

Sweet corn Agrichemical Regulatory Risk Assessment

March 2024

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use.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 sweet corn.

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| | |
|-----------|---|
| 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 |

| Active Constituents | Chemical Group | Problem | Comments |
|-------------------------------|----------------|-------------------------------|---|
| INSECT AND OTHER PESTS | | | |
| Abamectin | 6 | Two-spotted (Red spider) mite | APVMA: Nominated for spray drift label review Canada: Some uses amended, others cancelled EU: Use restricted to permanent greenhouses |
| Afidopyropen | | Corn aphid | EU/UK: No authorisations in place |
| | | Cotton aphid | |
| | | Green peach aphid | |
| Alpha-cypermethrin | 3A | Helicoverpa species | EU/UK: No authorisations in place |
| | | Looper caterpillars | |
| | | Fall armyworm(PER85447) | |
| Amorphous silica | UN | Cotton aphid | |
| | | Fall armyworm(PER90841) | |
| <i>B. thuringiensis</i> | 11A | Armyworms | EU: Under review for renewal |
| | | Cabbage white butterfly | |
| | | Caterpillars | |
| | | Diamondback (Cabbage) moth | |
| | | Helicoverpa species | |
| | | Lightbrown apple moth | |
| | | Looper caterpillars | |
| | | Painted vine moth | |
| | | Potato moth (Leafminer) | |
| | | Soybean & Tobacco looper | |
| Chlorantraniliprole | 28 | Helicoverpa species | |
| | | Fall armyworm(PER89259) | |

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|---------------------|----------------|-----------------------------------|---|
| Chlorpyrifos | 1B | African black beetle (PER88018) | APVMA: Proposed deletion of uses Codex: All Codex MRLs revoked Canada: Cancellation of all uses. EU/UK: No authorisation in place USA: EPA decision to cancel use on food crops |
| Clothianidin | 4A | Wireworm | APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measures |
| | | Aphids (ST) | |
| | | Cutworms (ST) | |
| Cypermethrin | 3A | Australian plague locust | EU: Candidate for substitution |
| | | Common armyworm | |
| | | Helicoverpa species | |
| | | Spur-throated locust | |
| Deltamethrin | 3A | Helicoverpa species | |
| Diazinon | 1B | Caterpillars | APVMA: Proposed deletion of uses EU/UK: No authorisation in place Codex: Codex MRLs deleted |
| | | Cutworms | |
| Dimethoate | 1B | Aphids | Codex: No MRL EU/UK: No authorisations in place |
| | | Bugs | |
| | | Green vegetable bug | |
| | | Jassids | |
| | | Plague thrips | |
| | | Spur-throated locust | |
| | | Wingless grasshopper | |
| Emamectin benzoate | 6 | Helicoverpa species | EU: Candidate for substitution |
| | | Fall armyworm | |
| Esfenvalerate | 3A | Helicoverpa species | EU: Candidate for substitution |
| Ethyl formate | 8A | Corn aphid(Po) | EU/UK: No authorisations in place |
| | | Green peach aphid(Po) | |
| | | Thrips(Po) | |
| | | Two-spotted (Red spider) mite(Po) | |

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|------------------------------|----------------|---|---|
| Etoazole | 10B | Two-spotted (Red spider) mite(PER88170) | EU: Only uses on greenhouse ornamentals approved & Candidate for substitution |
| Helicoverpa NPV | 31 | Helicoverpa species | |
| Imidacloprid (ST) | 4A | Aphids | APVMA: Under review Canada: Field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measures |
| | | Black field crickets | |
| | | Black field earwig | |
| | | Cutworms | |
| | | Eastern false wireworm | |
| | | Southern false wireworm, Sugarcane false wireworm, Striate false wireworm | |
| | | Wingless cockroaches | |
| | | Wireworm | |
| Indoxacarb | 22A | Fall armyworm(PER93815) | Canada: No authorisations EU/UK: No authorisations in place |
| | | Helicoverpa spp. | |
| Methomyl | 1A | Armyworms | APVMA: nominated for review Canada: Re-evaluation completed. Majority of uses removed EU/UK: No authorisations in place USA: Under review |
| | | Helicoverpa species | |
| Methoxyfenozide | 18 | Caterpillars (PER84531) | EU: Proposed restricted authorisation & Candidate for substitution |
| | | Helicoverpa species (PER84531) | |
| Helicoverpa NPV | 31 | Helicoverpa spp. | |
| Paraffinic oil/Petroleum oil | UNM | Aphids | |
| | | Bugs | |
| | | Leafhoppers | |
| | | Mites | |
| | | Thrips | |
| | | Whiteflies | |

