

The Onion Project

ANNUAL MAGAZINE | 2019 | VOL. 1

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Onions the everyday hero

Tackling soilborne
diseases in onion
production

Christmas Recipe

INSIDE: YOUR COPY OF THE 2019 ONION DISEASE IDENTIFICATION POSTER.



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Growing into the future

THE 2019-23 HORT INNOVATION STRATEGY

**Hort
Innovation**
Strategic levy investment

**ONION
FUND**

The horticulture industry is booming. To support and drive the continued growth and innovation of the thriving horticultural sector, Hort Innovation launched the 2019-23 Strategy on 1 July 2019.

For the next four years, this strategy will be used to inform the future direction of the company and Australia's horticultural industry; providing a roadmap for current and future investment into research and development (R&D).

Earlier this year, Hort Innovation gathered feedback and key insights from 350 horticultural growers and industry representatives, by hosting 20 Strategy Consultation Workshops across the country as well as offering an online feedback system. The workshops were used to inform the strategy's key themes, focus areas, goals, and activities that will help the organisation and sector continue to develop and grow, by guiding the allocation of grower levy and government funds.

To reflect the 2019-23 Strategy, new guiding statements were developed, which will underpin investments and decision-making for the next four years (*see the Strategy at a glance, to the right*).

The strategy introduces key initiatives and activities that will roll out over the next four years to support the following three strategy pillars:

1. Drive knowledge and innovation into horticulture industries
2. Deliver the highest value R&D, marketing and trade investments across industries, now and into the future
3. Enable activities that drive all strategic imperatives

Key activities identified through the consultation workshops include more face-to-face engagement with growers, exploring market trends and potential expansion, and exploring more sustainable farming practices.

Incorporating themes from the consultation workshops, these activities will work towards developing a collaborative and sustainable approach to solving issues within the industry; placing a focus on expanding markets, extension activities, and maximising grower adoption of project outcomes.

THE STRATEGY AT A GLANCE:

PURPOSE

Hort Innovation exists to drive a prosperous and healthy Australia, by providing the best knowledge and solutions to create a world-class horticulture sector.

WHAT WE DO

Hort Innovation connects growers and consumers to drive demand, and we invest in solutions to improve productivity. These combine to increase the sustainability and prosperity of Australia's horticulture industries.

OUR GOALS

Hort Innovation is committed to sustainable growth in horticulture, with the overarching aim of increasing the sector's value to \$20 billion by 2030. This will be achieved through:

- Supporting growth in demand, both domestically and globally
- Supporting profitable and collaborative industries
- Delivering world-class innovation, knowledge and networks.

How was the Hort Innovation Onion Fund invested in 2018/19?

Hort Innovation recently released the **Onion Fund 2018/19 Annual Report**, including key investment and project information from the most recent financial year.

Download a copy of your Hort Innovation Onion Fund Annual report from www.horticulture.com.au/annual-report-download

From this link you can also access a copy of the Hort Innovation 2018/19 Company Annual Report, detailing activities and highlights across our entire portfolio of work.

Onion Fund

Annual Report 2018/19

**Hort
Innovation**
Strategic levy investment

**ONION
FUND**

ONION STRATEGIC INVESTMENT PLAN

The Onion Strategic Investment Plan (SIP) will help ensure onion levy funds are invested in the priority areas identified and agreed upon by the onion industry.

The investment of almost \$8 million from 2017-2021 in R&D, extension and marketing activities is set to produce \$23.86 million in benefits for the onion industry, with a clear focus on growth, development and increased profitability for the industry.

The Onion SIP was developed by Hort Innovation and facilitated in partnership with industry representative bodies and the Strategic Investment Advisory Panel (SIAP).

The SIP can be characterised by four major outcomes:

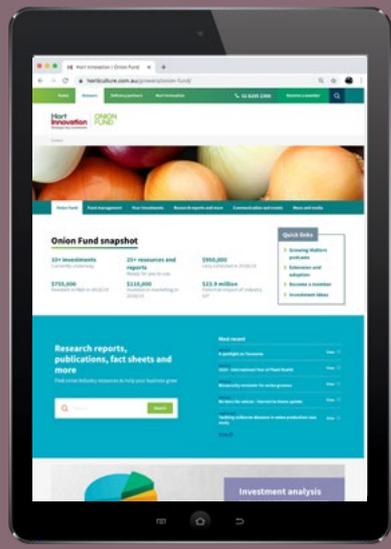
1. A combined marketing approach working in harmony to show the versatility of onions to increase consumption.
2. Export growth achieved through market diversification and product customisation, to support and maintain domestic pricing.
3. Reduced costs and improved returns to growers through improvements in business and production skills.
4. An informed and engaged industry resulting in greater ability to respond to market shifts.

What is the SIAP?

Made up of industry members, the key role of the onions SIAP is to provide expert advice to Hort Innovation on how levy and Government funds are invested; ensuring the effective allocation of funds to R&D, and marketing projects to support growth and innovation in the sector.

The onion industry SIAP members include:

- Peter Shadbolt, Scotties Point Farms, Vic
- Dr Richard Jones, Rathlyn Associates, NSW
- Julian Shaw, Agronico Pty Ltd, Tas
- Tim Groom, Wynyon, Tas
- Yvonne Smith, Bowhill Produce Pty Ltd, SA
- Kees Versteeg, Qualipac Pty Ltd, Qld
- Steve Rathjen, Delta Produce, SA
- Cath Botta (Chair)



Don't forget, everything you need to know about your levy is on the Onion page on the **Hort Innovation website:**

<https://www.horticulture.com.au/growers/onion-fund/>

Here you can access information about your investments, research reports, communication, news and media.



If you have any questions about the SIP, please contact Hort Innovation's Onion Industry Strategic Partner Mark Spees on **0439 574 173** or mark.spees@horticulture.com.au

To view and/or download the Onion Strategic Investment Plan 2017-2021 click here: <https://bit.ly/3870XPf>

The name change from 'Relationship Manager' to 'Industry Strategic Partner' more accurately describes the function that this role performs, working in partnership with industry.

Onions the everyday hero as new research report is launched

Australian onions nutritional literature review (VN18002)

Research Provider: Food Bytes

A new research report on the health and nutritional benefits of onions has been launched showcasing what a powerhouse vegetable the onion is and how simple it is to include onions as part of our recommended daily intake of vegetables.



Restaurateur Tristan Rosier from Arthur Restaurant in Surry Hills, NSW

The report, *Onions Health and Nutrition Overview 2019*, funded by Hort Innovation using the Australian Onion Industry research and development levy and contributions from the Australian Government, was launched in November at Arthur restaurant in Sydney's Surry Hills.

Restaurateur Tristan Rosier said he jumped at the chance to showcase the Australian onion for the launch event, creating canapes and a three course menu that demonstrated the number of ways onions can be prepared, including pickled onion, a red onion jam, baked brown onions and a white onion purée.

"The onion is such a fabulous, versatile ingredient. While it's the basis for many dishes, caramelised on its own it delivers a sweetness and flavour that lends itself to some really great menu items, including onion ice cream which was served with a malt biscuit and blueberries for dessert."

One of the report's authors, Lisa Yates, Advanced Accredited Practising Dietitian (Adv APD), told the gathering of nutritionists, dietitians, and media

representatives of the fascinating health benefits of Australian onions, including supporting gut, heart and brain health.

