**		Registered for control of <b>Couch Grass</b> in apples and peaches.		P		-
<b>Crowsfoot Grass</b> ( <i>Eleusine indica</i> )							
<b>Priority: High</b>							
Rated as a high priority. Summer-growing annual grass that is difficult to control with herbicides. It will colonise thin, bare areas so it is important to ensure adequate turf density and health.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Crowsfoot Grass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diclofop-Methyl	1***	Turf	Registered in turf for control of <b>Crowsfoot Grass</b> . Apply to actively growing weeds between seedling and tillering stage. A repeat spray may be needed after 2-4 weeks. Maximum number of applications not specified.	NG	A	QLD, NSW & ACT	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dithiopyr (Dimension) Corteva	3**	Established Turf grasses / Except Golf and Bowling Greens	Registered in established turfgrass (except golf and bowling greens) for control of Crabgrass, Summer Grass, Winter Grass, Barnyard Grass, Chickweed and <b>Crowsfoot Grass</b> . Can be applied as either a pre-emergent or post-emergent application. Do not apply more 3.5 L/year.	NG	A	ALL	-
Foramsulfuron (Tribute)	2***	Turf / Common & Hybrid Couchgrass, Zoysia Grass only	Registered in turf (Common & Hybrid Couchgrass, Zoysia Grass only) for control of Winter Grass, Ryegrass, <b>Crowsfoot Grass</b> , Goose Grass and Paspalum and suppression of Kikuyu. Apply 2-3 applications at 14 day intervals.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, <b>Crowsfoot Grass</b> , Winter Grass, Bindii, White Clover, Brome Grass, Plantain, Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
Metolachlor (Meteor)	15**	Established Turf / Couch, Common Kikuyu, Zoysia, QLD Blue Couch, Buffalo	Registered in established turf for control of Winter Grass, Summer Grass and <b>Crowsfoot Grass</b> . Apply prior to weed germination and water in with 2-4mm of irrigation. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Metribuzin (Metric)	5**	Established Turf / Couch, Empire Zoysia, QLD Blue Couch, Sir Walter Buffalo	Registered in established turf for control of <b>Crowsfoot Grass</b> , Winter Grass and Summer Grass. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Oxadiazon	14**	Warm Season Turfgrass / Fairways, Golf Tees, Municipal Sports Fields, Industrial & Commercial Lawns	Registered in warm season turfgrass for control of Summer Grass, <b>Crowsfoot Grass</b> , Winter Grass and Creeping Oxalis. Apply prior to germination of weeds (usually from late winter to early spring, late August to early September). Number of applications and retreatment interval not specified.	NR	A	ALL	-
Pendimethalin (Stomp)	3**	Turf	Registered in turf for control of Summer Grass, <b>Crowsfoot</b> / Crab Grass and Winter Grass. Apply prior to weed emergence and incorporate by 10-15mm of spray irrigation or rainfall within 1 day of application. Apply once every 10 weeks from early September to end of February. Apply only once per year in Perennial Ryegrass and Bent Grass.	NR	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Crowsfoot Grass</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, Parramatta Grass, Rats Tail Fescue, Summer Grass, <b>Crowsfoot Grass</b> , African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, <b>Crowsfoot Grass</b> , Liverseed Grass, Pigeon Grass, Summer Grass and Winter Grass and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, <b>Crowsfoot Grass</b> , Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Flumioxazin (Chateau)	14**		Registered for control of <b>Crowsfoot Grass</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Crowsfoot Grass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
<b>Cudweed</b> ( <i>Gnaphalium pensylvanicum</i> )							
<b>Priority: High</b>							
Rated as a high priority. Winter annual broadleaf weed that forms in rosettes. It has glossy leaves which makes it difficult to control with herbicides. The use of pre-emergent herbicides is likely to provide more reliable results.							
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, Catsear, Common Plantain, Creeping Buttercup, <b>Cudweed</b> , Dandelion, Fleabane and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Bromoxynil	6**	Established Turf	Registered in established turf for control of Bindy-Eye, Jo-Jo Weed and <b>Cudweed</b> . Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Carfentrazone + MCPA	14+4**	Established Turf	Registered in established turf for control of Moss, Carrot Weed, Clover, <b>Cudweed</b> , Dandelion, Docks, Fat Hen, Flatweed / Catsear, Pearlwort and Plantains. Apply a second application at 14 days after the first application. Maximum number of applications not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, <b>Cudweed</b> , Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, <b>Cudweed</b> , Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, <b>Cudweed</b> , Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA +Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, Plantain, Capeweed, Cats Ear, Bin-dii (Jo-Jo), <b>Cudweed</b> and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, <b>Cudweed</b> , Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, <b>Cudweed</b> , Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Cudweed</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, <b>Everlasting / Cudweed</b> , Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
<b>Dandelion</b> ( <i>Taraxacum officinale</i> ) <b>Priority: High</b>							
Rated as a high priority. Dandelions are an annual broadleaf weed that can grow year-round in most regions. They are prolific and very hardy weeds that will require sustained control measures to eradicate.							
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, perennial broadleaf weeds including <b>Dandelion</b> , and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, Catsear, Common Plantain, Creeping Buttercup, Cudweed, <b>Dandelion</b> , Fleabane and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Carfentrazone + MCPA	14+4**	Established Turf	Registered in established turf for control of Moss, Carrot Weed, Clover, Cudweed, <b>Dandelion</b> , Docks, Fat Hen, Flatweed / Catsear, Pearlwort and Plantains. Apply a second application at 14 days after the first application. Maximum number of applications not specified.	NG	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Dandelion</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, <b>Dandelion</b> , Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, <b>Dandelion</b> , Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, <b>Dandelion</b> , Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Dandelion</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Dandelion</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, <b>Dandelion</b> , Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Dandelion</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Flaxleaf Fleabane</b> ( <i>Coryza bonariensis</i> )							
<b>Priority: High</b>							
Rated as a high priority. Flaxleaf Fleabane seeds prolifically and can germinate year-round. It is difficult to control with herbicides and a continuous program is required to manage it in turfgrass.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Flaxleaf Fleabane</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, Catsear, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, <b>Fleabane</b> and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, <b>Fleabane</b> , Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, <b>Fleabane</b> , Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, <b>Fleabane</b> , Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Fleabane</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, <b>Fleabane</b> , Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, <b>Fleabane</b> , Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Flumioxazin (Chateau)	14**		Registered for control of <b>Fleabane</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
<b>Jo-jo Weed / Bindii (<i>Soliva sessilis</i>)</b>							
<b>Priority: High</b>							
Rated as a high priority. Jo-Jo Weed is an annual, prostrate broadleaf which firms sharp, prickly seeds in spring. It is a widespread weed that is common in turfgrass as it seeds prolifically and is highly competitive. Control can be achieved with herbicides but multiple applications are often required.							
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, Catsear, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane and <b>Jo-Jo Weed</b> . Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Bromoxynil	6**	Established Turf	Registered in established turf for control of Bindy-Eye, <b>Jo-Jo Weed</b> and Cudweed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and <b>Jo-Jo Weed</b> . Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, <b>Jo-Jo Weed</b> , Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including <b>Bindii</b> , Creeping Oxalis, Cudweed, Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, Plantain, Capeweed, Cats Ear, <b>Bin-dii (Jo-Jo)</b> , Cudweed and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, <b>Bindii</b> , Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Fluroxypyr + Florasulam (Outshine) Adama	4**+2***	Established Turf	Registered in established turf for control of White Clover, <b>Bindii</b> , Bathurst Burr, Noogoora Burr, Marshmallow, Pigweed and Sowthistle. Apply to weeds after emergence from autumn to early spring. Retreat in 4-6 weeks if required. Maximum number of applications not specified.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, Winter Grass, <b>Bindii</b> , White Clover, Brome Grass, Plantain, Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, <b>Bindii</b> , Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
Isoxaben + Florasulam (Turzine Pro) Corteva	29**+2***	Established Turf / Except golf & bowling greens	Registered in established turf for control of White Clover and <b>Bindii</b> . Apply to actively growing weeds. One application per year only.	NG	A	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, Ryegrass, Onion Grass, <b>Bindii</b> , Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, <b>Bindii</b> , Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., <b>Bindii</b> , Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, <b>Bindii</b> , Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds. Registered for control of Bindy Eye in sugarcane.	NR	P-A	QLD & WA	-
<p><b>Kikuyu Grass</b> (<i>Pennisetum clandestinum</i>)  <b>Priority: High</b>  Rated as a high priority. Kikuyu is an aggressive grass that is difficult to remove from other turf varieties. Ongoing management is required.</p>							
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, perennial broadleaf weeds and grasses including <b>Kikuyu</b> . Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Foramsulfuron (Tribute)	2***	Turf / Common & Hybrid Couchgrass, Zoysia Grass only	Registered in turf (Common & Hybrid Couchgrass, Zoysia Grass only) for control of Winter Grass, Ryegrass, Crowsfoot Grass, Goose Grass and Paspalum and suppression of <b>Kikuyu</b> . Apply 3 applications at 14 day intervals.	NG	A	ALL	-
Quinclorac (Drive) BASF	4**	Established Turf / Green Couch, Hybrid Couch, Japanese Lawngrass, Marine Couch, Perennial Ryegrass, Bentgrass, Kentucky Bluegrass	Registered in established turf for control of Summer Grass and White Clover and suppression of <b>Kikuyu Grass</b> . Apply 2 applications 14-21 days apart. Best control is generally achieved in autumn.	NR	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, <b>Kikuyu</b> , Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of <b>Kikuyu</b> . Apply to actively growing weeds, with 2 applications applied 21-28 days apart.	NG	A	ALL	-
2,2-DPA (Dalapon)	0**		Registered for control of <b>Kikuyu</b> in citrus and vines.		P		-
Terbacil	5**		Registered for control of <b>Kikuyu</b> in apples and peaches.		P		-
<b>African Lovegrass (<i>Eragrostis curvula</i>)</b>							
<b>Priority: High</b>							
Rated as a high priority. African Lovegrass is a vigorous, drought resistant, perennial grass that is widespread and difficult to control in turf after emergence. Spot spraying can be effective, but it is important to target newly germinated weeds to achieve effective control.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Lovegrass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Fluazifop-P (Fusilade) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Fluproprinate PER9792	0**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Glyphosate (Roundup) PER9792	9**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	NR	A	ALL (excl. VIC)	R3
Haloxypop (Verdict) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	G:28	A	ALL (excl. VIC)	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Imazamox PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Imazethapyr PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>African Lovegrass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, Parramatta Grass, Rats Tail Fescue, Summer Grass, Crowsfoot Grass, <b>African Lovegrass</b> , Bahia Grass, Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of <b>African Lovegrass</b> , Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, Summer Grass and Winter Grass and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Lovegrass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Kyllinga Weed</b> ( <i>Cyperus sphaeroideus</i> ) <b>Mullumbimby Couch</b> ( <i>Cyperus brevifolius</i> ) <b>Nutgrass</b> ( <i>Cyperus rotundus</i> ) <b>Priority: High</b>							
Rated as a high priority. These sedges prefer damp, water-logged soils but can survive for years underground during dry times. Herbicide options are limited and unreliable. Improve soil drainage if possible.							
Bentazone	6**	Turf	Registered in turf for control of <b>Nutgrass, Mullumbimby Couch</b> , Fat Hen, Fumitory, Wild Radish, Noogoora Burr, Hairy Wandering Jew, Shepherd's Purse, Cobblers Peg and Variegated Thistle. Apply just prior to flowering and where there is adequate moisture. Apply a follow-up spray after 2-4 weeks if sufficient new growth warrants re-treatment. Do not exceed 2 applications within 4 weeks.	NG	A	ALL	-
Disodium Methylarsonate (DSMA)	0**	Turf & Lawn Grasses	Registered in turf and lawn grasses for control of Crab Grass, <b>Kyllinga Weed, Mullumbimby Couch, Nut Grass</b> , Paspalum, Sedges and Summer Grass. Retreat as necessary at 7-14 day intervals. Maximum number of applications not specified.	NG	A	ALL (excl. TAS)	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, <b>Mullumbimby Couch, Nut Grass</b> , Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Halosulfuron-Methyl (Sempra)	2***	Established Turf	Registered in established turf for control of <b>Mullumbimby Couch</b> and <b>Nut Grass</b> . Apply to actively growing weeds when new growth has reached a minimum of 5cm of new leaf for Nutgrass and 2cm of new leaf for Mullumbimby Couch. Do not apply more than 200 g/ha per season.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, <b>Mullumbimby Couch, Nut Grass</b> , Bindii, Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Nutgrass</b> in asparagus.		P		-
Terbacil	5**		Registered for control of <b>Nutgrass</b> in apples and peaches.		P		-
<b>Parramatta Grass</b> ( <i>Sporobolus africana</i> )							
<b>Priority: High</b>							
Rated as a high priority. Parramatta Grass is a perennial grass weed with a tussocky growth habit. It is very aggressive and will often out-compete desirable host turf varieties. Herbicide options are limited and can be unreliable. Spot spraying can be effective, but it is important to target newly germinated weeds to achieve effective control.							
Fluazifop-P (Fusilade) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Fluproprinate PER9792	0**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Glyphosate (Roundup) PER9792	9**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	NR	A	ALL (excl. VIC)	R3
Haloxypop (Verdict) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	G:28	A	ALL (excl. VIC)	-
Imazamox PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Imazethapyr PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Parramatta Grass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, <b>Parramatta Grass</b> , Rats Tail Fescue, Summer Grass, Crowsfoot Grass, African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
2,2-DPA (Dalapon)	0**		Registered for control of <b>Parramatta Grass</b> in pastures.		P		-
<p><b>Bahia Grass</b> (<i>Paspalum notatum</i>)  <b>Paspalum</b> (<i>Paspalum dilatatum</i>)  <b>Saltwater Couch</b> (<i>Paspalum vaginatum</i>)  <b>Water Couch</b> (<i>Paspalum distichum</i>)  <b>Priority: High</b></p> <p>Rated as a high priority. Paspalum species are perennial grass weeds that form clumps in turf that are tough to control. They are aggressive and fast-growing and ongoing control measures are required to keep them in check. Spot spraying can be effective, but it is important to target newly germinated weeds to achieve effective control.</p>							
Disodium Methylarsonate (DSMA)	0**	Turf & Lawn Grasses	Registered in turf and lawn grasses for control of Crab Grass, Kylinga Weed, Mullumbimby Couch, Nut Grass, <b>Paspalum</b> , Sedges and Summer Grass. Retreat as necessary at 7-14 day intervals. Maximum number of applications not specified.	NG	A	ALL (excl. TAS)	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, <b>Paspalum</b> , Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Fluazifop-P (Fusilade) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Fluproprinate PER9792	0**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Glyphosate (Roundup) PER9792	9**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	NR	A	ALL (excl. VIC)	R3
Haloxifop (Verdict) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	G:28	A	ALL (excl. VIC)	-
Imazamox PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Imazethapyr PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Bahia Grass</b> and <b>Paspalum</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and <b>Bahia Grass</b> . Apply during summer when turf is actively growing and Bahia Grass produces seed heads. Apply 2-3 times at 4 week intervals after mowing. Do not apply more than 3 consecutive applications per season.	NG	A	ALL	-
Monosodium Methylarsonate (MSMA)	0**	Turf / Couch, Buffalo and Clover Lawns or Turf Only Green Couch and Hybrids of Green Couch only	Registered in turf for control of Crab Grass / Summer Grass and <b>Paspalum</b> . Apply to young, actively growing weeds. Retreat after 14 days if required. Maximum number of applications not specified.	G:42	A	QLD, NSW & WA	-
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, <b>Parramatta Grass</b> , Rats Tail Fescue, Summer Grass, Crowsfoot Grass, African Lovegrass, <b>Bahia Grass</b> , Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
2,2-DPA (Dalapon)	0**		Registered for control of <b>Paspalum</b> in citrus.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Norflurazon (Zoliar)	12**		Registered for control of <b>Paspalum</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
<b>Rhodes Grass</b> ( <i>Chloris guyana</i> )							
<b>Priority: High</b>							
Rated as a high priority. Rhodes Grass is a perennial grass that is widespread and prolific in warm season turfgrass. Spot spraying can be effective, but it is important to target newly germinated weeds to achieve effective control.							
Fluazifop-P (Fusilade) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Fluproprinate PER9792	0**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
Glyphosate (Roundup) PER9792	9**	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	NR	A	ALL (excl. VIC)	R3
Haloxfop (Verdict) PER9792	1***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	G:28	A	ALL (excl. VIC)	-
Imazamox PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	G:42	A	ALL (excl. VIC)	-
Imazethapyr PER9792	2***	Non-Crop Situations / Spot Spray	Registered in non-crop situations / spot spray for control of tussocky grasses, including <b>Rhodes Grass</b> . Apply to young and actively growing weeds.	G:14	A	ALL (excl. VIC)	-
<b>Spurge</b> ( <i>Chamaesyce maculata</i> )							
<b>Priority: High</b>							
Rated as a high priority. Spurge is a summer growing annual broadleaf that grows rapidly in thin or patchy areas. Management options are limited to mechanical removal in conjunction with maintaining a dense, healthy sward through an effective nutrient program and irrigation practice.							
No herbicide options available							