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| Active Constituents | Chemical Group | Problem | Comments |
|--------------------------------------|----------------|--|---|
| Permethrin | 3A | Helicoverpa species | Codex: Re-evaluation scheduled. Support uncertain EU/UK: No authorisations in place |
| Pirimicarb | 1A | Aphids Corn aphid | Codex: JMPR re-evaluation scheduled EU: Candidate for substitution |
| Propargite | 12C | Two-spotted (Red spider) mite(PER88179) | APVMA: nominated for review EU/UK: No authorisations in place |
| Pymetrozine | 9B | Corn aphid | Canada: Restricted use to glasshouses only Codex: No registrant support EU/UK: No authorisations in place |
| Spinetoram | 5 | Helicoverpa species Painted vine moth Western flower thrips Fall armyworm (PER89241) Leafminers (PER91155) | EU: Authorisation expires June 2024 |
| Spinosad | 5 | Fall armyworm(PER89870) | |
| Spirotetramat | 23 | Corn aphid | EU: Authorisation expires April 2024 |
| <i>Spodoptera frugiperda</i> NPV | 31 | Fall armyworm(PER90820) | |
| <i>Spodoptera frugiperda</i> MNPV | 31 | Fall armyworm(PER91477) | |
| Sulfoxaflor | 4C | Green peach aphid | USA: Pollinator concerns EU: Restricted to permanent glasshouses only |
| Terbufos | 1B | Wireworm | Codex: Unsupported, possible deletion EU/UK: No authorisations in place |
| Tetraniliprole | 28 | Fall armyworm | EU/UK: No authorisations in place |
| Thiamethoxam (ST) | 4A | Eastern false wireworm Southern false wireworm, Sugarcane false wireworm, Striate false wireworm | APVMA: Under review Canada: Some field uses cancelled or amended EU/UK: No authorisations in place USA: Re-registration with new risk mitigation measure |
| Thiodicarb | 1A | Helicoverpa species | EU/UK: No authorisations in place |

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| Active Constituents | Chemical Group | Problem | Comments |
|---------------------|----------------|-------------------------|---|
| Trichlorfon | 1B | Cabbage white butterfly | APVMA: nominated for review |
| | | Green vegetable bug | Codex: No MRLs |
| | | Rutherglen bug | EU/UK: No authorisations in place USA: No MRLs |
| Zeta-cypermethrin | 3A | Common armyworm | EU/UK: No authorisations in place |
| | | Helicoverpa species | |

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|------------------------------|----------------|---|--|
| DISEASES | | | |
| Azoxystrobin + cyproconazole | 11 + 3 | Rust (Common & Polysora) | <u>Azoxystrobin</u> |
| | | Turcicum leaf blight /Northern corn leaf blight | Canada: Review proposed <u>Cyproconazole</u> APVMA: nominated for review EU/UK: No authorisations in place |
| Azoxystrobin + tebuconazole | 11 + 3 | Maize Rust(86245) | <u>Azoxystrobin</u> Canada: Review proposed (2023) <u>Tebuconazole</u> APVMA: nominated for review Canada: Under review EU: Candidate for substitution USA: Under review |
| Carboxin (ST) | 7 | Boil smut & Head smut | EU/UK: No authorisations in place |
| | | Seed decay & Seedling blight/rot | |
| Chlorothalonil | M5 | Turcicum leaf blight /Northern corn leaf blight | APVMA: nominated for review Canada: Cancellation of uses proposed EU/UK: No authorisations in place USA: Under review |
| Fludioxonil + Metalaxyl-M | 12 + 4 | Fusarium Root rot | <u>Fludioxonil</u> |
| | | Pythium root rot (Damping-off) | EU: Under review, & candidate for substitution |
| Metalaxyl/Metalaxyl-M (ST) | 4 | Downy mildew | <u>Metalaxyl</u> EU: Candidate for substitution <u>Metalaxyl-M</u> EU: Restricted use approval |
| Propiconazole | 3 | Turcicum leaf blight /Northern corn leaf blight(PER13116) | APVMA: nominated for review EU/UK: No authorisations in place USA: Under review |
| Thiram (ST) | M3 | Boil smut & Head smut | APVMA: nominated for review Canada: Cancelled all foliar uses Codex: To be reviewed EU/UK: No authorisations in place |

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| Active Constituents | Chemical Group | Comments |
|---------------------------|----------------|---|
| WEEDS | | |
| 2,4-D | 4 | |
| Atrazine | 5 | Canada: Review proposed EU/UK: No authorisations in place USA: Under review |
| Carfentrazone-ethyl | 14 | |
| Cyanazine | 5 | APVMA: nominated for review EU/UK: No authorisations in place |
| Dimethenamid-P | 15 | |
| EPTC | 15 | EU/UK: No authorisations in place |
| Fluroxypyr | 4 | |
| Glufosinate | 10 | APVMA: Nominated for spray drift label review Canada: Review proposed EU/UK: No authorisations in place |
| Glyphosate | 9 | APVMA: Nominated for spray drift label review Ongoing issues internationally |
| Linuron | 5 | Canada: Cancellation of many uses EU/UK: No authorisations in place |
| MCPA | 4 | |
| Metolachlor/S-metolachlor | 15 | <u>Metolachlor</u> : EU/UK: No authorisations in place <u>S-metolachlor</u> : EU: Proposed non-renewal |
| Propachlor | 15 | EU/UK: No authorisations in place |
| Terbuthylazine | 5 | |

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