"This report highlights that the onion is a 'nutrition ninja' – secretly providing a range of nutrients all beneath the layers. Not only is it a versatile and affordable pantry staple, its nutrition contribution is often overlooked and it's a real stand out when it comes to health attributes.

"Onions are one of the highest sources of quercetin, a naturally occurring phytonutrient that acts as an antioxidant and anti-inflammatory, helping to protect against free radical damage and inflammation, which can contribute to ageing and chronic disease. To maximise quercetin avoid over peeling onions as quercetin is richer in the outer layers.

"They also contain sulfoxides, naturally occurring compounds which are responsible for onions' distinct flavour and aroma, as well as having antioxidant and heart health properties."



THE NUTRITIONAL NINJA

There are so many healthy reasons to include a little onion in each meal each day! As part of a healthy, varied diet, onions are:



GOOD FOR BRAIN HEALTH

Onions contribute folate and vitamin C. These essential nutrients support optimal brain function and help to minimise fatigue.*



ANTIOXIDANT & ANTI-INFLAMMATORY

Red onions contain quercetin but have extra phytonutrients responsible for the red/purple colour known as anthocyanins. Anthocyanins have benefits for heart health and can help reduce inflammation linked to insulin resistance and weight gain. Half an onion (75g) provides around 100kJ, a good option for a veggie-rich, kilojoule-controlled diet.†



GOOD FOR HEART HEALTH

Onions are naturally low in sugars, saturated fat and sodium so contribute to heart health by helping to lower blood cholesterol.



GOOD FOR GUT HEALTH

Onions contain fructans – a prebiotic fibre that helps support good gut health and boosts good gut bacteria.*



GOOD FOR ALL HEALTH

High onion eaters generally also have a reduced cancer risk compared to no, or low onion eaters.

PLANT POWER

ANTHOCYANIN
RED ONION ONLY

VITAMIN C

QUERCETIN

SULFOXIDES

FOLATE

* as part of a healthy, balanced diet

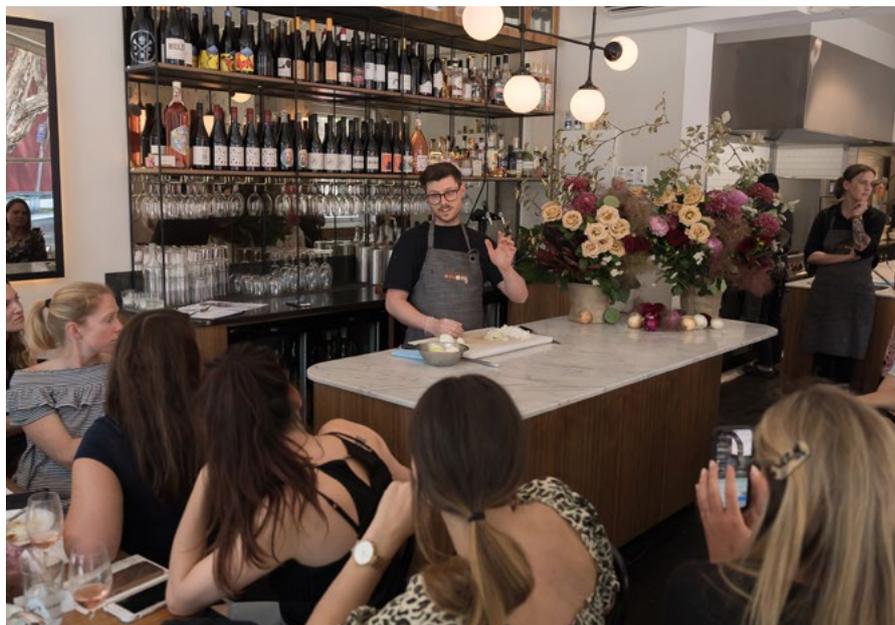
† Sources: Food Standards Australia New Zealand Australian Food Composition database; Food Standards Australia New Zealand Australian Food Standard 1.2.7 Schedule 4; Marrelli M et al. Biological Properties and Bioactive Components of *Allium cepa* L.: Focus on Potential Benefits in the Treatment of Obesity and Related Comorbidities. *Molecules*. 2018 Dec 30;24(1).



TOP: Entree of Albacore tuna, red onion jam, lemon thyme
MIDDLE: Main of lamb, baked onions, rosemary
BOTTOM: Dessert of onion ice cream, malt biscuit, blueberry



(L-R) Hort Innovation Marketing Manager Matt Dwyer and report author Lisa Yates



Guests at the launch learn the secret to a good dice

Preliminary research has also found onions may have a positive impact on the bone health of older women, with new research showing that menopausal women over 50 years who ate onions at least daily, had an overall bone density 5% greater than those who ate onions once a month or less, and a 20% reduced risk of hip fracture.

Ms Yates also said it was important that Australian households meet their recommended daily vegetable intake.

"We know that over 90% of Australians aren't meeting their daily recommended intake for vegetables and onions can play a role in helping to make that happen. According to the Australian Dietary Guidelines just half a medium onion (75g) counts as one serve of the recommended five serves of vegetables per day for adults," she said.

The Onions Health and Nutrition Overview report also includes tips on how to enjoy onions every day, how to select, prepare, store and cut them.

“ The onion is such a fabulous, versatile ingredient. ”



To read and download the *Health and Nutrition Overview 2019* report by Teri Lichtenstein, Accredited Practising Dietitian (APD) and Lisa Yates Adv APD visit <https://bit.ly/2PjUJmy>

For more usage tips and recipe ideas visit the new Australian Onions website at www.australianonions.com.au

TIPS TO ENJOY ONIONS EVERY DAY



Fresh **SPICY ONION** tomato salsa goes well with chicken, fish or meat

Throw in a few small onions when making roast vegetables. The **SUCCULENT SWEETNESS** will add a unique taste dimension



Add **ONIONS** to your kids' **FAVOURITE MEALS**, whether it's spag bol, mac n cheese or shepherds pie



CHEESE AND ONION: a classic combination with countless variations and a sure way to **BOOST THE FLAVOUR** of a basic toastie

SLOW COOKED ONIONS turn a basic sausage sizzle into something **SPECIAL**



Include **FINELY CHOPPED ONION** into fried rice or San Choy Bau for **DELICIOUS FLAVOUR** and aroma



RAW ONIONS lend a sharp, crisp edge to **DIPS AND SALADS**

BLOOD ORANGE and **RED ONION** make a pretty pair on a salad plate



POTATO AND ONION: Two staple ingredients that work magic together. Whether lightly sautéed, combined to make a creamy mash or grated and fried in a rosti, together these become so much more than the sum of their parts

TASMANIAN ONION GROWERS GATHER TO DISCUSS INDUSTRY NEEDS

Herbicides, disease resistance, waste, composting and a seasonal outlook including markets, were some of the key topics discussed at a recent growers' field walk and BBQ hosted at David Addison's Charlton Farm in Moriarty, Tasmania.

Onion grower field walks are organised by RM Consulting Group (RMCG) as part of the onion industry levy funded communications program, VN18003. Local growers and agronomists support them by hosting events, suggesting topics and providing practical, regionally relevant insights.

Around 25 growers and industry members gathered to hear from a host of industry experts and to discuss the Tasmanian onion industry's RD&E needs, challenges and prospects.