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Summer Grass</b> ( <i>Digitaria</i> spp.) <b>Priority: High</b>							
Rated as a high priority. Summer Grass is an annual grass that establishes in spring from the previous seasons seed. It competes aggressively with host turf varieties during the warmer months and is difficult to remove once it is established. Pre-emergent herbicides are generally the most effective means of control.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Summer Grass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Disodium Methylarsonate (DSMA)	0**	Turf & Lawn Grasses	Registered in turf and lawn grasses for control of Crab Grass, Kyllinga Weed, Mullumbimby Couch, Nut Grass, Paspalum, Sedges and <b>Summer Grass</b> . Retreat as necessary at 7-14 day intervals. Maximum number of applications not specified.	NG	A	ALL (excl. TAS)	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, <b>Summer Grass</b> , Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Dithiopyr (Dimension) Corteva	3**	Established Turf grasses / Except Golf and Bowling Greens	Registered in established turfgrass (except golf and bowling greens) for control of Crabgrass, <b>Summer Grass</b> , Winter Grass, Barnyard Grass, Chickweed and Crowsfoot Grass. Can be applied as either a pre-emergent or post-emergent application. Do not apply more 3.5 L/year.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of <b>Summer Grass</b> / Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, White Clover, Brome Grass, Plantain, Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
Metolachlor (Meteor)	15**	Established Turf / Couch, Common Kikuyu, Zoysia, QLD Blue Couch, Buffalo	Registered in established turf for control of Winter Grass, <b>Summer Grass</b> and Crowsfoot Grass. Apply prior to weed germination and water in with 2-4mm of irrigation. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Metribuzin (Metric)	5**	Established Turf / Couch, Empire Zoysia, QLD Blue Couch, Sir Walter Buffalo	Registered in established turf for control of Crowsfoot Grass, Winter Grass and <b>Summer Grass</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Monosodium Methylarsonate (MSMA)	0**	Turf / Couch, Buffalo and Clover Lawns or Turf Only Green Couch and Hybrids of Green Couch only	Registered in turf for control of Crab Grass / <b>Summer Grass</b> and Paspalum. Apply to young, actively growing weeds. Retreat after 14 days if required. Maximum number of applications not specified.	G:42	A	QLD, NSW & WA	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Oryzalin	3**	Established Turf / Common Couch, Hybrid Couch, Kikuyu	Registered in established turf (except golf or bowling greens) for control of Winter Grass, Annual Ryegrass, <b>Crabgrass</b> and Chickweed. Apply prior to germination of weeds (usually from early spring, September to December). Apply every 16 weeks. Incorporate with 10-15mm of irrigation. Maximum number of applications not specified.	NG	A	ALL	-
Oxadiazon	14**	Warm Season Turfgrass / Fairways, Golf Tees, Municipal Sports Fields, Industrial & Commercial Lawns	Registered in warm season turfgrass for control of <b>Summer Grass</b> , Crowsfoot Grass, Winter Grass and Creeping Oxalis. Apply prior to germination of weeds (usually from late winter to early spring, late August to early September). Number of applications and retreatment interval not specified.	NR	A	ALL	-
Pendimethalin (Stomp)	3**	Turf	Registered in turf for control of <b>Summer Grass</b> , Crowsfoot / Crab Grass and Winter Grass. Apply prior to weed emergence and incorporate by 10-15mm of spray irrigation or rainfall within 1 day of application. Apply once every 10 weeks from early September to end of February. Apply only once per year in Perennial Ryegrass and Bent Grass.	NR	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Summer Grass</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, Parramatta Grass, Rats Tail Fescue, <b>Summer Grass</b> , Crowsfoot Grass, African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Quinclorac (Drive) BASF	4**	Established Turf / Green Couch, Hybrid Couch, Japanese Lawn grass, Marine Couch, Perennial Ryegrass, Bentgrass, Kentucky Bluegrass	Registered in established turf for control of <b>Summer Grass</b> and White Clover and suppression of Kikuyu Grass. Apply to actively growing weeds. Best control is generally achieved in autumn. One application can be applied at cotyledon stage up to prior to second tiller or weeds at 5 tillers and greater. Two applications can be applied 21-28 days apart on weeds that are 2-4 tillers.	NR	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, <b>Summer Grass</b> and Winter Grass and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, <b>Summer Grass</b> , Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
Ethofumesate (Tramat)	15**	Established Turf	Registered in established turf for control of Winter Grass. Registered for control of <b>Summer Grass</b> in beet crops.	NG	P-A	ALL (excl. QLD)	-
Flumioxazin (Chateau)	14**		Registered for control of <b>Summer Grass</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Summer Grass</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Summer Grass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
<b>Winter Grass / Annual Poa (<i>Poa annua</i>)</b>							
<b>Priority: High</b>							
Rated as a high priority. Winter Grass is a low growing annual grass weed that germinates in the autumn. It seeds prolifically and will require ongoing control measures once it is established. Pre-emergent herbicides are generally the most effective means of control.							
Amicarbazone (Xtron)	5**	Established Turf	Registered in established turf for control of <b>Winter Grass</b> . Do not apply more than 600 g/ha/year. Use a retreatment interval of 21 days if required.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Bispyribac-Sodium (Nominee) Sumitomo	2***	Golf Course Greens (Bentgrass) / Sports & Recreational Turf (Tall Fescue, Perennial Ryegrass, Couch)	Registered in golf course greens, sports and recreational turf for control of <b>Winter Grass</b> . Apply 2 consecutive treatments 7-21 days apart. Do not use more than 2 applications per year.	NG	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Winter Grass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Dithiopyr (Dimension) Corteva	3**	Established Turf grasses / Except Golf and Bowling Greens	Registered in established turfgrass (except golf and bowling greens) for control of Crabgrass, Summer Grass, <b>Winter Grass</b> , Barnyard Grass, Chickweed and Crowsfoot Grass. Can be applied as either a pre-emergent or post-emergent application. Do not apply more 3.5 L/year.	NG	A	ALL	-
Endothal	31**	Blue Couch, Common Couch, Bent, Buffalo and Brown Top Lawns	Registered in blue couch, common couch, bent, buffalo and brown top lawns for control of <b>Winter Grass</b> . Apply in autumn to spring before seed heads appear. Apply 2-3 applications spaced 10-14 days apart.	NG	A	ALL	-
Ethofumesate (Tramat)	15**	Established Turf	Registered in established turf for control of <b>Winter Grass</b> . Apply first application 1 month before main autumn germination. Repeat at monthly intervals for 3-4 months.	NG	A	ALL (excl. QLD)	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Foramsulfuron (Tribute)	2***	Turf / Common & Hybrid Couchgrass, Zoysia Grass only	Registered in turf (Common & Hybrid Couchgrass, Zoysia Grass only) for control of <b>Winter Grass</b> , Ryegrass, Crowsfoot Grass, Goose Grass and Paspalum and suppression of Kikuyu. A repeat application may be required for dense weed cover or larger plants. Maximum number of applications and retreatment interval not specified.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, <b>Winter Grass</b> , Bindii, White Clover, Brome Grass, Plantain, Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of <b>Winter Grass</b> and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
Methiozolin (Poacure)	30**	Turf / Putting Greens, Bowling Greens, Fairways, Tees and Playing Fields	Registered in turf for control of <b>Winter Grass</b> . Application is best made during autumn or spring when turf is actively growing. Apply up to 4 applications per year at 2-3 week intervals.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Metolachlor (Meteor)	15**	Established Turf / Couch, Common Kikuyu, Zoysia, QLD Blue Couch, Buffalo	Registered in established turf for control of <b>Winter Grass</b> , Summer Grass and Crowsfoot Grass. Apply prior to weed germination and water in with 2-4mm of irrigation. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Metribuzin (Metric)	5**	Established Turf / Couch, Empire Zoysia, QLD Blue Couch, Sir Walter Buffalo	Registered in established turf for control of Crowsfoot Grass, <b>Winter Grass</b> and Summer Grass. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of <b>Winter Grass</b> , Ryegrass, Onion Grass, Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Oryzalin	3**	Established Turf / Common Couch, Hybrid Couch, Kikuyu	Registered in established turf (except golf or bowling greens) for control of <b>Winter Grass</b> , Annual Ryegrass, Crabgrass and Chickweed. Apply prior to germination of weeds (usually from late summer to mid-autumn, February to May). Apply every 16 weeks. Incorporate with 10-15mm of irrigation. Maximum number of applications not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Oxadiazon	14**	Warm Season Turfgrass / Fairways, Golf Tees, Municipal Sports Fields, Industrial & Commercial Lawns	Registered in warm season turfgrass for control of Summer Grass, Crowsfoot Grass, <b>Winter Grass</b> and Creeping Oxalis. Apply prior to germination of weeds (usually from late summer to mid-autumn, February to May, and early spring, August to October). Number of applications and retreatment interval not specified.	NR	A	ALL	-
Paclobutrazol	PGR	Turf / Bent Grass, Ryegrass, Kentucky Bluegrass, Couch Grass (except Hybrid Couch)	Registered in turf for suppression and long term control of <b>Winter Grass</b> . Apply using a granular spreader to actively growing grasses in spring and autumn. Water in with at least 6mm of irrigation within 24 hours of application. Do not apply more than 2 spring and 1 autumn application and use a retreatment interval of 6-8 weeks.	NR	A	ALL	-
Pendimethalin (Stomp)	3**	Turf	Registered in turf for control of Summer Grass, Crowsfoot / Crab Grass and <b>Winter Grass</b> . Apply prior to weed emergence and incorporate by 10-15mm of spray irrigation or rainfall within 1 day of application. Apply once every 10 weeks from early September to end of February. Apply only once per year in Perennial Ryegrass and Bent Grass.	NR	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Winter Grass</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, Parramatta Grass, Rats Tail Fescue, Summer Grass, Crowsfoot Grass, African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum and <b>Winter Grass</b> . Apply prior to weed emergence in late summer to early autumn. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Propyzamide	3**	Turf & Lawns / Common Couch	Registered in established turf and lawns for control of <b>Winter Grass</b> . Do not apply more than once per season. Apply during autumn and winter, if established turf is infested with seedling Winter Grass. Apply 12-25mm of irrigation (or rain) immediately after application. Repeat treatment if necessary on Qld Blue Couch after 4 weeks.	NG	A	ALL	-
		Turf & Lawns / QLD Blue Couch				QLD	
		Turf & Lawns / Buffalo Grass				WA	
Rimsulfuron (Coliseum)	2***	Turf / Common Couch, Hybrid Couch	Registered in turf (except golf greens) for control of <b>Winter Grass</b> and Ryegrass. Ideally apply when weeds are at 1-4 leaf stage. Minimum retreatment interval 6-8 weeks. Do not use more than 2 applications per season.	NG	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, Summer Grass and <b>Winter Grass</b> and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, <b>Winter Grass</b> , Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Trinexapac-Ethyl	-	Golf Courses / Fairways, Greens	Registered in golf courses for control of <b>Winter Grass</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Chloridazon (Pyramin)	5**		Registered for control of <b>Winter Grass</b> in fodder beet, red beet, silverbeet, baby leaf spinach and baby leaf beet.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Winter Grass</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
<b>Annual (Wimmera) Ryegrass (<i>Lolium rigidum</i>)</b>							
<b>Priority: Moderate</b>							
Rated as a moderate priority. The most serious grass weed of southern Australia with distribution that is gradually extending north. Populations are prone to herbicide resistance so integrated weed management and rotation of herbicide modes of action are important aspects of a long-term control strategy.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Ryegrass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Oryzalin	3**	Established Turf / Common Couch, Hybrid Couch, Kikuyu	Registered in established turf (except golf or bowling greens) for control of Winter Grass, <b>Annual Ryegrass</b> , Crabgrass and Chickweed. Apply prior to germination of weeds (usually from late summer to mid-autumn, February to May). Apply every 16 weeks. Incorporate with 10-15mm of irrigation. Maximum number of applications not specified.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Annual Ryegrass</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
Rimsulfuron (Coliseum)	2***	Turf / Common Couch, Hybrid Couch	Registered in turf (except golf greens) for control of Winter Grass and <b>Ryegrass</b> . Ideally apply when weeds are at 1-4 leaf stage. Minimum retreatment interval 6-8 weeks. Do not use more than 2 applications per season.	NG	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, <b>Annual Ryegrass</b> , Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, Summer Grass and Winter Grass and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-
Flumioxazin (Chateau)	14**		Registered for control of <b>Annual Ryegrass</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Annual Ryegrass</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Ryegrass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Annual Ryegrass</b> in lucerne seed crops.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Chickweed</b> ( <i>Stellaria media</i> )							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Chickweed is a low-growing, winter annual broadleaf. Herbicide applications should be targeted at young, actively growing weeds.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Chickweed</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, <b>Chickweeds</b> , Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, <b>Chickweed</b> , Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Dithiopyr (Dimension) Corteva	3**	Established Turfgrasses / Except Golf and Bowling Greens	Registered in established turfgrass (except golf and bowling greens) for control of Crabgrass, Summer Grass, Winter Grass, Barnyard Grass, <b>Chickweed</b> and Crowsfoot Grass. Can be applied as either a pre-emergent or post-emergent application. Do not apply more 3.5 L/year.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, White Clover, Brome Grass, Plantain, <b>Chickweed</b> and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
Nonanoic Acid	-	Turf / Spot Spraying	Registered in turf (spot-spraying) for control of Fat Hen, Potato Weed, Stinking Roger, Couch Grass, <b>Chickweed</b> , Lambs Tongue, Peppergrass, Capeweed, Common Storksbill and Clover. Spray to emerged weeds. Reapplication at around 7 days may be necessary if regrowth occurs. Maximum number of applications not specified.	NR	A	ALL	-
Oryzalin	3**	Established Turf / Common Couch, Hybrid Couch, Kikuyu	Registered in established turf (except golf or bowling greens) for control of Winter Grass, Annual Ryegrass, Crabgrass and <b>Chickweed</b> . Apply prior to germination of weeds (usually from early spring, September to December). Apply every 16 weeks. Incorporate with 10-15mm of irrigation. Maximum number of applications not specified.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Chickweed</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, <b>Chickweed</b> , Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, Catsear, <b>Chickweed</b> , Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Carfentrazone (Hammer)	14**	Rough Grass / Turf Areas	Registered in rough grass / turf areas for control of Marshmallow and Stinging Nettle. Registered for control of <b>Chickweed</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts and assorted tropical & sub-tropical fruits.	NR	P-A	ALL	-
Ethofumesate (Tramat)	15**	Established Turf	Registered in established turf for control of Winter Grass. Registered for control of <b>Chickweed</b> in beet crops, ryegrass pasture & seed crops and non-crop areas.	NG	P-A	ALL (excl. QLD)	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, Summer Grass and Winter Grass and suppression of Pigweed. Registered for control of Chickweed in brassica vegetables.	NG	P-A	ALL	-
Chloridazon (Pyramin)	5**		Registered for control of <b>Chickweed</b> in fodder beet, red beet, silverbeet, baby leaf spinach and baby leaf beet.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Isoxaben (Gallery)	29**		Registered for control of <b>Chickweed</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fence lines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Chickweed</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Chickweed</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Chickweed</b> in lucerne seed crops.		P		-
<b>Marshmallow</b> ( <i>Malva parviflora</i> )							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Marshmallow is adapted to a wide variety of environments and is a highly competitive annual broadleaf weed. Control with knockdown herbicides can be unreliable.							
Carfentrazone` (Hammer)	14**	Rough Grass / Turf Areas	Registered in rough grass / turf areas for control of <b>Marshmallow</b> and Stinging Nettle. Number of applications and retreatment interval not specified.	NR	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, <b>Marshmallow</b> (up to 2 leaf stage), Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Fluroxypyr + Florasulam (Outshine) Adama	4**+2***	Established Turf	Registered in established turf for control of White Clover, Bindii, Bathurst Burr, Noogoora Burr, <b>Marshmallow</b> , Pigweed and Sowthistle. Apply to weeds after emergence from autumn to early spring. Retreat in 4-6 weeks if required. Maximum number of applications not specified.	NG	A	ALL	-
Chloridazon (Pyramin)	5**		Registered for control of <b>Marshmallow</b> in fodder beet, red beet, silverbeet, baby leaf spinach and baby leaf beet.		P		-
Flumioxazin (Chateau)	14**		Registered for control of <b>Marshmallow</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
Isoxaben (Gallery)	29**		Registered for control of <b>Small Flowered Mallow</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fence lines, right of way and industrial situations.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Small Flowered Mallow</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
<b>Onion / Guildford Grass (<i>Romulea rosea</i>)</b>							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Onion Grass is a hardy perennial grass that is difficult to control once established. It establishes on bare ground in the autumn and can proliferate in the cooler months when turfgrass varieties are growing more slowly. Effective management should be achieved by maintaining a healthy sward into the autumn to prevent incursions.							
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / <b>Onion Grass</b> , Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, Ryegrass, <b>Onion Grass</b> , Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
<b>Onion Weed (<i>Nothoscordum borbonicum</i>)</b> <b>Priority: Moderate</b> Rated as a moderate priority. Onion Weed is a prolific weed which can reproduce through underground corms. This makes it difficult to eradicate because new weeds can grow from these underground bulbs after the original ones have been controlled. It can also reproduce by seed which is readily dispersed by wind and water.							
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and <b>Onion Weed</b> , and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
<b>Yellow Wood Sorrel / Creeping Oxalis (<i>Oxalis corniculata</i>)</b> <b>Priority: Moderate</b> Rated as a moderate priority. Creeping Oxalis is a low-growing, perennial broadleaf which spreads prolifically to form a dense mat. A healthy sward should be maintained to compete with the weed, along with a herbicide program combining pre-emergent and post-emergent control measures.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Sorrel</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Creeping Oxalis</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, <b>Sorrel</b> , Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, <b>Creeping Oxalis</b> , Cudweed, Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, Plantain, Capeweed, Cats Ear, Bin-dii (Jo-Jo), Cudweed and <b>Creeping Oxalis</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Sorrel</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, Ryegrass, Onion Grass, Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, <b>Creeping Oxalis</b> , Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Oxadiazon	14**	Warm Season Turfgrass / Fairways, Golf Tees, Municipal Sports Fields, Industrial & Commercial Lawns	Registered in warm season turfgrass for control of Summer Grass, Crowsfoot Grass, Winter Grass and <b>Creeping Oxalis</b> . Apply prior to germination of weeds (usually from late summer to mid-autumn, February to May, and early spring, August to October). Number of applications and retreatment interval not specified.	NR	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Creeping Oxalis</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, <b>Creeping Oxalis</b> , Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, <b>Creeping Oxalis</b> , Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, <b>Creeping Oxalis</b> , Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Sorrel</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Oxalis</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Soursob</b> in apples, peaches and peppermint.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Pearlworts</b> ( <i>Sagina</i> spp.)							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Pearlwort is a dense, low-growing annual broadleaf. It forms a thick mat growth habit that competes aggressively with turfgrass. A healthy sward should be maintained to compete with the weed. Herbicide options are limited although regular applications for other broadleaves should achieve some suppression of Pearlwort.							
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, <b>Pearlwort</b> , Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
<b>Perennial Ryegrass</b> ( <i>Lolium perenne</i> )							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Perennial Ryegrass will grow year round which gives it a competitive advantage over summer varieties in the cooler months.							
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, perennial broadleaf weeds and grasses including <b>Perennial Ryegrass</b> . Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Ryegrass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Foramsulfuron (Tribute)	2***	Turf / Common & Hybrid Couchgrass, Zoysia Grass only	Registered in turf (Common & Hybrid Couchgrass, Zoysia Grass only) for control of Winter Grass, <b>Ryegrass</b> , Crowsfoot Grass, Goose Grass and Paspalum and suppression of Kikuyu. A repeat application may be required for dense weed cover or larger plants. Maximum number of applications and retreatment interval not specified.	NG	A	ALL	-
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of <b>Ryegrass</b> , Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, <b>Ryegrass</b> , Onion Grass, Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Rimsulfuron (Coliseum)	2***	Turf / Common Couch, Hybrid Couch	Registered in turf (except golf greens) for control of Winter Grass and <b>Ryegrass</b> . Ideally apply when weeds are at 1-4 leaf stage. Minimum retreatment interval 6-8 weeks. Do not use more than 2 applications per season.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, <b>Ryegrass</b> , Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and Milk Thistle and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Oxyfluorfen (Goal)	14**		Registered for control of <b>Ryegrass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
<b>Ribwort / Common Plantain</b> ( <i>Plantago lanceolata</i> )							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Common Plantain is a perennial broadleaf that forms a rosette growth habit and is very common in turfgrass. It is not well controlled by mowing and will generally require herbicide applications to remove it.							
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Lambs Tongue / Common Plantain</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Bromoxynil + MCPA	6+4**	Turf	Registered in turf for control of Bindy-Eye, Capeweed, Catsear, <b>Common Plantain</b> , Creeping Buttercup, Cudweed, Dandelion, Fleabane and Jo-Jo Weed. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Carfentrazone + MCPA	14+4**	Established Turf	Registered in established turf for control of Moss, Carrot Weed, Clover, Cudweed, Dandelion, Docks, Fat Hen, Flatweed / Catsear, Pearlwort and <b>Plantains</b> . Apply a second application at 14 days after the first application. Maximum number of applications not specified.	NG	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Lambs Tongue</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, <b>Lambs Tongue</b> , Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, <b>Common Plantain</b> , Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, <b>Plantain</b> , Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	Registered in turf for control of White Clover, <b>Plantain</b> , Capeweed, Cats Ear, Bin-dii (Jo-Jo), Cudweed and Creeping Oxalis. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Registered in turf for control of Barnyard Grass, Bindii, Capeweed, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, <b>Lambs Tongue</b> , Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green and White Clover. Spray when weeds are young and vigorous. Retreat in 10 days if necessary. Maximum number of applications not specified.	NG	A	ALL	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Registered in turf (warm season only) for control of Summer Grass, Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, White Clover, Brome Grass, <b>Plantain</b> , Chickweed and Capeweed. Apply prior to germination of weeds. Do not apply more than 2 applications per year. Minimum retreatment interval 3 months.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Plantains</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Registered in turf for control of Winter Grass, Ryegrass, Onion Grass, Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, <b>Plantain</b> and Tridax Daisy. Apply to actively growing weeds. Retreatment interval not specified. Do not apply more than 5 times per year to child play areas.	NG	A	ALL	-
Nonanoic Acid	-	Turf / Spot Spraying	Registered in turf (spot-spraying) for control of Fat Hen, Potato Weed, Stinking Roger, Couch Grass, Chickweed, <b>Lambs Tongue</b> , Peppergrass, Capeweed, Common Storksbill and Clover. Spray to emerged weeds. Reapplication at around 7 days may be necessary if regrowth occurs. Maximum number of applications not specified.	NR	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, <b>Lambs Tongue / Plantain</b> , Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Isoxaben (Gallery)	29**		Registered for control of <b>Plantains</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fencelines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Plantain</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
<b>Spiny Emex</b> ( <i>Emex australis</i> )							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Spiny Emex is a low growing annual broadleaf that forms a long spiky seedhead. It will proliferate in bare patches and should be managed through maintaining a healthy sward leading into autumn and winter.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Spiny Emex</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Spiny Emex</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, <b>Three-Cornered Jack</b> and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Carfentrazone (Hammer)	14**	Rough Grass / Turf Areas	Registered in rough grass / turf areas for control of Marshmallow and Stinging Nettle. Registered for control of <b>Spiny Emex</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts and assorted tropical & sub-tropical fruits.	NR	P-A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Spiny Emex</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Terbacil	5**		Registered for control of <b>Spiny Emex</b> in apples, peaches and lucerne seed crops.		P		-
<b>Wireweed / Hogweed (<i>Polygonum aviculare</i>)</b>							
<b>Priority: Moderate</b>							
Rated as a moderate priority. Wireweed is a low-growing annual or perennial broadleaf weed. Herbicide control is generally effective although multiple applications may be required.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Wireweed</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Wireweed</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Wireweed</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, <b>Wireweed</b> , Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Registered in turf for control of broadleaf weeds including Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, White Clover, Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory and suppression of broadleaf weeds including Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain, <b>Wireweed</b> (up to 4 leaf stage), Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vetch, Fireweed, Mouse-Eared Chickweed. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Wireweed</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, <b>Wireweed</b> , Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Ethofumesate (Tramat)	15**	Established Turf	Registered in established turf for control of Winter Grass. Registered for control of <b>Wireweed</b> in onions, beet crops and oilseed poppies.	NG	P-A	ALL (excl. QLD)	-
Flumioxazin (Chateau)	14**		Registered for control of <b>Hogweed</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-
Isoxaben (Gallery)	29**		Registered for control of <b>Wireweed</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fence lines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Wireweed</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Wireweed</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Wireweed</b> in lucerne seed crops.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Liverseed Grass</b> ( <i>Urochloa panicoides</i> )							
<b>Priority: Low</b>							
Rated as a low priority. Liverseed Grass is an annual, tufted grass weed which seeds and spreads prolifically. It can tolerate heavy routine mowing and should be controlled through application of pre-emergence herbicides.							
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Liverseed Grass</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Liverseed Grass</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	Registered in established turf (except golf and bowling greens) for control of African Lovegrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, <b>Liverseed Grass</b> , Pigeon Grass, Summer Grass and Winter Grass and suppression of Pigweed. Apply prior to weed emergence for control of up to 8 weeks. Follow application with at least 3mm irrigation. Apply once per year.	NG	A	ALL	-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Liverseed Grass</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Purple Top</b> ( <i>Verbena bonariensis</i> ) <b>Priority: Low</b>							
Rated as a low priority. Purple Top is a tall annual broadleaf that flowers in late spring and early summer. Regular mowing and maintaining a healthy sward should reduce the impact of Purple Top.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Purple Top</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Dicamba	4**	Turf	Registered in turf for control of Fat Hen, Red Flowered Mallow, <b>Purple Top</b> , Stagger Weed and Swine Cress. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL (excl. VIC)	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including suppression of <b>Common Verbena</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
<b>Rat's Tail Fescue / Silver Grass</b> ( <i>Vulpia myuros</i> )							
<b>Priority: Low</b>							
Rated as a low priority. Rats Tail Fescue is a small, tufted annual grass which flowers from late winter to early summer. A healthy sward should out-compete this weed.							
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Registered in established turf for control of Barnyard Grass, Crab Grass, Parramatta Grass, <b>Rats Tail Fescue</b> , Summer Grass, Crowsfoot Grass, African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum and Winter Grass. Apply prior to weed emergence in early spring. A repeat application (3-4 months after initial application) may be needed if lower rates are used in high weed pressure situations or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Silver Grass</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
<b>Sorrel</b> ( <i>Acetosella vulgaris</i> )							
<b>Priority: Low</b>							
Rated as a low priority. Sorrel is a perennial broadleaf weed. It is not a major weed in turf and can generally be managed by competition from a healthy, well-maintained sward.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Sorrel</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba	4**	Turf	Registered in turf for control of Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, <b>Sorrel</b> , Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye and Jo-Jo Weed. Spray when weeds are young and actively growing. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack and <b>Wood Sorrel</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Sorrel</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Norflurazon (Zoliar)	12**		Registered for control of <b>Sorrel</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Sorrel</b> in pyrethrum.		P		-
<b>Sowthistle</b> ( <i>Sonchus oleraceus</i> )							
<b>Priority: Low</b>							
Rated as a low priority. Annual broadleaf weed that is a prolific seed producer and can grow year-round. Timely herbicide control is required in conjunction with an integrated weed management program.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Sowthistle</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Milk Thistle / Sowthistle</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawns	Registered in established lawns for control of grass and broadleaf weeds, including <b>Sowthistle</b> . Apply in autumn and early spring prior to germination of weeds. Number of applications and retreatment interval not specified.	NG	A	ALL	-
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, <b>Thistles</b> , Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Fluroxypyr + Florasulam (Outshine) Adama	4**+2***	Established Turf	Registered in established turf for control of White Clover, Bindii, Bathurst Burr, Noogoora Burr, Marshmallow, Pigweed and <b>Sowthistle</b> . Apply to weeds after emergence from autumn to early spring. Retreat in 4-6 weeks if required. Maximum number of applications not specified.	NG	A	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Registered in established turf (except putting greens) for control of grass and broadleaf weeds, including <b>Sowthistle</b> . Apply prior to germination of weeds (Typically from early spring through to late summer / early autumn). Number of applications and retreatment interval not specified.	NG	A	ALL	-



Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Registered in established turf (except golf and bowling greens) for control of Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, <b>Milk Thistle</b> , Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort and White Clover. Apply to weeds after emergence from autumn to early spring. A repeat application may be required in 4-6 weeks if lower rates are used or during extended germination periods due to environmental conditions.	NG	A	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Registered in cool-season turf (golf courses only) for control of Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, Amaranthus spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, <b>Sowthistle</b> , White Clover and Wild Carrot. Apply to actively growing weeds. Two applications can be applied 21-28 days apart.	NG	A	ALL	-
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Registered in established turf (except golf greens) for control of Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock and <b>Milk Thistle</b> and suppression of Kikuyu. Apply to actively growing weeds. A repeat application may be required after 6-8 weeks.	NG	A	ALL	-
Chloridazon (Pyramin)	5**		Registered for control of <b>Sowthistle</b> in fodder beet, red beet, silverbeet, baby leaf spinach and baby leaf beet.		P		-
Flumioxazin (Chateau)	14**		Registered for control of <b>Milk Thistle</b> in grapevines, pome fruit, stone fruit, citrus, tree nuts, olives, avocados and blueberries.		P		-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Isoxaben (Gallery)	29**		Registered for control of <b>Milk Thistle</b> in pyrethrum, tree fruit and nut orchards, vineyards, nursery tree stock, amenity tree plantings, non-crop, forests, fencelines, right of way and industrial situations.		P		-
Norflurazon (Zoliar)	12**		Registered for control of <b>Sowthistle</b> in citrus, grapes, almonds, pome fruit and stone fruit.		P		-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Sowthistle</b> in brassica vegetables, coffee, duboisia, forestry plantations, pyrethrum, tobacco, fruit trees, nut trees, vineyards and tropical & sub-tropical fruit (inedible peel).		P		-
Terbacil	5**		Registered for control of <b>Milk Thistle</b> in apples, peaches and lucerne seed crops.		P		-
<b>Spear Thistle</b> ( <i>Cirsium vulgare</i> ) <b>Stemless Thistle</b> ( <i>Onopordum acaulon</i> ) <b>Tumbleweed / Russian Thistle</b> ( <i>Salsola australis</i> ) <b>Priority: Low</b> Rated as a low priority. Annual broadleaf weeds that are prolific seed producers and can grow year-round. Timely herbicide control is required in conjunction with an integrated weed management program.							
2,4-D	4**	Lawns	Registered in lawns for control of broadleaf weeds, including <b>Spear Thistle</b> . Apply to young, actively growing weeds. Number of applications and retreatment interval not specified.	NR	A	QLD & WA	-
Acetic Acid	-	Lawns & Turf / Spot Spraying	Registered in lawns & turf for spot spraying of annual broadleaf weeds, including <b>Spear Thistle</b> , and perennial broadleaf weeds and grasses. Apply to actively growing plants less than 30cm high. Reapplication at around 14 days may be necessary if regrowth occurs.	NR	A	ALL	-