Initiated by agronomist Tim Groom, with assistance from herbicide specialist Michael McPherson from Imtrade, attendees looked at a self-funded herbicide trial on Charlton Farm, which included options for pre-emergence or early-post emergence control of resistant ryegrass. Although showing promise, the trialling of new types and combinations of pre-emergent herbicides is in its early stages. Attendees were advised that far more work will need to be done to build on the trial in the coming seasons. Michael mentioned that a great body

of work has been done on managing herbicide resistance in broadacre crops funded via the Grains Research and Development Corporation (GRDC). The onion industry would have to check out how the lessons learned may be integrated into onion production systems in different regions.

The group visited James and Rebecca Addison's compost windrows, a technique Charlton Farm is using to deal with onion waste and produce compost to increase soil health on their farm.

Anthony Deleso, a fourth-generation vegetable farmer from Waterloo Corner in South Australia spoke about the VegPRO training program, a project funded by Hort Innovation through vegetable levies and government contributions until June 2019. VegPRO (www.vegpro.com.au) has given him access to high-quality training and resources. It helped him develop new skills and knowledge he is now using to advance his business. Anthony has advanced his skills in many areas to improve productivity of his crops of spinach, kale, parsley,



Charlton Farm



Grower field walk, Charlton Farm



Doris Bleasing, Michael McPherson and Tim Groom discussing the herbicide trial at Charlton Farm

radish, beetroot, silverbeet and spring onions, one being the use of compost on-farm. The training also facilitated new tools and insights allowing Anthony to better manage staff, food safety and marketing.

Having initially been cautious of the risk of disease of poorly treated compost, Anthony only just recently started using high quality compost on his entire farm after he saw great outcomes from a trial in his 2019 kale crop. The trial was supported via funding from the local NRM body to AUSVEG SA and RMCG. Utilising compost has increased the overall nutrient value of his crop and increased marketable yields by 30 per cent. Having produced a healthier crop that's easier to manage



Compost windrows at Charlton Farm



Tasmania onion growers and industry members at Charlton Farm's field walk and BBQ

and requiring less inputs, he's also seen improved productivity during harvest. Anthony encouraged other growers to trial new techniques and upskill in areas that will lead to increased productivity on-farm.

When asked about the biggest issues currently facing the Tasmanian onion industry, growers discussed ongoing profitability and the risk of seasonal variability, sustainability (i.e. soil health, diseases and soil management, productivity and on-farm hygiene to minimise the transfer of disease between farms); resistant weeds, prices and markets and lack of labour right through their operations from farm worker to manager.

Wrapping up, agronomist Tim Groom gave an update on the previous onion growing season in Tasmania, which saw a significant resurgence due to increased exporting confidence following drought in northern Europe. Providing an outlook for the season ahead, without the acute shortages of onions in the Europe market, Tim believes Tasmania will face a relatively normal season. Encouraging is the realisation in Europe that they can't rely on their domestic market alone for all year-round onion supply.

Soil scientist, Doris Bleasing was also on hand to discuss soil management techniques, soilborne diseases, herbicide resistance and composting. She explained linkages to related projects such as Soil Wealth and Integrated Crop Protection (www.soilwealth.com.au).



If you're interested in hosting a field walk, please contact Theresa Chapman from RMCG on **0413 039 733** or theresac@rmcg.com.au

Demonstrations of IPM in onions

IPM extension program – onion and potato (MT16009)
Research Provider: IPM Technologies

PROJECT LEAD: DR PAUL HORNE, IPM TECHNOLOGIES P/L

An integrated pest management (IPM) extension project is delivering exciting results for onion producers in growing regions around Australia. Entomologists Dr Paul Horne, Jessica Page and Angelica Cameron from IPM Technologies are working with growers and agronomists to demonstrate how IPM can deliver improved control of onion pests (particularly thrips) with reduced insecticide inputs.

The Onion and Potato industries have funded a project (MT16009) for IPM Technologies P/L to demonstrate how IPM can work for growers of onions and potatoes in Australia. For onion growers, the key pest in most locations has been onion thrips and the IPM approach involves using cultural control measures that increase the numbers of predators of thrips. This is a very different approach to growers and advisors who are used to dealing with thrips just with insecticides and most want to try IPM on a small scale before making big changes.

Fortunately, the methods involved in these demonstrations can be done on a fairly small area first in order to prove the concept locally. This is mainly due to the fact that the type of biological control agents involved

are resident soil-dwelling species and populations can increase in a small area within a paddock (in other crops this is often not possible, and trials need to be half a paddock or more).

Paul Horne and Jessica Page have continued to work with advisors and growers to conduct their own trials using the IPM methods and have had very successful demonstrations of what can be achieved. It has resulted in significantly less insecticide applications and good control of thrips. Recent demonstrations have been in northern Tasmania and Victoria, while growers in South Australia who were involved early in the project continue to get excellent results and have moved to large-scale adoption of IPM.



Tasmanian agronomists Peter Aird (standing), Josh Roberts and Rebecca Addison checking onions at harvest

The demonstrations have involved making changes to the conditions on the soil surface to favour a build-up of predatory mites and beetles and changing the pesticide applications to improve the survival of predatory thrips. These insects and mites typically have short lifecycles and so it is possible for the populations to increase massively during the life of a crop. All the predators occur naturally on the farms although different species are present in different locations around Australia.

Populations of predatory mites that live in the soil, near the soil surface can be built up particularly rapidly by applying some organic matter that first encourages tiny flies such as fungus gnats. The predatory insects and mites are generalist feeders, meaning they will accept different food sources. First, they eat fly eggs and small larvae and then they shift to other foods, including thrips, when they have eaten the flies.

It has been surprising for both growers and advisors involved in the demonstrations that it is possible to get better control of thrips in onions with far less insecticide use, but this has been the consistent result.



Anyone wanting to take part in the project can contact Paul Horne

paul@ipmtechnologies.com.au or phone 0419 891 575

Onions a focus for foodservice project

Foodservice custom research reports (MT18002)
Research provider: Food Industry Foresight

PROJECT LEAD: SISSEL ROSENGREN

A market research project focused on delivering key insights around the foodservice industry for onions has recently been completed, with an onions report and findings coming soon!



The foodservice industry is typically characterised by two key channels:

1. **Commercial** – including full service restaurants, hotels, cafes, caterers and pubs
2. **Institutional** – hospitals, aged care, schools and long daycare centres

Funded by Hort Innovation, the *Foodservice custom research reports* (MT18002) project had two main objectives – to determine the total foodservice market size for avocados, mushrooms and onions, and to deliver key insights including market and cuisine trends, distribution channels, sources of supply and foodservice operators' opinions on buying onions.

Managing Director Sissel Rosengren from Food Industry Foresight said market size insights were gathered in multiple ways, including volume and value, product type, by commercial and institutional foodservice channel and by product consumption index.

"We covered all product types including peeled, not peeled and sliced/diced red, brown and white onions," Mrs Rosengren said.

"The project aims to identify foodservice market and cuisine trends and developments, including dining out trends and their impact on the use of onions as well as the role of onions on the foodservice plate."

The information from this project will be available for use in any future levy-funded projects and programs targeting the foodservice sector, from commercial businesses and staff to related training institutes and their students.

The full onions report and findings from the project will be published shortly by Hort Innovation.

MORE GREAT
AUSTRALIAN ONION
RECIPE INSPIRATION
IS AVAILABLE HERE:
AUSTRALIANONIONS.COM.AU

AUSSIE ONIONS – DELICIOUS THIS CHRISTMAS!

Looking for recipe inspiration for Christmas lunch? Here's our pick – a pickled red onion, watermelon and feta salad to tantalise those tastebuds!