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use / Weed	WHP (days)	Availability	States	Regulatory Risk
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Registered in established recreational turf for control of Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, <b>Thistles</b> , Three-Cornered Jack and Wood Sorrel. Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:56	A	ALL	-
Iodosulfuron-Methyl-Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Registered in turf (Kikuyu, Buffalo Grass, Common and Hybrid Couch only) for control of Ryegrass, Bindii, <b>Black Thistle</b> , Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover and Onion Weed, and suppression of Winter Grass and Bahia Grass. Apply to young, actively growing weeds. Maximum of 1 application of Group 2 herbicide per season, except for Bahia Grass.	NG	A	ALL	-
MCPA	4**	Turf	Registered in turf for control of broadleaf weeds, including <b>Spear Thistle</b> . Apply to actively growing weeds. Number of applications and retreatment interval not specified.	G:7	A	ALL	-
Oxyfluorfen (Goal)	14**		Registered for control of <b>Spear Thistle</b> in pyrethrum.		P		-

## **4.4 Plant Growth Regulators in turf**

### **4.4.1 Plant Growth Regulator priorities**

<b>PGR Issue</b>
<b>High</b>
Reduce vertical leaf growth

### 4.3.2 Available and potential plant growth regulators

**TABLE KEY:** Note that blank fields in the table indicate no information has been provided.

Availability			
A	Available via either registration or permit approval		
P	Potential – a possible candidate to pursue for registration or permit		
P-A	Potential, already approved in the crop for another use		
Regulatory risk (refer to Appendix 6)			
R1	Short-term: Critical concern over retaining access		
R2	Medium-term: Maintaining access of significant concern		
R3	Long-term: Potential issues associated with use - Monitoring required		
Withholding Period (WHP) – Number of days from last treatment to harvest (H) or Grazing (G)			
Harvest	H	Not Required when used as directed	NR
Grazing	G	No Grazing Permitted	NG

Active Ingredient (Trade Name)	Chemical Group	Crop / Situation	Comment / Use	WHP (days)	Availability	States	Regulatory Risk
<b>Reduce vertical leaf growth</b>							
<b>Priority: High</b>							
Rated as a high priority. Can reduce the need for mowing and promotes a denser sward to assist with weed competition.							
Paclobutrazol	PGR	Turf / Bent Grass, Ryegrass, Kentucky Bluegrass, Couch Grass (except Hybrid Couch)	Registered in turf for growth regulation (decrease in vertical height, enhanced greening and quality). Water with 4-6mm of irrigation immediately after application. Use a retreatment interval of either 2-4 weeks (lower rate) or 4-8 weeks (higher rate). Number of applications not specified.	NR	A	ALL	-
Trinexapac-Ethyl	PGR	Golf Courses	Registered in golf courses for growth management. Apply when turf is actively growing. Number of applications and retreatment interval not specified.	NG	A	ALL	-

## **5. References**

### **5.1 Information:**

AgChem Access Priority Access Forum	<a href="https://www.agrifutures.com.au/national-rural-issues/agvet-chemicals/">https://www.agrifutures.com.au/national-rural-issues/agvet-chemicals/</a>
Australian Pesticide and Veterinary Medicines Authority	<a href="http://www.apvma.gov.au">www.apvma.gov.au</a>
APVMA Chemical review	<a href="https://apvma.gov.au/chemicals-and-products/chemical-review/listing">https://apvma.gov.au/chemicals-and-products/chemical-review/listing</a>
APVMA Permit search	<a href="https://productsearch.apvma.gov.au/permits">https://productsearch.apvma.gov.au/permits</a>
APVMA Product search	<a href="https://productsearch.apvma.gov.au/products">https://productsearch.apvma.gov.au/products</a>
Codex MRL database	<a href="http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/">http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/</a>
Cotton Pest Management Guide 2022-23	<a href="https://www.cottoninfo.com.au/publications/cotton-pest-management-guide">https://www.cottoninfo.com.au/publications/cotton-pest-management-guide</a>
CropLife Australia (Resistance Management)	<a href="https://www.croplife.org.au/resources/programs/resistance-management/">https://www.croplife.org.au/resources/programs/resistance-management/</a>
Growcom – Infopest Database	<a href="http://www.infopest.com.au">www.infopest.com.au</a>
Hort Innovation	<a href="http://www.horticulture.com.au">www.horticulture.com.au</a>

### **5.2 Abbreviations and Definitions:**

<b>APVMA</b>	Australian Pesticides and Veterinary Medicines Authority
<b>IPM</b>	Integrated pest management
<b>LOQ</b>	Limit of quantification
<b>MRL</b>	Maximum residue limit (mg/kg or ppm)
<b>Pesticides</b>	Plant protection products (fungicide, insecticide, herbicide, nematicides, rodenticides, etc.).
<b>Plant pests</b>	Diseases, insects, nematodes, rodents, viruses, weeds, etc.
<b>SARP</b>	Strategic Agrichemical Review Process
<b>TBC</b>	To be confirmed
<b>WHP</b>	Withholding Period

### **5.3 Acknowledgements:**

Thanks go to the many industry people who contributed information and collaborated on the review of this report.

## **6. Appendices:**

Appendix 1. Products available for disease control in turf

Appendix 2. Products available for control of insects and mites in turf

Appendix 3. Products available for weed control in turf

Appendix 4. Plant growth regulators available in turf

Appendix 5. Current permits for use in turf

Appendix 6. Turf Agrichemical Regulatory Risk Assessment

**Appendix 1. Products available for disease control in turf**

Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Azoxystrobin	11	Turf	Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot	ALL	NG	-
Azoxystrobin + Propiconazole	11+3	Turf	Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Red Thread, Winter Fusarium, Dollar Spot, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot, Take-All Patch, Couchgrass Decline	ALL	NG	R3
Azoxystrobin + Tebuconazole	11+3	Turf	Dollar Spot, Helminthosporium Disease, Anthracnose, Winter Fusarium, Brown Patch, Fairy Ring	ALL	NG	R3
Azoxystrobin + Triticonazole	11+3	Turf / Lawns	Anthracnose, Brown Patch, Grey Leaf Spot, Helminthosporium Disease, Fusarium, Dollar Spot, Fairy Ring, Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off, Spring Dead Spot, Take-All Patch, Couchgrass Decline	ALL	NG	R3
Benzalkonium Chloride	-	Bent Grass, Buffalo, Couch, Fescues and Ryegrass Lawns	Algae, Lichen, Liverwort, Moss	ALL	NG	
Boscalid (Midas) BASF	7	Turf	Dollar Spot	ALL	NG	-
Boscalid + Pyraclostrobin (Chivalry) Campbell	7+11	Turf	Anthracnose, Winter Fusarium, Brown Patch, Dollar Spot	ALL	NG	-



Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Captan	M4	Turf	Brown Patch	ALL	NG	-
Chloropicrin + Methyl Bromide	8A	Turf	Damping-Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> )	ALL	3	-
Chlorothalonil	M5	Turf & Lawns, Bowling Greens, Golf Greens	Dollar Spot	ALL (excl. TAS)	NG	R3
			Brown Patch	ALL		
			Grey Leaf Spot	NSW & WA		
Chlorothalonil + Propiconazole + Fludioxonil (Instrata) Syngenta	M5+3+12	Bowling Greens, Golf Courses	Anthracnose, Brown Patch, Dollar Spot, Helminthosporium Disease, Winter Fusarium	ALL	NG	R3
Chlorothalonil + Iprodione + Thiophanate-Methyl + Tebuconazole	M5+2+1+3	Intensively managed bowling greens; golf course fairways, greens and tees; racetracks and sports fields	Brown Patch, Dollar Spot, Fusarium Patch, Anthracnose, Helminthosporium Disease, Grey Leaf Spot, Spring Dead Spot	ALL	NG	R2
Cyazofamid (Segway) ISK / UPL	21	Turf	Pythium Leaf Blight, Pythium Leaf Dysfunction	ALL	NG	-
Etridiazole (Terrazole)	14	Turf	Damping Off / Grease Spot ( <i>Pythium</i> spp.)	ALL (excl. QLD)	NG	-
Fluazinam	29	Turf	Anthracnose, Brown Patch, Dollar Spot, Fusarium Grey Leaf Spot, Helminthosporium Disease	ALL	NG	-
Fluazinam + Thiophanate-Methyl + Tebuconazole	29+1+3	Turf	Dollar Spot, Helminthosporium Disease, Anthracnose, Brown Patch, Fairy Ring, Couchgrass Decline, Take-All Patch	ALL	NG	R3

Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Fludioxonil (Medallion) Syngenta	12	Turf	Anthracnose, Brown Patch, Dollar Spot, Helminthosporium Disease, Winter Fusarium	ALL	NG	R3
Fludioxonil + Triticonazole (Tribeca)	12+3	Turf / Lawns	Anthracnose, Brown Patch, Dollar Spot, Fusarium, Helminthosporium Disease, Couchgrass Decline, Spring Dead Spot, Take- All Patch	ALL	NG	R3
Fluopyram + Trifloxystrobin (Exteris StressGard)	7+11	Turf	Fusarium, Dollar Spot, Helminthosporium Disease, Brown Patch, Grey Leaf Spot, Rust	ALL	NG	-
Flutolanil (Monstar) Campbell	7	Turf	Fairy Ring	ALL	NG	-
Fluxapyroxad (Xzemplar) BASF	7	Turf	Brown Patch, Dollar Spot, Fairy Ring, Helminthosporium Complex, Leaf & Sheath Spot	ALL	NG	-
Fosetyl-Aluminium	33	Turf	<i>Pythium</i> spp.	ALL	NG	-
Iprodione	2	Recreational Turf	Brown Patch, Dollar Spot, Spring Dead Leaf Spot, Helminthosporium Disease Fusarium Patch	ALL (excl. QLD)	NG	R2
Iprodione + Trifloxystrobin (Interface StressGard)	2+11	Turf	Brown Patch, Dollar Spot, Fusarium, Grey Leaf Spot, Helminthosporium Disease, Rust	ALL	NG	R2
Mancozeb	M3	Turf	Fusarium, Rhizoctonia, Helminthosporium	ALL	NG	R2
Mandestrobin (Rapidol) Sumitomo	11	Turf	Brown Patch, Dollar Spot, Anthracnose, Curvularia Leaf Spot, Grey Leaf Spot, Helminthosporium, Winter Fusarium, Ectotrophic Root Infecting Fungi, Fairy Ring, Pythium	ALL	NG	-

Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Mefentrifluconazole (Maxtima) BASF	3	Turf	Anthracnose, Brown Patch, Dollar Spot, Spring Dead Spot, Take-All Patch, Take-All Root Rot	ALL	NG	-
Metalaxyl-M (Subdue Maxx) Syngenta	4	Turf	Pythium Leaf Blight, Pythium Root Rot, Seedling Damping Off	ALL	NG	-
Methyl Bromide	-	Turf	Damping Off Fungi ( <i>Pythium</i> , <i>Rhizoctonia</i> , <i>Fusarium</i> )	ALL	3	-
Penthiopyrad (Velista) Syngenta	7	Turf	Anthracnose, Brown Patch, Curvularia Leaf Spot, Dollar Spot, Helminthosporium Disease, Red Thread, Spring Dead Spot, Fairy Ring	ALL	NG	-
Prochloraz	3	Turf	Dollar Spot	QLD, NSW, VIC, SA, WA & NT	NG	R3
Procymidone (Sumisclax)	2	Turfgrass	Dollar Spot, Black Helminthosporium, Spring Dead Spot	ALL	NG	R2
Propamocarb (Previcur)	28	Recreational Turf	Damping Off	ALL	NG	-
Propiconazole	3	Turf / Bent Grass	Dollar Spot	VIC	NG	R3
		Turf / Bent, Queensland Blue Couch Grasses		QLD, NSW, SA & WA		
		Turf / Couch	Spring Dead Spot	QLD, NSW, VIC, SA & WA		
Pydiflumetofen (Prosperity) Syngenta	7	Turf	Dollar Spot, Winter Fusarium, Spring Dead Spot	ALL	NG	-
Pyraclostrobin + Fluxapyroxad (Lexicon) BASF	11+7	Turf	Brown Patch, Dollar Spot, Fairy Ring, Fusarium Patch, <i>Lepista</i> spp., Pythium Blight, Pythium Root Dysfunction, Spring Dead Spot, Take-All Patch	ALL	NG	-

Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Quarternary Ammonium Compound	-	Turf	Algae & Mould	ALL	NR	-
Quintozene (Terraclor)	14	Turf	Brown Patch	ALL	NG	R3
Quintozene + Thiram (Rhysol)	14+M3	Turf	Rhizoctonia, Brown Patch, Helminthosporium, Sclerotinia, Fusarium	ALL	NG	R2
<i>Streptomyces lydicus</i> WYEC108 (Actinovate) Novozymes Bioag	BM 02	Ornamental Grasses	Suppression of Rhizoctonia	ALL	NR	-
Tebuconazole	3	Turf	Dollar Spot, Anthracnose, Brown Patch, Fusarium, Helminthosporium Disease, Grey Leaf Spot, Rust, Fairy Ring, Take-All Patch	ALL	NG	R3
Thiabendazole (Tecto)	1	Turf	Dollar Spot	ALL (excl. TAS)	NR	-
			Fusarium Patch	ALL		
Thiram	M3	Turf	Brown Patch, Helminthosporium Disease, Fusarium Patch, Damping Off	ALL	NG	R2
Tolclofos-Methyl (Shiba) Sumitomo	14	Turf	Brown Patch, Dollar Spot, Anthracnose, Helminthosporium, Winter Fusarium, Curvularia Leaf Spot, Grey Leaf Spot, Fairy Ring	ALL	NG	-
Triadimenol (Bayfidan)	3	Turf	Dollar Spot	ALL (excl. TAS, NT)	NG	R3
			Black Helminthosporium	QLD, NSW & TAS		
			Winter Fusarium	NSW, VIC & TAS		

Active Ingredient (Trade Name)	Chem. group	Situation	Diseases / Comments	States	WHP Days	Regulatory risk
Trifloxystrobin + Tebuconazole	11+3	Turf	Anthracnose, Brown Patch, Winter Fusarium, Helminthosporium, <i>Leptosphaerulina</i> , <i>Curvularia</i> , Ectropic Root Infecting Fungi, Dollar Spot, White Helminthosporium	ALL	NG	R3
Zineb	M3	Turf	Helminthosporium	ALL (excl. WA)	NG	R2

## **Appendix 2. Products available for control of insects and other pests in turf**

<b>Active Ingredient (Trade Name)</b>	<b>Chem. group</b>	<b>Situation</b>	<b>Pests / Comments</b>	<b>States</b>	<b>WHP Days</b>	<b>Regulatory risk</b>
Abamectin	6	Turf	Couch Mite	ALL	NG	-
Abamectin + Clofentezine	6+10A	Turf	Couch Mite	ALL	NG	-
<i>Bacillus thuringiensis</i>	11C	Turf	Armyworm ( <i>Spodoptera</i> spp.), Cotton Bollworm ( <i>Helicoverpa armigera</i> ), Native Budworm ( <i>Helicoverpa punctigera</i> ), Cabbage Moth ( <i>Plutella xylostella</i> ), Cabbage White Butterfly ( <i>Pieris rapae</i> ), Loopers, Light Brown Apple Moth ( <i>Epiphyas postvittana</i> ), Vine Moth ( <i>Agarista agricola</i> )	ALL	NR	-
Bendiocarb	1A	Turf	Black Beetle	ALL (excl. TAS)	NG	-
Beta-Cyfluthrin	3A	Turf	Armyworm, Cutworm, Webworm, Billbug, Argentine Stem Weevil, African Black Beetle, Mole Crickets, Couch Mite, Ants, Grasshoppers	ALL	NG	-
Beta-Cyfluthrin PER11631	3A	Turf	Australian Plague Locust	NSW, NT, QLD, SA & WA	NG	-
Bifenthrin	3A	Turf	Lawn Armyworm, Sod Webworm, Argentine Stem Weevil, African Black Beetle, Billbug, Black Ant, Coastal Brown Ant, Funnel Ant, Meat Ant, Sugar Ant, Stinging Ant	ALL	NR	R3
Bifenthrin PER14317	3A	Commercial Turf Farms	Red Imported Fire Ant	QLD	NG	R3
Chlorantraniliprole (Acelepryn) Syngenta	28	Turfgrass	Lawn Curl Grub, African Black Beetle, Argentinian Scarab, Argentinian Stem Weevil, Billbug, Lawn Armyworm, Black Cutworm, Sod Webworm	ALL	NG	-

Active Ingredient (Trade Name)	Chem. group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Chlorantraniliprole (Acelepryn) Syngenta PER89290	28	Turf Production	Fall Armyworm	ALL (excl. VIC)	NG	-
Chloropicrin + Methyl Bromide	8A	Turf	Nematodes, Insects	ALL	3	-
Chlorpyrifos	1B	Turf	Funnel Ant	QLD, NSW & WA	NG	R1
			African Black Beetle	QLD, NSW, VIC & WA		
			Argentine Stem Weevil, Blackheaded Pasture Cockchafer, Brown Pasture Looper, Pasture Webworm	ALL (excl. QLD)		
			Lawn Armyworm	ALL (excl. TAS)		
			Sod Webworm	ALL		
			Underground Grass Grub	NSW, VIC, SA & WA		
			Crickets	QLD & WA		
			Winter Corbie, Corbie	TAS		
Clofentezine	10A	Turf	Couch Mite, False Spider Mite	ALL	NR	-
Clothianidin (Stealth) Sumitomo	4A	Turf Grass, Lawns	African Black Beetle	ALL	NG	R2
Clothianidin + Clofentezine + Abamectin	4A+10A+ 6	Turf	Billbug, Argentine Stem Weevil, Argentinian Scarab, Mole Cricket, African Black Beetle, Gound Pearl, Couch Mite, Couch Fly	ALL	NG	R2

Active Ingredient (Trade Name)	Chem. group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Cyantraniliprole + Thiamethoxam (Spinner) Syngenta	28+4A	Established Turf	African Black Beetle, Argentinian Scarab, June Beetle, Argentine Stem Weevil, Billbug, Black Cutworm, Lawn Armyworm	ALL	NG	R2
Diafenthiuron (Higran) Syngenta	12A	Turf	Couchgrass Mite	ALL	NG	-
Diazinon	1B	Turf	Argentine Stem Weevil	ALL (excl. QLD)	NG	R2
			African Black Beetle	ALL (excl. TAS)		
			Mole Cricket	QLD & NSW		
			Grass-Eating Caterpillars	NSW, QLD, VIC & WA		
Dimethoate PER11631	1B	Turf / Excluding Public Access Areas	Australian Plague Locust	NSW, NT, QLD, SA & WA	NG	R1
Esfenvalerate (Sumi-Alpha Flex) Sumitomo	3A	Turf	African Black Beetle, Billbug, Blackheaded Pasture Cockchafer, Funnel Ants, Couch Mite, Armyworm, Cutworm, Webworm, Wingless Grasshopper	ALL	NR	-
Etoazole (Paramite)	10B	Turf	Mites, including Couch Mite	ALL	NG	-
Fipronil	2B	Turf	Argentine Stem Weevil, Funnel Ant, Mole Cricket	ALL	NG	R2
Fluopyram (Indemnify) Bayer	-	Turf	Sting Nematode, Spiral Nematode, Sheath Nematode, Ring Nematode, Root Lesion Nematode, Root-Knot Nematode, Stubby Nematode	ALL	NG	-
Garlic Extract	-	Amenity Turf Grass	Parasitic Nematodes	ALL	NR	-



Active Ingredient (Trade Name)	Chem. group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Hydramethylnon	20A	Turf	Singapore Ant, Coastal Brown Ant, Tropical Fire Ant, Red Imported Fire Ant, Greenhead Ant	ALL	NR	-
Hydramethylnon + Pyriproxyfen (Synergy Ant Bait)	20A+7C	Turf	Ants	ALL	NG	-
Hydramethylnon + Pyriproxyfen (Synergy Ant Bait) PER88626	20A+7C	Turf	Red Imported Fire Ant	QLD	NG	-
Imidacloprid	4A	Turf	Black Beetle, Argentinian Scarab, Pruinose Scarab, Billbug	ALL	NG	R2
Imidacloprid PER11631	4A	Turf	Australian Plague Locust	NSW, NT, QLD, SA & WA	NG	R2
Imidacloprid + Beta-Cyfluthrin	4A+3A	Turf	Lawn Armyworm, Cutworm, Webworm, Argentine Stem Weevil, Billbug, African Black Beetle, Mole Crickets, Couch Mite, Ants, Argentinian Scarab, Pruinose Scarab, Grasshoppers	ALL	NG	R2
Indoxacarb (Advion) Syngenta	22A	Golf Greens & Surrounds	Argentine Stem Weevil	ALL	NG	R3
		Golf Greens & Surrounds, Fairways	Black Cutworm, Lawn Armyworm			
Indoxacarb (Advion) Syngenta PER89286	22A	Turf Production	Fall Armyworm	ALL (excl. VIC)	NG	R3
Indoxacarb + Novaluron (Plemax) Adama	22A+15	Turf	Argentine Stem Weevil, Billbug, African Black Beetle	ALL	NG	R3

Active Ingredient (Trade Name)	Chem. group	Situation	Pests / Comments	States	WHP Days	Regulatory risk
Iron Powder	-	Turf	Grey Field Slugs, Common Brown Snail, Small Brown Snail, White Snails, Slaters / Woodlice	ALL	G:3	-
Malathion	1B	Bowling & Golf Greens	Argentine Stem Weevil	SA, NSW, VIC, WA & NT	1	R3
Metaflumizone (Siesta) BASF	22B	Turf	Nuisance Ants	ALL	NG	-
Methomyl (Lannate) PER89293	1A	Turf	Fall Armyworm	ALL	NG	R2
Methyl Bromide	-	Turf	Nematodes, Insects	ALL	3	-
Permethrin	3A	Lawns, Ovals & Amenity Areas	Lawn Armyworm	QLD & NSW	NR	-
Pyriproxyfen (Distance Ant Bait) Sumitomo	7C	Turf	Invasive & Nuisance Ants	ALL	NR	-
Tetraniliprole (Tetrino) Bayer	28	Turf	African Black Beetle, Argentine Scarab, Billbug, Argentine Stem Weevil, Lawn Armyworm, Cutworm, Sod Webworm	ALL	NG	-
Thiamethoxam (Meridian) Syngenta	4A	Turf	African Black Beetle, Billbug	ALL	NG	R2
Trichlorfon	1B	Turf	Lawn Grub, Lawn Armyworm	QLD, NSW, WA & NT	G:2	R2

### **Appendix 3. Products available for weed control in turf**

<b>Active ingredient (Trade Name)</b>	<b>Chem. Group</b>	<b>Situation</b>	<b>Comment / Use / Weed</b>	<b>WHP (days)</b>	<b>States</b>	<b>Regulatory risk</b>
2,4-D	4**	Lawns	Broadleaf Weeds	NR	QLD & WA	-
Acetic Acid	-	Lawns & Turf / Spot Spraying	Broadleaf and Grass Weeds, Algae, Moss, Lichen & Liverwort	NR	ALL	-
Amicarbazone (Xtron)	5**	Established Turf	Winter Grass ( <i>Poa annua</i> )	NG	ALL	-
Bentazone	6**	Turf	Nutgrass, Mullumbimby Couch, Broadleaf Weeds	NG	ALL	-
Bispyribac-Sodium (Nominee) Sumitomo	2***	Golf Course Greens (Bentgrass) / Sports & Recreational Turf (Tall Fescue, Perennial Ryegrass, Couch)	Winter Grass ( <i>Poa annua</i> )	NG	ALL	-
Bromoxynil + MCPA	6+4**	Turf	Bindy-Eye, Capeweed, Catsear, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Jo-Jo Weed Clover, Oxalis	G:56	ALL ALL (excl. TAS)	-
Bromoxynil	6**	Established Turf	Bindy-Eye, Jo-Jo Weed, Cudweed	G:56	ALL	-
Carfentrazone (Hammer)	14**	Rough Grass / Turf Areas	Marshmallow, Stinging Nettle	NR	ALL	-
Carfentrazone + MCPA	14+4**	Established Turf	Moss, Carrot Weed, Clover, Cudweed, Dandelion, Docks, Fat Hen, Flatweed / Catsear, Pearlwort, Plantains	NG	ALL	-
Chlorthal-Dimethyl (Dacthal)	3**	Established Lawn	Grass & Broadleaf Weeds	NG	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Dicamba	4**	Turf	Cats Ear, Cudweed, Pennywort, Lambs Tongue, Fleabane, Fumitory, Wireweed, Chickweeds, Cotula, Sorrel, Dock, Clovers, Capeweed, Toad Rush, Peppergrass, Dandelion, Medics, Scarlet Pimpernel, Creeping Oxalis, Pearlwort, Trefoil, Yarrow, Bindy-Eye, Jo-Jo Weed	G:7	ALL	-
			Fat Hen, Red Flowered Mallow, Purple Top, Stagger Weed, Swine Cress		ALL (excl. VIC)	
Dicamba + Bromoxynil + MCPA	4+6**	Established Recreational Turf	Bindy-Eye, Capeweed, Carrot Weed, Catsear, Caustic Weed, Clovers, Common Plantain, Creeping Buttercup, Cudweed, Dandelion, Fleabane, Funnel Weed, Jo-Jo Weed, Thistles, Three-Cornered Jack, Wood Sorrel	G:56	ALL	-
Diclofop-Methyl	1***	Turf	Crowsfoot Grass	NG	QLD, NSW & ACT	-
Diflufenican + MCPA + Bromoxynil	12+4+6**	Turf	Broadleaf Weeds including: Bindii, Creeping Oxalis, Cudweed, Tridax Daisy, White Clover Suppression of: Caustic Weed, Cobblers Peg, Creeping Indigo, Plantain Weeds controlled up to specific size: Wild Radish, Capeweed, Prickly Lettuce, Crassula Dense-Flower Fumitory Weeds suppressed up to specific size: Wireweed, Corn Gromwell, Saffron Thistle, Sorrel, Toad Rush, Dock, Marshmallow, Scarlet Pimpernel, Vtech, Fireweed, Mouse-Eared Chickweed	NG	ALL	-
Diflufenican + MCPA + Clopyralid	12+4**	Turf	White Clover, Plantain, Capeweed, Cats Ear, Bindii (Jo-Jo), Cudweed, Creeping Oxalis	NG	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Disodium Methylarsonate (DSMA)	0**	Turf & Lawn Grasses	Crab Grass, Kylinga Weed, Mullumbimby Couch, Nut Grass, Paspalum, Sedges, Summer Grass	NG	ALL (excl. TAS)	-
Disodium Methylarsonate (DSMA) + MCPA	0+4**	Turf	Barnyard Grass, Bindii, Capewood, Catsear, Chickweed, Clovers, Cotula, Cudweed, Dandelion, Duckweed, Fleabane, Lambs Tongue, Mouse-Eared Chickweed, Mullumbimby Couch, Nut Grass, Paspalum, Scarlet Pimpernel, Summer Grass, Water Couch, green, White Clover	NG	ALL	-
Dithiopyr (Dimension) Corteva	3**	Established Turfgrasses / Except Golf and Bowling Greens	Crabgrass, Summer Grass, Winter Grass, Barnyard Grass, Chickweed, Crowsfoot Grass	NG	ALL	-
Endothal	31**	Blue Couch, Common Couch, Bent, Buffalo and Brown Top Lawns	Winter Grass	NG	ALL	-
Ethofumesate (Tramat)	15**	Established Turf	Winter Grass	NG	ALL (excl. QLD)	-
Fluazifop-P (Fusilade) PER9792	1***	Non-Crop Situations	Tussocky Grasses	G:42	ALL (excl. VIC)	-
Flupropanate PER9792	0**	Non-Crop Situations / Broadacre Application	Tussocky Grasses	G:120	ALL (excl. VIC)	-
		Non-Crop Situations / Spot Spray		G:14		
Fluroxypyr + Florasulam (Outshine) Adama	4**+2***	Established Turf	White Clover, Bindii, Bathurst Burr, Noogoora Burr, Marshmallow, Pigweed, Sowthistle	NG	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Foramsulfuron (Tribute)	2***	Turf / Common & Hybrid Couchgrass, Zoysia Grass only	Winter Grass, Ryegrass, Crowsfoot Grass, Goose Grass, Paspalum Suppression of: Kikuyu	NG	ALL	-
Glyphosate (Roundup) PER9792	9**	Non-Crop Situations	Tussocky Grasses	NR	ALL (excl. VIC)	R3
Halosulfuron-Methyl (Sempra)	2***	Established Turf	Mullumbimby Couch, Nutgrass	NG	ALL	-
Haloxypop (Verdict) PER9792	1***	Non-Crop Situations	Tussocky Grasses	G:28	ALL (excl. VIC)	-
Imazamox PER9792	2***	Non-Crop Situations	Tussocky Grasses	G:42	ALL (excl. VIC)	-
Imazethapyr PER9792	2***	Non-Crop Situations	Tussocky Grasses	G:14	ALL (excl. VIC)	-
Indaziflam (Specticle) Bayer	29**	Turf / Warm Season Turf Grasses only	Summer Grass / Crab Grass, Crowsfoot Grass, Winter Grass, Bindii, White Clover, Brome Grass, Plantain, Chickweed, Capeweed	NG	ALL	-
Iodosulfuron-Methyl- Sodium (Destiny) Bayer	2***	Turf / Kikuyu, Buffalo Grass, Common & Hybrid Couch Grass only	Ryegrass, Bindii, Black Thistle, Cats Ear, Cotula, Cudweed, Guildford Grass / Onion Grass, Medic, Mouse Ear Chickweed, Oxalis, White Clover, Onion Weed Suppression of: Winter Grass	NG	ALL	-
Isoxaben + Florasulam (Turzine Pro) Corteva	29**+2***	Established Turf	White Clover, Bindii	NG	ALL	-
MCPA	4**	Turf	Broadleaf Weeds	G:7	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Methiozolin (Poacure)	30**	Turf / Putting Greens, Bowling Greens, Fairways, Tees and Playing Fields	Winter Grass	NG	ALL	-
Metolachlor (Meteor)	15**	Established Turf / Couch, Common Kikuyu, Zoysia, QLD Blue Couch, Buffalo	Winter Grass, Summer Grass, Crowsfoot Grass	NG	ALL	-
Metribuzin (Metric)	5**	Established Turf / Couch, Empire Zoysia, QLD Blue Couch, Sir Walter Buffalo	Crowsfoot Grass, Winter Grass, Summer Grass	NG	ALL	-
Metsulfuron-Methyl + Rimsulfuron	2***	Turf / Common Couch, Hybrid Couch, Zoysia, QLD Blue Couch	Winter Grass, Ryegrass, Onion Grass, Bindii, Caustic Weed, White Clover, Cobblers Peg, Creeping Indigo, Creeping Oxalis, Plantain, Tridax Daisy	NG	ALL	-
Monosodium Methylarsonate (MSMA)	0**	Turf / Couch, Buffalo and Clover Lawns or Turf Only Green Couch and Hybrids of Green Couch only	Crab Grass / Summer Grass	G:42	QLD, NSW & WA	-
Nonanoic Acid	-	Turf / Spot Spraying	Fat Hen, Potato Weed, Stinking Roger, Couch Grass, Chickweed, Lambs Tongue, Peppergrass, Capeweed, Common Storksbill, Clover, Algae, Lichen, Liverwort, Moss	NR	ALL	-
Oryzalin	3**	Established Turf / Common Couch, Hybrid Couch, Kikuyu	Winter Grass, Annual Ryegrass, Crabgrass, Chickweed	NG	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Oxadiazon	14**	Warm Season Turfgrass / Fairways, Golf Tees, Municipal Sports Fields, Industrial & Commercial Lawns	Summer Grass, Crowsfoot Grass, Winter Grass, Creeping Oxalis	NR	ALL	-
Paclobutrazol	PGR	Turf / Bent Grass, Ryegrass, Kentucky Bluegrass, Couch Grass (except Hybrid Couch)	Winter Grass suppression and long term control	NR	ALL	-
Pendimethalin (Stomp)	3**	Turf	Summer Grass, Crowsfoot / Crab Grass, Winter Grass	NR	ALL	-
Pendimethalin + Dimethenamid-P (Freehand) BASF	3+15**	Established Turf / Warm Season Varieties only	Grass and Broadleaf Weeds	NG	ALL	-
Prodiamine	3**	Established Turf / Bahia Grass, Buffalo Grass, Carpet Grass, Common Couch, Hybrid Couch, Kikuyu, QLD Blue Couch, Seashore Paspalum, Zoysia	Barnyard Grass, Crab Grass, Parramatta Grass, Rats Tail Fescue, Summer Grass, Crowsfoot Grass, African Lovegrass, Bahia Grass, Kentucky Blue Grass, Paspalum, Winter Grass	NG	ALL	-
Propyzamide	3**	Turf & Lawns / Common Couch	Winter Grass	NG	ALL	-
		Turf & Lawns / QLD Blue Couch			QLD	
		Turf & Lawns / Buffalo Grass			WA	



Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Prosulfuron + Dicamba (Casper) Syngenta	2***+4**	Established Turf / Except Buffalo Grass	Blackberry Nightshade, Catsear, Chickweed, Creeping Oxalis, Curled Dock, Khaki Weed, Milk Thistle, Bindii, Burr Medic, Cotula, Dandelion, Fleabane, Lambs Tongue / Plantain, Subterranean Clover, Wireweed, Pennywort, White Clover	NG	ALL	-
Quinclorac (Drive) BASF	4**	Established Turf / Green Couch, Hybrid Couch, Japanese Lawngress, Marine Couch, Perennial Ryegrass, Bentgrass, Kentucky Bluegrass	Summer Grass, White Clover Suppression of: Kikuyu Grass	NR	ALL	-
Rimsulfuron (Coliseum)	2***	Turf / Common Couch, Hybrid Couch	Winter Grass, Ryegrass	NG	ALL	-
S-Metolachlor (Pennmag) Syngenta	15**	Established Turf	African Lovergrass, Annual Ryegrass, Barnyard Grass, Burr Medic, Carrot Weed, Crowsfoot Grass, Liverseed Grass, Pigeon Grass, Summer Grass, Winter Grass Suppression of: Pigweed	NG	ALL	-
Topramezone (Pylex) BASF	27**	Turf / Golf Courses only / Bentgrass Greens, Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Blue Grass	Buffalo, Couch, Hybrid Couch, Crowsfoot Grass, Kikuyu, Summer Grass, <i>Amaranthus</i> spp., Bindy Eye, Creeping Oxalis, Everlasting / Cudweed, Fleabane, Scarlet Pimpernel, Sowthistle, White Clover, Wild Carrot	NG	ALL	-

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use / Weed	WHP (days)	States	Regulatory risk
Trifloxysulfuron Sodium (Monument) Syngenta	2***	Established Turf / Common Couch, Durban Grass, Hybrid Couch, QLD Blue Couch, Zoysia	Burr Medic, Mullumbimby Couch, Nut Grass, Bindii, Ryegrass, Winter Grass, Catsear, Chickweed, Clover, Cotula, Creeping Oxalis, Curled Dock, Milk Thistle Suppression of: Kikuyu	NG	ALL	-
Trinexapac-Ethyl	-	Golf Courses / Fairways, Greens	Winter Grass	NG	ALL	-

Chemical Group Resistance Risk: \*\* Moderate, \*\*\* High

**Appendix 4. Plant growth regulators available in turf**

Active ingredient (Trade Name)	Chem. Group	Situation	Comment / Use	WHP (days)	States	Regulatory risk
Ethephon	PGR	Golf Course Greens	Winter Grass Seedhead Suppression	NG	ALL	-
Indole Acetic Acid + Naphthalene Acetic Acid	PGR	Bowling Greens, Golf Greens, Playing Fields & Ovals	Root Hormone Stimulation	NR	ALL	-
Paclobutrazol	PGR	Turf / Bent Grass, Ryegrass, Kentucky Bluegrass, Couch Grass (except Hybrid Couch)	Growth Regulation – decrease in vertical height, enhanced greening and quality	NR	ALL	-
Trinexapac-Ethyl	PGR	Golf Courses	Growth Management	NG	ALL	-

## **Appendix 5. Current permits for use in turf**

<b>Permit No.</b>	<b>Description</b>	<b>Issued Date</b>	<b>Expiry Date</b>	<b>Permit Holder</b>
PER89290	Chlorantraniliprole (Acelepryn) / Turf Production / Fall Armyworm	17-Mar-20	31-Mar-23	Hort Innovation
PER11631 Version 5	Dimethoate, Imidacloprid, Beta-Cyfluthrin / Turf / Plague Locust	06-Aug-09	31-Jul-23	NSW Dept of Primary Industries
PER9792 Version 9	Fluazifop-P, Fluproprinate, Glyphosate, Haloxyfop, Imazamox, Imazethapyr / Non-Crop Situations / Tussocky Grasses	24-Feb-10	30-Nov-25	NSW Dept of Primary Industries
PER89286	Indoxacarb (Provaunt) / Turf Production / Fall Armyworm	13-Mar-20	31-Mar-23	Hort Innovation
PER89293	Methomyl (Lannate) / Turf / Fall Armyworm	10-Apr-20	30-Apr-23	Hort Innovation
PER88626	Hydramethylnon + Pyriproxyfen (Synergy Pro) / Various Situations / Red Imported Fire Ant	21-Oct-19	31-Oct-24	Biosecurity Qld
PER14317 Version 8	Bifenthrin / Turf Farms / Red Imported Fire Ant	9-Dec-13	29-Feb-24	Biosecurity Qld

## **Appendix 6. Turf Agrichemical Regulatory Risk Assessment**

### **Turf Agrichemical Regulatory Risk Assessment**

**March 2023**

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use. For older agrichemicals these pressures are often the result of reconsiderations involving new or refined risk assessment methodologies that requiring the generation of new data. A consequence of which can be that many of these agrichemicals are not meeting contemporary risk assessment standards as the necessary data is unavailable, or where data is available, the risk posed is considered unacceptable.