Pickled Red Onion, Watermelon and Feta salad

A great refreshing salad that can be eaten on its own, or served with grilled meats or fish

INGREDIENTS:

- ¼ watermelon
- 200g packet of Greek feta
- 1 large red onion
- 1 cup white wine vinegar
- 1 tsp castor sugar
- 1 pomegranate (reserve seeds)
- ½ cup mint leaves
- ½ cup parsley leaves
- 4 radishes cut into thin disks
- Pomegranate molasses to dress
- Good quality extra virgin olive oil to dress
- Freshly ground black pepper

METHOD:

1. Begin by pickling the onions 1 hour before you want to serve the salad. Take the red onion and half it from root to tip, remove the skin and slice it thinly across the half moon and put it in a bowl. In a bowl mix the white wine vinegar and castor sugar together and ensure the sugar is dissolved. Pour the vinegar mix over the sliced red onion.
2. Cut the watermelon into 4cm chunks and arrange over a large plate or platter. Drain the red onion onto kitchen towel, and scatter over the chunks of watermelon.
3. Sprinkle pomegranate seeds and the sliced radish over the watermelon.
4. Take the herbs and scatter evenly over the whole dish.
5. Crumble the feta over the top.
6. Dress with a drizzle with olive oil and pomegranate molasses, and season with pepper.
7. Serve and enjoy

Tailored farm biosecurity resources for onion growers

Review of the national biosecurity plan for the onion industry and development of a biosecurity manual for onion producers (VN15001)

Research provider: Plant Health Australia

PROJECT LEAD: ROD TURNER

Onion growers are reminded of the tailored advice and resources available to them on recommended farm biosecurity practices, helping to minimise the risk of introducing and spreading pests, diseases and weeds, while protecting farms, regions and the broader onion industry.

Launched in April 2019, the Onion Grower's Biosecurity Manual is an ongoing resource available to onion growers and staff, as well as contractors, researchers and consultants working in the industry.

According to Plant Health Australia, during harvest season it's important onion growers are aware of the significant biosecurity risks caused by moving soil between properties on farm equipment, particularly by contractors when harvesting, planting and fertilising.

Soil and plant material that adheres to vehicles and equipment, including harvest bins, that then come onto

your property can spread pests such as bean and onion flies, as well as diseases such as white rot and weed seeds.

To ensure that your property does not become the source of new pests for others, you have a responsibility to inform visitors of any declared or notifiable pests present on your farm, so that they can take steps to avoid transferring them to the next property.

Growers should refer to the Biosecurity Manual, which recommends additional biosecurity practices in relation to people, vehicles, equipment and farm outputs.

THE SIX BIOSECURITY ESSENTIALS

Growers should consider the following when thinking about implementing biosecurity measures on farm:

1

PEOPLE,
VEHICLES &
EQUIPMENT

2

FARM INPUTS

3

PRODUCTION
PRACTICES

4

FARM
OUTPUTS

5

FERAL
ANIMALS &
WEEDS

6

TRAIN, PLAN
& RECORD

The manual also includes a biosecurity checklist, case studies about on-farm biosecurity practices used to contain the established onion disease, white rot, and fact sheets on established and exotic pests of onions.

Annual reviews

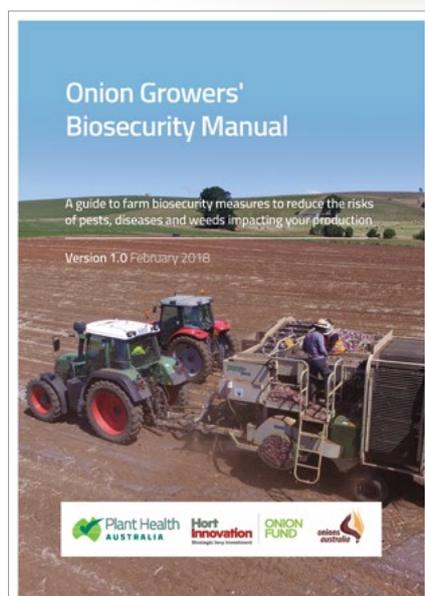
As part of the five-year national biosecurity project with Plant Health Australia, annual meetings will review any new pests that may threaten the onion industry and assess biosecurity priorities. This will help ensure that the 44 activities recommended in the national biosecurity plan for the onion industry are being implemented by government and industry.

Other biosecurity resources

The following resources are available for onion producers on the Farm Biosecurity website via

www.farmbiosecurity.com.au

- Biosecurity checklist
- Farm biosecurity sign
- FarmBiosecurity app
- Onion Growers' Biosecurity Manual
- Pest surveillance sheet
- Visitor register



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The project *National Biosecurity Plan for the onion industry and development of a biosecurity manual for onion producers (VN15001)* is a strategic levy investment under the Hort Innovation Onion Fund. It is funded by Hort Innovation using the onion research and development levy and contributions from the Australian Government and is being carried out by Plant Health Australia (PHA) in close consultation with Onions Australia.

Minor use permits for the onion industry

Onion industry minor use program (VN16000)
Research Provider: Hort Innovation

PROJECT LEAD: JODIE PEDRANA

Through the *Onion industry minor use program* (VN16000) in the Hort Innovation Onion Fund, levy funds and Australian government contributions are used to renew and apply for new minor use permits for the industry.

These submissions are prepared and submitted to the Australian Pesticides and Veterinary Medicines Authority (APVMA). This work is also complemented by research into new chemical controls for pests and diseases.

During the 2018/19 financial year, Hort Innovation prepared applications for the renewal of PER86865 as well as an emergency permit for PER87914. Both applications were successful following submission to the APVMA.

Details for these and all other current minor use permits can be found in the table on the following page, as at 19 September 2019. Before use, it is recommended that you confirm the details of the permits through the APVMA website at <https://portal.apvma.gov.au/permits>.

Current data generation projects in the onion fund

The multi-industry project *Generation of data for pesticide applications in horticulture crops 2018* (ST17000) is responsible for providing the data needed to support a range of registration and minor use applications across a variety of horticulture crops.

For the onion industry, ST17000's work will support a permit application for MainMan (flonicamid) for the control of thrips including onion thrips and western flower thrips in onions, spring onion and shallots. Meanwhile, the project *Generation of data for pesticide applications in horticulture crops* (ST18001) is producing the data required to support a Syngenta pro-sulfocarb + S-metalachlor herbicide label registration for the control of annual ryegrass.

The work for the onion industry under both projects is funded wholly by grant funding secured by Hort Innovation under the Australian Government's Access to Industry Uses of Agricultural and Veterinary (AgVet) Chemicals program.

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Minor use permit updates are circulated in Hort Innovation's e-newsletter, *Growing Innovation*. Don't yet receive it? Sign up for free at www.horticulture.com.au/sign-up.

Any new or renewed permits will also be searchable, along with all other current permits for the industry, at <https://portal.apvma.gov.au/permits>.

Current permits

Below is a list of minor use permits for the onion industry, current as of 19 September 2019.