The use of agrichemicals can also be impacted through differences in standards between trading partners. The lack of an appropriate pesticide maximum residue limit (MRL) in an importing country can, for practical purposes, effectively prohibit use in the exporting country so as to ensure compliance, as a MRL breach would adversely affect market access.

The effects of the above are greater regulatory pressure placed on the use of individual agrichemicals or chemical groups. As a consequence it is possible that the number of approved agrichemical options could be adversely impacted.

To assist strategic planning, with respect to future pest management options, the following tables have been developed to highlight the regulatory threats to agrichemicals currently approved for the management of the pests and diseases in turf.

## Turf Agrichemical Regulatory Risk Assessment

<b>R1</b>	<b>Short-term: Critical concern over retaining access</b>
<b>R2</b>	<b>Medium-term: Maintaining access of significant concern</b>
<b>R3</b>	<b>Long-term: Potential issues associated with use: Monitoring required</b>

Active Constituents	Chemical group	Problem	Comments
<b>INSECT AND OTHER PESTS</b>			
Abamectin	<b>6</b>	Couch grass mite	APVMA: Nominated for spray drift label review Canada: Some uses amended, & use in greenhouse gown cut flowers cancelled EU: Use restricted to permanent greenhouses
		Ring nematode	
		Sting nematode	
Abamectin + clofentezine	<b>6 + 10A</b>	Couch grass mite	Abamectin: APVMA: Nominated for spray drift label review Canada: Some uses amended, & use in greenhouse gown cut flowers cancelled EU: Use restricted to permanent greenhouses
Alpha-cypermethrin	<b>3A</b>	Ants	EU: Withdrawal of approval, grace period expired December 2022
		Grasshoppers	
		Locusts	
		Scarab beetles - Larvae	
Azadirachtin	<b>UN</b>	African black beetle	EU: Authorisation renewal process underway
		Lawn armyworm	
<i>B thuringiensis</i>	<b>11</b>	Armyworms	EU: Under review for authorisation renewal
		Caterpillars	
		Looper caterpillars	
Bendiocarb	<b>1A</b>	Black beetle	EU: No authorisation

Active Constituents	Chemical group	Problem	Comments
Beta-cyfluthrin	3A	African black beetle	EU: No authorisation
		Ants	
		Argentine stem weevil	
		Armyworms	
		Couch grass mite	
		Cutworms	
		Grasshoppers	
		La Plata weevil (Billbug)	
		Lawn grubs	
		Mole crickets	
		Scarab Beetles	
		Webworms	
		Australian plague locust (PER11631)	
Beta-cyfluthrin + Imidacloprid	3A + 4A	African black beetle	<u>Imidacloprid</u> <u>APVMA: Under review</u> Canada: Field uses cancelled or amended EU: No authorisation grace period expired June 2022, USA: Re-registration with new risk mitigation measures
		Argentine stem weevil	
		Argentinian scarab	
		Armyworms	
		Couch grass mite	
		Cutworms	
		Grasshoppers	
		La Plata weevil (Billbug)	
		Lawn armyworm	
		Lawn Beetles - Grubs	
		Lawn grubs	
		Mole crickets	
		Pruinose scarab	
		Scarab Beetles	
		Webworms	

Active Constituents	Chemical group	Problem	Comments
Bifenthrin	3A	African black beetle	Canada: Not authorised EU: Not authorised
		Ants	
		Ants - Stinging	
		Argentine stem weevil	
		Banded sugar ant	
		Black ants	
		Black beetle	
		Black house ant	
		Coastal brown ant	
		Cutworms	
		Funnel ant	
		La Plata weevil (Billbug)	
		Lawn armyworm	
		Meat ants	
		Millipedes	
		Slaters (Woodlice)	
Sod webworm (Grass caterpillar)			
Sugar ants			
Red imported fire ant (PER14317 & PER90146)			
Bifenthrin + Imidacloprid	3A + 4A	African black beetle	Bifenthrin Canada: Not authorised EU: Not authorised Imidacloprid <a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation in place expiry of the grace periods (June 2022) USA: Re-registration with new risk mitigation measures
		Argentine stem weevil	
		Argentinian scarab	
		La Plata weevil (Billbug)	
		Lawn armyworm	
		Lawn grubs	
		Pruinose scarab	
		Sod webworm (Grass caterpillar)	
White grubs			



Active Constituents	Chemical group	Problem	Comments
Carbaryl	1A	Armyworms	Canada: Reviewed, large number of uses deleted Codex: Review scheduled, support uncertain EU: Authorisation not renewed USA: Under review
		Blackheaded pasture cockchafer	
		Budworms (Heliothis)	
		Lawn grubs	
Chlorantraniliprole	28	African black beetle	
		Ants	
		Argentine stem weevil	
		Argentinian scarab	
		Beetles - Larvae (Grubs)	
		Black cutworm	
		Caterpillars	
		Cutworms	
		Grasshoppers	
		La Plata weevil (Billbug)	
		Lawn armyworm	
		Lawn Beetles - Grubs	
		Locusts	
		Sod webworm(Grass caterpillar)	
Scarab beetles - Larvae			
Fall armyworm (PER89290)			
Chloropicrin + Methyl bromide (Quarantine treatment)	8A + 8B	Nematodes	EU: Pending

Active Constituents	Chemical group	Problem	Comments
Chlorpyrifos	1B	African black beetle	<a href="#">APVMA: Under review</a> Codex: Scheduled for review by JMPR Canada: Cancellation of all uses. EU: No authorisation in place USA: EPA decision to cancel use on food crops
		Ants	
		Argentine ant	
		Argentine stem weevil	
		Blackheaded pasture cockchafer	
		Brown pasture looper	
		Corbie	
		Crickets	
		Earwigs	
		Funnel ant	
		Lawn armyworm	
		Lawn Beetles	
		Lawn grubs	
		Millipedes	
		Mole crickets	
		Pasture webworm	
		Slaters (Woodlice)	
		Sod webworm (Grass caterpillar)	
		Underground grass caterpillar	
		Underground grass grub (Winter corbie)	
Clofentezine	10A	Couch grass mite	EU: Proposed restriction of use non-edible crops in permanent greenhouses
		Clothianidin	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: Not authorised USA: Re-registration with new risk mitigation measures
	4A	African black beetle	
		La Plata weevil (Billbug)	

Active Constituents	Chemical group	Problem	Comments
Cyantraniliprole + Thiamethoxam	<b>4A + 28</b>	African black beetle	Thiamethoxam
		Argentine stem weevil	<a href="#">APVMA: Under review</a>
		Argentinian scarab	Canada: Some field uses cancelled or amended
		Black beetle	EU: Not authorised
		Black cutworm	USA: Re-registration with new risk mitigation measures
		Caterpillars	
		Cutworms	
		June beetle	
		La Plata weevil (Billbug)	
		Lawn armyworm	
Cyfluthrin	<b>3A</b>	African black beetle	EU: No authorisation in place
		Cutworms	
		Lawn grubs	
		Mole crickets	
		Webworms	
Diafenthiuron	<b>12A</b>	Couch grass mite	Codex: No MRLs EU: No authorisation in place
Diazinon	<b>1B</b>	African black beetle	<a href="#">APVMA: Under review</a>
		Argentine ant	EU: No authorisation in place
		Argentine stem weevil	Codex: Withdrawal of Codex MRLs recommended
		Grass eating caterpillars	
		Mole crickets	
Dimethoate	<b>1B</b>	Australian plague locust (PER11631)	APVMA: Nominated for spray drift label review Codex: Review completed. EU: Not authorised

Active Constituents	Chemical group	Problem	Comments
Esfenvalerate	3A	African black beetle	EU: Candidate for substitution
		Aphids	
		Armyworms	
		Blackheaded pasture cockchafer	
		Budworms (Heliothis)	
		Bugs	
		Caterpillars	
		Couch grass mite	
		Cutworms	
		Funnel ant	
		Grasshoppers	
		La Plata weevil (Billbug)	
		Leafhoppers	
		Pasture webworm	
Thrips			
Wingless grasshopper			
Etoazole	10B	Couch grass mite	EU: Only uses on greenhouse ornamentals approved & Candidate for substitution
Fipronil	2B	Ants	<a href="#">APVMA: Under review</a>
		Ants - Nesting	Codex: Re-evaluation completed, many MRLs withdrawn
		Argentine stem weevil	EU: No authorisation in place USA: Under review
		Funnel ant	
		Greenhead (Pony) ants	
		Mole crickets	
		Red imported fire ant (PER14458)	
		Exotic yellow crazy ant (PER86559 & PER91817)	

Active Constituents	Chemical group	Problem	Comments
Fluopyram	7	Ring nematode	
		Root-lesion nematodes	
		Spiral nematode	
		Sting nematode	
		Stubby nematode	
Hydramethylnon	20A	Ants	EU: No authorisation
		Coastal brown ant	
		Greenhead (Pony) ants	
		Red imported fire ant	
		Singapore ant	
		Tropical fire ant	
		Yellow crazy ant (PER91817)	
Hydramethylnon + Pyriproxyfen	7C + 20A	Ants	Hydramethylnon EU: No authorisation
		Ants – Nuisance	
		Argentine ant	
		Black ants	
		Coastal brown ant	
		Electric ant	
		Exotic yellow crazy ant	
		Green tree ant	
		Greenhead (Pony) ants	
		Long legged ants	
		Meat ants	
		Pennant (Pavement) ants	
		Singapore ant	
		Sugar ants	
		Tramp ants	
		Tropical fire ant	
		Tyrant ants	
Red imported fire ant (PER88626)			

Active Constituents	Chemical group	Problem	Comments
Imidacloprid	4A	African black beetle	<a href="#">APVMA: Under review</a> Canada: Field uses cancelled or amended EU: No authorisation in place expiry of the grace periods (June 2022) USA: Re-registration with new risk mitigation measures
		Ants	
		Argentinian scarab	
		Grasshoppers	
		La Plata weevil (Billbug)	
		Lawn Beetles - Grubs	
		Locusts	
		Pruinose scarab	
		Scarab beetles - Larvae	
		Australian plague locust (PER11631)	
Indoxacarb	22A	Ants	Canada: No authorisations EU: Authorisation not renewed. Grace period expired 19/9/2022 UK: Proposed non-renewal
		Argentine stem weevil	
		Black cutworm	
		Caterpillars	
		Grasshoppers	
		Lawn armyworm	
		Locusts	
		Red imported fire ant	
		Scarab beetles - Larvae	
		Tropical fire ant	
		Fall armyworm (PER89286)	
Malathion/Maldison	1B	Argentine stem weevil	<a href="#">APVMA: Under review</a> Codex: Re-evaluation scheduled EU: Restricted use to permanent greenhouses
		Australian plague locust (PER11843)	
		Migratory locust (PER11843)	
		Spur-throated locust (PER11843)	
Metaflumizone	22B	Ants – Nuisance	
		Black ants	
		Coastal brown ant	
		Red imported fire ant	

Active Constituents	Chemical group	Problem	Comments
<i>Metarhizium anisopliae</i>	<b>UNF</b>	Redheaded pasture cockchafer	
Metham	-	Symphylids	EU: Candidate for substitution
Methomyl	<b>1A</b>	Fall armyworm (PER89293)	<a href="#">APVMA: nominated for review</a> Canada: Re-evaluation completed. Majority of uses removed EU: No authorisations in place USA: Under review
Permethrin	<b>3A</b>	Lawn armyworm	Codex: Re-evaluation scheduled. Support uncertain EU: No authorisation
Pyriproxyfen	<b>7C</b>	Ants	
		Ants – Nuisance	
		Black ants	
		Coastal brown ant	
		Exotic yellow crazy ant	
		Green tree ant	
		Greenhead (Pony) ants	
		Long legged ants	
		Meat ants	
		Pennant (Pavement) ants	
		Red imported fire ant	
		Singapore ant	
		Sugar ants	
		Tramp ants	
		Tropical fire ant	
Tyrant ants			
S-methoprene	<b>7A</b>	Yellow crazy ant (PER91817)	EU: No authorisation
Tetraniliprole	<b>28</b>	Argentine stem weevil	
		Bill bug	
		Caterpillars, including lawn armyworm	
		Scarab larvae	

Active Constituents	Chemical group	Problem	Comments
Thiamethoxam	4A	African black beetle	<a href="#">APVMA: Under review</a>
		Ants	Canada: Some field uses cancelled or amended
		Argentinian scarab	EU: Not authorised
		Grasshoppers	USA: Re-registration with new risk mitigation measures
		La Plata weevil (Billbug)	
		Locusts	
		Scarab beetles - Larvae	
Trichlorfon	1B	Lawn armyworm	<a href="#">APVMA: nominated for review</a>
		Lawn grubs	Codex: No MRLs
		Sod webworm(Grass caterpillar)	EU: No authorisations
		Southern armyworm	USA: No MRLs



Active Constituents	Chemical group	Problem	Comments
<b>DISEASES</b>			
Azoxystrobin	<b>11</b>	Anthracnose	Canada: Review proposed
		Brown patch	
		Damping off	
		Fungal diseases - Rhizoctonia	
		Fusarium patch	
		Grey leaf spot	
		Helminthosporium disease	
		Pythium blight	
		Pythium diseases - soil borne	
		Pythium root rot	
		Red thread	
		Spring dead spot	
Azoxystrobin + Propiconazole	<b>11 + 3</b>	Anthracnose	<u>Azoxystrobin</u> Canada: Review proposed <u>Propiconazole</u> <a href="#">APVMA: nominated for review</a> EU: No authorisation in place USA: Under review
		Brown patch	
		Couch grass decline	
		Damping off	
		Dollar spot	
		Ectotrophic root infecting fungi	
		Grey leaf spot	
		Helminthosporium disease	
		Pythium blight	
		Pythium root rot	
		Red thread	
		Spring dead spot	
		Take-all	
		Winter fusarium	

Active Constituents	Chemical group	Problem	Comments
Azoxystrobin + Tebuconazole	11 + 3	Anthracnose	Azoxystrobin: Canada: Review proposed Tebuconazole <a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review
		Brown patch	
		Dollar spot	
		Fairy ring/s	
		Fungal diseases - Rhizoctonia	
		Fungal diseases - Sclerotinia	
		Fusarium patch	
Helminthosporium disease			
Azoxystrobin + Triticonazole	11 + 3	Anthracnose	Azoxystrobin: Canada: Review proposed Triticonazole <a href="#">APVMA: nominated for review</a>
		Brown patch	
		Couch grass decline	
		Damping off	
		Dollar spot	
		Ectotrophic root infecting fungi	
		Fusarium patch	
		Helminthosporium disease	
		Pythium blight	
		Pythium root rot	
		Spring dead spot	
		Take-all	
Boscalid	7	Anthracnose	Canada: Review initiated
		Dollar spot	
		Fungal diseases - Rhizoctonia	
Bupirimate	8	Anthracnose	
		Fungal diseases - Rhizoctonia	
Captan	M4	Brown patch	EU: Restricted use in permanent greenhouses only USA: Under review

Active Constituents	Chemical group	Problem	Comments
Chlorothalonil	M5	Brown patch	<a href="#">APVMA: nominated for review</a>
		Dollar spot	Canada: Cancellation of uses proposed
		Grey leaf spot	EU: No authorisation in place
		Helminthosporum disease	UK: Proposed non-renewal
		Winter fusarium	USA: Under review
Chlorothalonil + Fludioxonil + Propiconazole	M5 + 12 + 3	Anthracnose	<u>Chlorothalonil</u>
		Brown patch	<a href="#">APVMA: nominated for review</a>
		Dollar spot	Canada: Cancellation of uses proposed
		Fusarium patch	EU: No authorisation in place
		Helminthosporum disease	UK: Proposed non-renewal
		Winter fusarium	USA: Under review
		<u>Fludioxonil</u>	EU: Under review & Candidate for substitution
		<u>Propiconazole</u>	<a href="#">APVMA: nominated for review</a>
			EU: No authorisation
			USA: Under review
Chlorothalonil + Iprodione + Tebuconazole + Thiophanate-methyl	M5 + 2 + 1 + 3	Anthracnose	<u>Chlorothalonil</u>
		Brown patch	<a href="#">APVMA: nominated for review</a>
		Dollar spot	Canada: Cancellation of uses proposed
		Fusarium patch	EU: No authorisation in place
		Grey leaf spot	UK: Proposed non-renewal
		Helminthosporum disease	USA: Under review.
		Leaf spot	<u>Iprodione</u>
Spring dead spot	Canada: Majority of food crop uses deleted		
		Codex: Review scheduled	
		EU: No authorisation in place	
		USA: Proposed deletion or restriction	
		<u>Tebuconazole</u>	<a href="#">APVMA: nominated for review</a>
			Canada: Under review
			EU: Candidate for substitution
			USA: Under review

Active Constituents	Chemical group	Problem	Comments
Copper	M1	Anthracnose	EU: Candidates for substitution
		Fungal diseases - Rhizoctonia	
Cyazofamid	21	Pythium blight	
		Pythium root rot	
Cyprodinil	9	Anthracnose	Canada: Under review
		Fungal diseases - Rhizoctonia	EU: Candidate for substitution
Dimethomorph	40	Anthracnose	EU: Under review
		Fungal diseases - Rhizoctonia	
Etridiazole	14	Damping off	EU: No authorisation
		Pythium blight	
Fluazinam	29	Anthracnose	Canada: Under review
		Dollar spot	
		Grey leaf spot	
		Helminthosporum disease	
Fludioxonil	12	Anthracnose	EU: Under review, & candidate for substitution
		Brown patch	
		Dollar spot	
		Fungal diseases - Rhizoctonia	
		Fusarium patch	
		Helminthosporum disease	
		Winter fusarium	
Fluopyram + Trifloxystrobin	7 + 11	Black Helminthosporum	Trifloxystrobin
		Brown patch	Canada: Under review
		Dollar spot	
		Fusarium patch	
		Grey leaf spot	
		Rust	

Active Constituents	Chemical group	Problem	Comments
Flutolanil	7	Fairy ring/s	
Fluxapyroxad + Pyraclostrobin	11 + 7	Brown patch	Pyraclostrobin Canada: Under review
		Dollar spot	
		Ectotrophic root infecting fungi	
		Fairy ring/s	
		Fungal diseases - Fusarium	
		Fusarium patch	
		Pythium blight	
		Pythium root rot	
		Take-all	
Fosetyl-Al	33	Anthracnose	Canada: Under review
		Damping off	
		Pythium blight	
		Pythium crown rot	
		Pythium diseases - soil borne	
		Pythium root rot	
Iprodione	2	Black Helminthosporium	Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses
		Brown patch	
		Curvularia leaf spot	
		Dollar spot	
		Fusarium patch	
		Helminthosporium disease	
		Leaf spot	
		Spring dead spot	
		White Helminthosporium	
		Winter fusarium	

Active Constituents	Chemical group	Problem	Comments
Iprodione + Trifloxystrobin	2 + 11	Brown patch	<u>Iprodione</u> Canada: Majority of food crop uses deleted Codex: Review scheduled EU: No authorisation in place USA: Proposed deletion or restriction of uses <u>Trifloxystrobin</u> Canada: Under review
		Dollar spot	
		Fusarium patch	
		Helminthosporum disease	
		Rust	
Mancozeb	M3	Algae	<a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2023/24 EU: Authorisation not renewed
		Anthraco nose	
		Brown patch	
		Fungal diseases - Fusarium	
		Fungal diseases - Rhizoctonia	
		Fusarium patch	
		Helminthosporum disease	
		Fusarium wilt	
Mancozeb + Sulfur	M2 + M3	Brown patch	<u>Mancozeb</u> <a href="#">APVMA: nominated for review</a> Canada: Many uses cancelled Codex: To be reviewed 2023/24 EU: Authorisation not renewed
		Dollar spot	
		Fusarium patch	
		Helminthosporum disease	
Metalaxyl	4	Anthraco nose	EU: Candidate for substitution
		Fungal diseases - Rhizoctonia	
Metalaxyl-M	4	Anthraco nose	EU: Restricted use approval
		Damping off	
		Fungal diseases - Rhizoctonia	
		Pythium blight	
		Pythium crown rot	
		Pythium diseases - soil borne	
		Pythium root rot	

Active Constituents	Chemical group	Problem	Comments
Metham	Soil fumigant	Damping off	
		Fungal diseases	
		Fungal diseases - Fusarium	
		Fungal diseases - Rhizoctonia	
		Fungal diseases - Sclerotinia	
		Phytophthora soil fungus (Dieback)	
		Crown rot	
Oxycarboxin	7	Anthracnose	EU: No authorisation
		Fungal diseases - Rhizoctonia	
Penthiopyrad	7	Anthracnose	
		Black Helminthosporum	
		Brown patch	
		Curvularia leaf spot	
		Dollar Spot	
		Fairy ring/s	
		Red thread	
Spring dead spot			
Prochloraz	3	Dollar Spot	Codex: Periodic re-evaluation scheduled EU: No authorisation
		Anthracnose	
Procymidone	2	Black Helminthosporum	<a href="#">APVMA: Review completed</a> Codex: No MRLs EU: No authorisations
		Dollar Spot	
		Helminthosporum disease	
		Spring dead spot	
Propamocarb	28	Damping off	

Active Constituents	Chemical group	Problem	Comments
Propiconazole	<b>3</b>	Anthracnose	<a href="#">APVMA: nominated for review &amp;</a> Nominated for spray drift label review EU: No authorisations USA: Under review
		Brown patch	
		Couch grass decline	
		Dollar Spot	
		Ectotrophic root infecting fungi	
		Fungal diseases - Rhizoctonia	
		Helminthosporium disease	
		Spring dead spot	
		Take-all	
		Winter fusarium	
Pydiflumetofen	<b>7</b>	Dollar Spot	
		Microdochium patch	
		Spring dead spot	
Pyraclostrobin	<b>11</b>	Anthracnose	Canada: Under review
		Fungal diseases - Rhizoctonia	
Quaternary ammonium	-	Mould	
Quintozene	<b>14</b>	Brown patch	Codex: Periodic re-evaluation scheduled EU: No authorisations
Quintozene + Thiram	<b>14 + M3</b>	Brown patch	<u>Thiram</u> <a href="#">APVMA: nominated for review</a> Canada: Cancelled all foliar uses (2021) Codex: To be reviewed 2023/24 EU: No authorisation in place
		Fungal diseases - Fusarium	
		Fungal diseases - Sclerotinia	
		Helminthosporium disease	
Streptomyces lydicus	<b>BM2</b>	Fungal diseases - Rhizoctonia	



Active Constituents	Chemical group	Problem	Comments
Tebuconazole + Trifloxystrobin	3 + 11	Anthracnose	<u>Tebuconazole</u> <a href="#">APVMA: nominated for review</a> Canada: Under review EU: Candidate for substitution USA: Under review <u>Trifloxystrobin</u> Canada: Under review
		Brown patch	
		Curvularia leaf spot	
		Dollar Spot	
		Ectotrophic root infecting fungi	
		Helminthosporium disease	
		Leptosphaerulina leaf blight	
		Spring dead spot	
		White Helminthosporium	
		Winter fusarium	
Thiabendazole	1	Dollar Spot	
		Fusarium patch	
Thiram	M3	Brown patch	<a href="#">APVMA: nominated for review</a> Canada: Cancelled all foliar uses (2021) Codex: To be reviewed 2023/24 EU: No authorisation in place
		Damping off	
		Dollar Spot	
		Fusarium patch	
		Helminthosporium disease	
Tolclofos-methyl	14	Anthracnose	EU: Proposed restricted use authorisation
		Black Helminthosporium	
		Brown patch	
		Dollar Spot	
		Fairy ring/s	
		Grey leaf spot	
		Winter fusarium	
Triadimenol	3	Anthracnose	<a href="#">APVMA: nominated for review</a> Canada: No authorisations EU: No authorisation in place
		Black Helminthosporium	
		Dollar Spot	
		Fungal diseases - Rhizoctonia	
		Take-all	
		Winter fusarium	

Active Constituents	Chemical group	Problem	Comments
Triforine	3	Anthracnose	<a href="#">APVMA: nominated for review</a>
		Fungal diseases - Rhizoctonia	Canada: Review completed, continued use EU: No authorisation
Zineb	M3	Helminthosporium disease	<a href="#">APVMA: nominated for review</a> Codex: To be reviewed 2023/24 EU: No authorisation in place

Active Constituents	Chemical Group	Comments
<b>WEEDS</b>		
2,4-D	4	
Acetic acid mixtures	-	
Amicarbazone	5	EU: No authorisation in place
Asulam (PER83443)	18	EU: Under review, proposed restriction to non-edible crops
Bensulide	0	EU: No authorisation in place
Bentazone	6	
Bispyribac-sodium	2	
Bromoxynil	6	APVMA: Nominated for spray drift label review EU: No authorisation
Butafenacil	14	EU: No authorisation
Carfentrazone-ethyl	14	
Chlorthal-dimethyl	3	EU: No authorisation
Clopyralid	4	APVMA: Nominated for spray drift label review
Dicamba	4	APVMA: Nominated for spray drift label review
Diclofop-methyl	1	APVMA: Nominated for spray drift label review EU: Candidate for substitution
Diflufenican	12	EU: Candidate for substitution
Dimethenamid-P	15	
Diquat	22	<a href="#">APVMA: Currently under review</a> EU: No authorisation in place
Dithiopyr	3	EU: No authorisation in place
DSMA	0	EU: No authorisation in place
Endothal	31	EU: No authorisation in place
Ethofumesate	15	
Florasulam	2	
Fluazifop-P (PER9792 & PER90272)	1	APVMA: Nominated for spray drift label review
Flupropanate (PER9792)	0	EU: No authorisation in place
Fluroxypyr	4	APVMA: Nominated for spray drift label review

Active Constituents	Chemical Group	Comment
Foramsulfuron	2	Canada: Review initiated
Glufosinate	10	APVMA: Nominated for spray drift label review Canada: Review proposed EU: No authorisation in place
Glyphosate	9	APVMA: Nominated for spray drift label review Ongoing issues internationally EU: Under review
Halosulfuron-methyl	2	EU: Candidate for substitution
Haloxyfop (PER9792)	1	EU: No authorisation
Imazamox (PER9792)	2	EU: Candidate for substitution
Imazethapyr (PER9792)	2	EU: No authorisation
Indaziflam	29	EU: No authorisation
Iodosulfuron-methyl-Na	2	APVMA: Nominated for spray drift label review
Isoxaben	29	
MCPA	4	APVMA: Nominated for spray drift label review Canada: Under review
Mecoprop	4	APVMA: Nominated for spray drift label review EU: No authorisation
Metolachlor	15	
Metribuzin (PER81622)	5	Canada: Under review EU: Candidate for substitution
Metsulfuron-methyl	2	APVMA: Nominated for spray drift label review
MSMA	0	EU: No authorisation in place
Oryzalin	3	EU: No authorisation
Oxadiazon	14	EU: No authorisation in place
Oxyfluorfen	14	EU: Candidate for substitution USA: Interim review decision Label amendments proposed
Paraquat	22	<a href="#">APVMA: Currently under review</a> Canada: Review initiated EU: No authorisation in place Rotterdam Convention - Nomination

Active Constituents	Chemical Group	Comment
Pelargonic acid	0	
Pendimethalin	3	EU: Candidate for substitution
Prodiamine	3	EU: No authorisation in place
Propyzamide	3	EU: Under review
Prosulfuron	2	EU: Candidate for substitution
Quinclorac	4	APVMA: Nominated for spray drift label review EU: No authorisation in place
Rimsulfuron	2	
Siduron	5	EU: No authorisation in place
Simazine (PER84036)	5	<a href="#">APVMA: nominated for review</a> EU: No authorisation in place
S-metolachlor	15	
Triclopyr	4	APVMA: Nominated for spray drift label review Canada: Review initiated
Trifloxysulfuron sodium (PER91542)	2	EU: No authorisation in place
<b>PLANT GROWTH REGULATORS</b>		
Paclobutrazol		EU: Candidate for substitution
IAA + NAA		
Trinexapac-ethyl		Canada: Under review

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