PERMIT ID	DESCRIPTION	DATE ISSUED	EXPIRY DATE	PERMIT HOLDER
PER13119 Version 4	Diazinon / Onions / Onion thrips (TAS only)	06-Mar-12	31-July-20	Australian Onion Industry Association (AOIA) C/Hort Innovation
PER14602 Version 4	Boscalid (Filan), Iprodione (Rovral Aquaflo) and Chlorothalonil (Bravo) / Onion seed and onions / Neck rot (<i>Botrytis alli</i>)	24-Jul-14	30-Sep-23	AOIA C/Hort Innovation
PER13698 Version 3	Phosphorous acid / Lettuce (leaf and hydroponic), fennel and bulb (Alliums), vegetables – bulb onion, garlic, leek, shallot, spring onion and tree onion / Downy mildew	01-Oct-12	30-Sep-22	Hort Innovation
PER14773 Version 3	Bentazone-sodium (Basagran) / Onions / Broadleaf weeds	16-Apr-14	31-Jan-23	AOIA C/Hort Innovation
PER80282 Version 2	Alpha-Cypermethrin / Onions / Onion thrips	16-Dec-14	30-Nov-20	AOIA C/Hort Innovation
PER84734 Version 2	Haloxfop (Verdict) / Bulb onions / Storksbill and various weeds	19-Dec-17	31-Dec-24	Hort Innovation
PER84808	Ethofumesate (Tramat) / Bulb onions / Broadleaf and grass weeds as per product label	20-Feb-18	28-Feb-23	AOIA C/Hort Innovation
PER86865	loxynil (South African formulation) / Onions (field grown) / Annual and broadleaf weeds as per Totril selective herbicide label	03-Aug-18	31-Aug-21	Onions Australia C/Hort Innovation
Version 3	loxynil (South African formulation) / Onions (field grown) / Annual and broadleaf weeds as per Totril selective herbicide label	3-Aug-18	31-Aug-21	AOIA C/Hort Innovation
PER80060 Version 3	Dimethenamid-P (Frontier-P Herbicide) / Bulb onions / Nutgrass / Purple nutsedge (suppression only) (WA only)	31-Aug-15	31-Jul-21	Western Australia Vegetable Growers Association
PER81876 Version 3	Abamectin / Vegetable leafminer (suppression only) / Various vegetables including bulb onions	24-Jun-16	30-Apr-24	Hort Innovation
PER87914	Emergency Permit – Use and supply of an unregistered AgVet chemical Bromoxynil (Nufarm Maya Herbicide) Unregistered / Onions / Broadleaf weeds	22-May-19	31-May-21	AOIA

All efforts have been made to provide the most current, complete and accurate information on these permits, however you should always confirm all details on the APVMA website at portal.apvma.gov.au/permits. Details of the conditions of use associated with these permits can also be found on the APVMA site.

Foodservice farm tour puts onions front of mind for Adelaide chefs

Onions foodservice farm tour and education pilot (VN18000)

Research Provider: Straight to the Source

PROJECT LEAD: TAWYNA BAHR

A recent onion paddock to plate tour held at Rathjen Farm educated local foodservice professionals on the production and versatility of onions, building a stronger connection between growers and the foodservice industry.

Through facilitating this important onion farm tour for chefs and hospitality professionals, the project *Onions foodservice farm tour and education pilot (VN18000)* aims to equip the Australian foodservice industry with knowledge around Australian onion production.

Delivered by Straight to the Source, the project is funded by Hort Innovation using the onion levy, with contributions from the Australian Government.

Held in October, the first foodservice farm tour and education pilot event saw 12 influential chefs from the Adelaide region visit Rathjen Farm and also take part in a behind-the-scenes tour of Rivapak in Mannum, South Australia.

Hort Innovation Head of Marketing Elisa King, said the tour was designed to engage foodservice industry influencers by demonstrating the versatility of onions and the industry's paddock to plate philosophy, hopefully contributing to the greater consumption of onions overall.

"It's well documented that food trends start with the foodservice industry, which filter down to the consumer – creating greater demand, consumption and in-home purchases," Ms King said.

From conveying messages around the versatility and variety of onions, to using culinary literacy to showcase new ways of working with them, this project is invaluable in connecting the foodservice industry with local onion production.

"By connecting the foodservice industry with the grower through hands-on, educational initiatives, we're able to effectively demonstrate the paddock to plate journey and showcase the effort it takes to produce an onion.

"It was great to see such a diverse group of highly successful chefs and foodservice influencers, including chefs from the Marion Hotel, Adelaide Convention Centre and Adelaide Oval, engaging with their local onion industry."



Participants included highly successful chefs and foodservice influencers from the Adelaide region

To conclude the tour, the chefs were able to choose ingredients from a display of local produce to cook a dish, with onions as the star ingredient. This exercise gave chefs the freedom to cook anything they desired from a range of fresh ingredients, encouraging innovation while showcasing the versatility of onions in culinary applications.

Ms King said that as onions are a base ingredient in so many dishes these chefs produce, it's essential to connect with them to bring them up to speed on production and the diverse health benefits of using them in cooking.

"We received really positive feedback from the participating chefs, with many saying they left the tour with a greater understanding of the onion supply chain as well as greater confidence in procuring, preparing and cooking with onions," Ms King said.

To watch a video of the foodservice farm held in Mannum, South Australia visit: <https://bit.ly/389Ko5b>



Adelaide Chef, Simon Cunningham, tasting an onion at Rathjen Farm

By connecting the foodservice industry with the grower through hands-on, educational initiatives, we're able to effectively demonstrate the paddock to plate journey and showcase the effort it takes to produce an onion.

TACKLING SOILBORNE DISEASES IN ONION PRODUCTION

Soilborne diseases are a widespread, unseen killer in Australian onion production. Reducing root function, soilborne diseases result in yield loss, poor bulb quality, and the need for increased inputs to achieve acceptable bulb production.

Correct identification and effective management of soilborne diseases can play a pivotal role in combatting the effects of root diseases in onion crops, improving bulb quality and yields.

That's according to South Australian onion grower Jason Daniell, owner of Burdett Harvest, who is implementing change on-farm after attending a recent Soilborne Disease Master Class, funded by Hort Innovation and delivered through the Soil Wealth and Integrated Crop Protection project.

"The onion industry needs to be more aware of soilborne diseases and the management strategies available. To achieve this, you firstly

need to understand and identify the risk you're facing on-farm, and then educate yourself on the management strategies for that particular disease," Mr Daniell said.

Operating since 2005, Mr Daniell grows 35 hectares of Redwing onions per year, producing around 2,500 tonnes of the popular variety. Following planting in September, harvest occurs in mid to late February and onions are supplied to packing houses around the Murray Bridge region.

Mr Daniell said the biggest soilborne disease affecting the Redwing variety grown at Burdett Harvest is pink root.

"Pink root infects the roots of the onion plant, causing them to turn reddish-purple and disintegrate, leaves can turn yellow or brown starting at tips and eventually die, and the bulbs from infected plants are usually undersized," Mr Daniell said.

"We've just finished carrying out our annual PREDICTA® DNA-based soil testing on all 15 irrigation pivot sites on-farm, helping us to understand exactly what we're dealing with and to assist with implementing the correct disease management strategies at each individual pivot site.

"Following the Soilborne Disease Masterclass in September 2018, and



Jason Daniell, owner of Burdett Harvest

ABOUT BURDETT HARVEST:

- Operating since 2005
- Located in Burdett, South Australia
- Grows 35 hectares of Redwing onions and 90 hectares of Certified Seed Potatoes
- Plant onions in September and harvest mid to late February/March
- Cover crops including ryegrass, vetch, forage brassicas and clover on four-year rotation.

SOILBORNE DISEASES IN ONION PRODUCTION:

- Pink root (caused by *Setophoma terrestris* and *Fusarium spp.*)
- Fusarium basal rot (*Fusarium oxysporum* and *F. oxysporum f sp. cepae*)
- Onion stunt (caused by *Rhizoctonia spp.* particularly *R. solani* AG8)
- Nematodes (*Pratylenchus spp.* and *Meloidogyne spp.*).

at the beginning of the broadacre cropping season, we implemented multiple management trials on-farm.

"We're using a range of cover crops, including ryegrass, vetch, forage brassicas and clover on a four-year rotation with onions, with the aim of reducing the incidence of soilborne diseases in the soil.

"Furthermore, we've implemented soil fumigation using Chloropicrin, and a soil biologicals program as well as a control site on one irrigation pivot.

While there are multiple trials occurring on-farm, Mr Daniell is still in the process of identifying the best approach for managing pink root.

"Although we haven't seen any results on farm yet, we've made significant progress in implementing a range of trials and we'll be critiquing these management strategies following results from the PREDICTA® DNA-based soil testing," Mr Daniell said.

"It will take around four years before we determine a definitive approach to the best management of pink root in the environmental conditions present at Burdett Harvest.

"I recognise it's not going to be an easy or quick process. Moving forward, we're committed to researching and trialling alternative soilborne management strategies until we find what works, with the aim to improve the quality and yields of our onions in the future."

Barbara Hall, Senior Research Scientist at the Primary Industries and Regions SA's Research Division, the South Australian Research and Development Institute (SARDI), believes growers often aren't aware of the level of impact soilborne diseases have on onion production, as impacts can be slight and occur gradually, making them unrecognisable.

"Above ground symptoms of root disease can vary from obvious patches of severely stunted onions (e.g. onion stunt) to widespread less noticeable symptoms that nonetheless reduce size and yield of bulbs (e.g. root lesion nematodes, pink root)," Mrs Hall said.

"Understanding the symptoms of soilborne diseases is critical for onion growers as it's often difficult to identify the diseases impacting on production, and if left unrecognised, the impacts can become quite significant.

"Growers should take a whole system approach when managing soilborne diseases as management effectively starts before the crop is planted.

"Firstly, identify the issue you're facing and educate yourself on the best management guidelines for that disease, and start implementing controls early."

Mrs Hall encourages growers to utilise the PREDICTA® DNA-based soil testing service for onions.

"By using the testing service, growers can ensure the strategies to manage soilborne diseases are suitable and effective, it will confirm if they have diseases in their soils and it will define their decision to plant in specific areas."

PREDICTA® DNA-BASED SOIL TESTING SERVICE:

- Developed by researchers from Primary Industries and Regions SA Research Division at SARDI, the test assesses the risk of *Rhizoctonia solani* AG8, which causes onion stunt, as well as the risks for root lesion and root knot nematode.
- Currently the PREDICTA® tests for onion pathogens are offered through SARDI as a customised test.

Please contact Michael Rettke from SARDI on **0401 122 124** or michael.rettke@sa.gov.au.



To hear more from Jason Daniell and Barbara Hall on soilborne disease management in onion production, watch this video <https://bit.ly/2rXhUuY>

To access a best practice guide for managing onion stunt, please visit <https://bit.ly/2qqbYdD>

Pre-plant test identifies risk of soilborne diseases



Government of South Australia
Primary Industries and Regions SA



A pre-plant soil pathogen DNA testing service enabling onion growers to identify the risk of onion stunt and root lesion nematode is now available.

This testing service has become available following the completion of the project *Managing soilborne diseases of onions* (VN13003) in 2017, a strategic levy investment under the Hort Innovation Onion Fund, that focused on improving the management of onion stunt and developed the knowledge required to deliver this testing service.

Most decisions to reduce the impact of soilborne diseases need to be made and implemented before crops are planted. This testing service now allows growers to identify the risk of onion stunt and root lesion nematode before planting, enabling them to implement appropriate management strategies to reduce losses. Tests can be used to assist with decisions

such as scheduling of paddocks and implementation of agronomic and chemical control options.

PREDICTA® tests should be used as part of the suite of soilborne disease management strategies available to onion growers. Growers should take a whole system approach when managing soilborne diseases, as management effectively starts in the previous crops. To access a best practice guide for managing onion stunt, please visit: <https://bit.ly/2RqhwQg>

PREDICTA® tests for onion pathogens, developed by researchers from the Primary Industries and Regions SA's Research Division, the South Australian Research and Development Institute (SARDI), are offered through SARDI as a customised test.

Using pathogen DNA soil tests for *Rhizoctonia solani* AG8 and *Pratylenchus neglectus* previously developed for the grains industry, pre-plant soil sampling strategies were evaluated and refined for use in onion paddocks.

Growers' paddocks were measured prior to planting, during crop growth and at harvest to determine if there is a good correlation between the pre-plant levels of the pathogen in the soil and the risk of a disease occurring.

By providing an understanding of the risk of disease prior to planting, this tool will mean that the strategies growers put in place to manage these specific diseases are measured, suitable and effective. It will allow growers to effectively evaluate their management strategies over time.

These tests are provided through accredited agronomists. For more information on the recently developed PREDICTA® soil testing service for onions.

Please contact Michael Rettke from SARDI on **0401 122 124** or michael.rettke@sa.gov.au.

Additional information is also available from: <https://bit.ly/387wn8e>



Onion white rot management resources available

Development of an onion white rot forecast model for Tasmania (VN14001)
Research Provider: Tasmanian Institute of Agriculture

PROJECT LEAD: DR SUZIE JONES

Onion white rot, caused by *Sclerotium cepivorum*, is a highly destructive fungal disease of commercial onion crops. The prevalence of the disease is widespread throughout Tasmania's coastal production areas. It is important that growers understand the management practices needed to tackle the disease.

The fungus can survive in the soil for 20 years or more in the form of sclerotia, which are small seed-like structures that act as inoculum for future disease outbreaks. Sclerotia form on infected bulbs and disperse into the soil where they remain after the onions have been harvested. Once sclerotia are present in the soil, there is always a risk that the disease can infect subsequent crops. This limits options for growers to avoid the pathogen with crop rotations.

The recently completed project, *Development of an onion white rot forecast model for Tasmania (VN14001)* aimed to provide growers with a better understanding of the disease and its control.

Led by Professor Calum Wilson and Dr Suzie Jones at the Tasmanian Institute of Agriculture (TIA), the project collected valuable data from the state's commercial onion fields and outdoor planter bag trials for two years.

Data were collected for key factors that influence onion white rot development and subsequent bulb infection, most notably planting times, soil temperatures and moisture levels, root biomass and timing of infection.

Whilst variability in disease incidence across seasons didn't allow for the development of a fully operational model, the project identified major risk factors that will benefit Tasmanian onion growers.

Discussions of potential management strategies for onion white rot are ongoing between the Tasmanian onion industry, researchers at the TIA and white rot expert from Oregon State University in the USA, Dr Fred Crowe.

The project results showed that:

- Disease risk was lowest in the late plantings. The incidence of infected bulbs in the bag trials was highest when onions were planted from May until early August and lowest when onions were planted in September.
- Disease risk was related to soil temperature. In controlled temperature experiments, the greatest number of symptomatic plants were observed for the 20/15 °C and 17/12 °C temperature treatments.
- The project results indicated that the white rot fungus may be killed in the top 50 mm of soil



Dr Suzie Jones

during hot weather conditions and sustained high temperatures, but survive at lower, cooler soil depths. This means that the fungus can remain active in the deeper soil and progress up towards the bulb if temperatures near the soil surface decrease to within the optimal range.

- The optimal depth for inoculum (sclerotia) in soil appeared to be 100 mm for promotion of disease initiation and incidence of bulb infection. Both timing of disease initiation and incidence declined at shallower and deeper depths.
- Fields with a known history of disease and considered to be at risk of developing onion white rot could be planted later to minimise the risk. This recommendation does not negate the need for fungicide control and applications are likely to still be needed for effective disease control.
- Despite the potential benefits of elevated soil temperatures in reducing inoculum near the soil surface, the pathogen may survive in the cooler lower soil depths and progress up towards the bulb if the soil temperatures decrease towards the end of the season and before harvest. A late fungicide application may be effective in targeting mycelium close to the base plate and preventing infection reaching the bulbs in this scenario. Any adjustments to timing of application would need to be compliant with fungicide registration guidelines.

The project made the following management recommendations for growers:

- Fungicide applications should generally target the top 100 mm of soil. In the project's studies, this is where more than 80 per cent of onion roots were found and disease risk was highest. The timing of fungicide applications targeting this soil depth is likely to vary with planting windows.

Following the completion of the project, a number of practical resources have been developed for growers looking to better understand white rot management. These include:

- A fact sheet 'Managing onion white rot in Tasmania' available here <https://bit.ly/33UdSAS>
- The article 'Development of an onion white rot forecast model for Tasmania', produced during the project's trial stage, available here <https://bit.ly/2sPOaRg>
- A video with researcher Dr Suzie Jones from the Tasmanian Institute of Agriculture talking about the project and its findings, available here <https://bit.ly/2rVYtTs>
- Full details can be found in the project's final research report, which can be downloaded here <https://bit.ly/2s3nwnj>

TASMANIAN ONION EXPORTS PICK UP WITH PASE

In 2018, The Tasmanian Fruit & Vegetable Export Facilitation Group (the Group) received grant funding from the Department of Agriculture under their Programme Assisting Small Exporters (PASE) scheme, with the aim of understanding why Tasmania's exports of onions had markedly decreased.

THE GROUP DELIVERS A RANGE OF PROJECTS FUNDED BY PASE AND HORTICULTURE INNOVATION AUSTRALIA WHICH ARE DESIGNED:

- to raise export awareness and readiness amongst Tasmanian vegetable growers,
- to investigate and develop export market access for a range of value-added Tasmanian fruit and vegetables, and,
- to work collaboratively to reduce food loss and contribute to the Federal government's objective to halve food waste by 2030.

In 2013 exports were at 44,000-mt, dropping to 14,500-mt in 2017. This decrease has been a catalyst for the Group to work collaboratively with exporters and the international markets to rebuild Tasmanian onion exports, particularly in Europe and Indonesia.

After working with onion packers and exporters as well as investigating the causes for the decrease of onion exports again in 2018, the Group's outcomes proved considerable during the 2019 onion export season. All data outlined below is for the period January to June, 2019.

Export Facilitator of the Group, Mr Ian Locke said onion exports to Europe have been decreasing due to a rise in the Australian dollar making prices uncompetitive, coupled with a move by retailers in Europe to rely more strongly on the domestic market, and finally a focus by the Australian horticulture industry on exporting to China and Asian markets, rather than Europe.

However, according to Mr Locke, exports of Tasmanian onions have been on the improve.

"Tasmanian exports to Europe more than doubled from 6,775-mt in 2018 to 15,100-mt in 2019, and exports to Indonesia saw a dramatic increase from 190-mt in 2018 to 830-mt in 2019," Mr Locke said.

"Across all markets, onion exports from Tasmania rose from 12,700-mt in 2018 to 22,200-mt in 2019 and importantly, the value of these exports increased in unit price and value to Tasmania."

The Group took a number of steps to achieve this result.

"Firstly, we visited the European and Indonesian markets to raise awareness of Tasmanian onions and to remind them that Tasmania has been a long-term supplier, filling an important gap of counter-seasonal supply of onions to those markets," Mr Locke said.

"Additionally, we have been regularly monitoring the European market, including supply and demand and climatic factors, and evaluating the impact these factors were having on onions being grown in Europe. This provided us with up to date knowledge on the shortages of supply and export opportunity in the European market."

In 2018, Tasmanian onion exports were worth about \$9 million, and in 2019 that value had increased two-fold to more than \$18.5 million. Onions are Tasmania's major vegetable export and Tasmania is Australia's leading exporter.

Mr Locke said as well as the Tasmanian outcomes, Australian onion exports increased from 21,500-mt in 2018 to almost double to 42,350-mt in 2019. The value from these exports rose from \$19.2 million in 2018 to \$35.2 million in 2019.

"In the big picture, the top four vegetable exports of carrots, onions, potatoes and asparagus contributed to two-thirds of the country's vegetable exports worth \$312 million in 2018-19," Mr Locke said.

"On a state level, data for half year ending June 2019 shows that Tasmania leads with 66 per cent growth and accounted for 52 per cent of the national onion exports.

"South Australia and Western Australia posted gains of 28 and 53 per cent respectively."

Exporting onions provides advantages as it brings money from outside the domestic economy. Additionally, if export markets can be increased, there is less produce in the domestic market, less oversupply and a better price for those who supply the Australian market.

Unfortunately, in 2019, Australian exports of onions to Japan fell by 30 per cent, and exports to the Middle East fell by 25 per cent.

"In the past, these markets have been strong destinations for onion exports and they should be reviewed in a similar manner to the PASE project undertaken by the Group for onion exports to Europe and Indonesia.



Ian Locke meeting with Prime Minister Scott Morrison and Braddon MP, Gavin Pearce
Source: Department of Prime Minister

"It's important that we don't see a further reduction in exports to these two markets, something the Group will be focusing on in the next 12 months," Mr Locke said.

During what became known as the Onion Rebuilding Project, the Group worked with Tasmanian exporters of onion and carrots to secure an ACCC exemption for collective bargaining for international sea freight. The exemption is in force until the end of 2028.

In May this year, The Group's Export Facilitator met with Prime Minister Morrison to provide an update of the Group's activities during his visit to the northwest of Tasmania which is the powerhouse of the State's export onion industry.



FOR FURTHER INFORMATION CONTACT:

Ian Locke

Export Facilitator

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Enhanced National Bee Pest Surveillance Program (MT16005)

Project: Enhanced National Bee Pest Surveillance Program (MT16005)
Research Provider: Plant Health Australia (PHA)

PROJECT LEAD: SHARYN TAYLOR

REPORT AUTHOR: JENNY SHANKS

DURING THE LAST 12 MONTHS OF THE PROGRAM:

16,000
 RECORDS OF SURVEILLANCE DATA WERE PROVIDED

152

SENTINEL HIVES OPERATED ACROSS

32

OF THE RISKIEST PORTS

0

DETECTIONS OF INTERNAL TRACHEAL MITE

Australia is free of many serious bee pests and pest bees that have contributed to declines in bee populations overseas. Declining bee populations can adversely impact the production of honey, bee products, and the delivery of pollination services. An estimated 65% of agricultural production involves pollination from honey bees, including the onion industry, where onion seed is 100% dependent on pollination.

The National Bee Pest Surveillance Program (NBPS) is an early warning system to detect new incursions of a wide range of pests. The program conducts surveillance using a range of methods at ports throughout Australia, considered to be the most likely entry points for bee pests and pest bees. The program conducts surveillance activities for 19 pests of concern to the Australian honey bee industry. PHA has been coordinating State and Territory Government bee surveillance activities at seaports and airports since 2012.

Over the last 12 months the program has:

- Provided more than 16,000 records of surveillance data from all states and territories. Apart from 'present' reports for Braula fly, bumble bee and Asian honey bee in their known locations (Tasmania and Cairns), all other surveillance reports were negative for exotic bee pests.
- Captured 44 swarms at seaports and airports which were identified and inspected for hitchhiking exotic pests. Of the 44 swarms, 18 were Asian honey bee from within established populations in Cairns. The remaining swarms captured were European honey bee. All swarms were absent for all other exotic pests.
- Operated 152 sentinel hives (hives of European honey bees of a known health status) across 32 of the riskiest ports of entry. These hives were inspected for external bee pests (Varroa mite, Tropilaelaps mites, large African hive beetle, small hive beetle and Braula fly). No detections were made.



- Collected samples of adult bees from these sentinel hives which were sent to diagnostic laboratories for tracheal dissection for internal tracheal mite. No detections were made.
- Supported CSIRO's continued analysis of samples of bees from sentinel hives for the presence of exotic bee viruses. No viruses were detected.
- Conducted a trial of Asian hornet traps and lures which concluded with no exotic hornets detected.
- Provided recommendations on improving catchbox design and placement for capture of Asian honey bees following a comprehensive review of research on Asian honey bee behaviour.
- Created maps of floral sweep netting at high-risk ports in most jurisdictions to improve efficiency of sweep netting for exotic pest bees including red dwarf honey bee, the giant honey bee, exotic and established strains of Asian honey bee and bumble bees, as well as European honey bee. Using nets to collect and identify foraging bees allows officers to locate any exotic bee swarms.

The Enhanced National Bee Pest Surveillance Program 2016-2021 (MT16005) is funded by \$2.5 million from Hort Innovation's Hort Frontiers Pollination Fund, part of the Hort Frontiers strategic partnership initiative. This consists of research and development levies from nine pollination dependent industries, \$500,000 from the Australian Honey Bee Industry Council, \$100,000 from Grain Producers Australia, and matched contributions from the Australian Government.

Through the Agricultural Competitiveness White Paper, the Australian Government has provided a further \$587,000 to enhance the program.

In-kind contributions for the implementation of the program are also provided through each state and territory's Department of Agriculture and volunteer beekeepers. At a national level, Plant Health Australia coordinates and administers the program.

National Bee
Pest Surveillance
PROGRAM



**Australian Honey Bee
INDUSTRY COUNCIL**



frontiers
Strategic partnership initiative

**POLLINATION
FUND**



GRAIN PRODUCERS AUSTRALIA



Australian Government
Department of Agriculture
and Water Resources



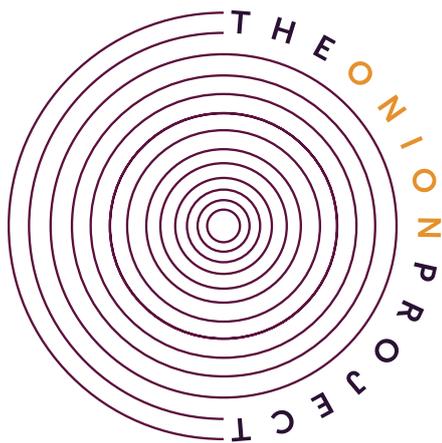
**Plant Health
AUSTRALIA**

Keeping up to date with the latest onion R&D

HAVE YOU REGISTERED FOR THE ONION PROJECT YET?

Australian Onion industry communications program (VN18003)

Research Providers: Cox Inall Communications and RM Consulting Group



What is The Onion Project?

The Onion Project (VN18003) is the onion industry's levy funded communications program. The project commenced in mid-2019 and will conclude in 2022.

The project will share exciting developments in the industry, new marketing initiatives and updates and outcomes of R&D projects funded by the onion levy and Australian Government contributions.

What will the project cover?

A broad suite of regular communication activities will be delivered, including; quarterly electronic newsletters, videos, podcasts, case studies, an annual magazine, disease poster as well as events such as field walks.

We are seeking your input on priority topics for the communications program. A number of topics have already been identified including:

- Disease management and crop protection
- Soil management
- Weed management

- Crop nutrition management
- Market data e.g. export markets
- Managing difficult growing conditions and crop stress

How to get involved

As a stakeholder in the onion industry, we want to hear from you. We encourage you to get in touch and let us know what areas are of interest to you and what you'd like more information on here: <https://www.surveymonkey.com/r/OnionComms>

If you're not receiving The Onion Project communications, please contact Theresa Chapman (theresac@rmcg.com.au or **0413 039 733**) so you are on the distribution list for newsletters and to hear about farm walks in your region.

Please also consider letting others know about the project and encourage them to be involved.

Don't forget that if you have any suggestions for research or marketing initiatives, ideas can be submitted at any time via Hort Innovation's Concept Proposal Form accessed here: <http://www.horticulture.com.au/innovation-concept-pipeline>

**THE ONION PROJECT IS BEING
DELIVERED BY COX INALL
COMMUNICATIONS AND RM
CONSULTING GROUP (RMCG).**

In this edition of the Onion Industry Annual Magazine you will find your own copy of the 2019 onion disease identification poster.



The poster features eight soilborne diseases that have recently been identified as having a high risk in Australian onion production.

The poster includes early symptoms for each disease, common factors for why each disease occurs and common factors for how to manage each disease. It also provides growers with a timeline for when early symptoms of each disease may be recognised, and general comments around disease management.

This poster provides a timely reminder of the importance of confirming the presence of soilborne diseases before planting. Soil sampling and testing services for onion pathogens are now available through the South Australian Research & Development Institute. If you require more information on diseases, it is best to consult your local agronomist.



Annual magazine feedback

If you have any feedback on this annual publication, we'd like to hear from you. We'll use any feedback we receive to inform future editions of the magazine.

To provide any feedback on the magazine, please contact Jacqui Grellman
Jacqui.grellman@coxinnall.com.au
 or 0408 069 388

Managing soil health in onions

According to Applied Horticultural Research agronomist, Marc Hinderager, taking steps to adequately manage soil health prior to planting onion crops will deliver positive results in the paddock, in the storage shed, and in the bank account.

Mr Hinderager said that as onions are heavy feeders and thrive on mycorrhizal fungi, soil health should be considered an important factor in overall crop management.

"Onions are shallow seeded and relatively shallow rooted for a significant part of their lifecycle, making moist and fertile topsoil critical to establishment, growth and yield," he said.

"Maximising soil health should certainly be a focus in any onion grower's management decisions."

While doing agricultural consulting in the Central New South Wales region, Mr Hinderager monitored onion crops mostly in paddocks that had never seen allium crops; paddocks with a long history of broadacre farming and relatively low soilborne disease pressure.

"With soil disease not being a major concern, I was able to focus more on weed control and crop nutrition," he said.

"Using ryegrass as a cover crop, and sometimes applying low rates of compost helped improve water infiltration rates, increased water holding capacity in the topsoil, and made soils more fungi friendly."

Soil health practices that encourage mycorrhizae will help onions extract soil nutrients.

"Mother nature can be pretty cruel at times, and that's when soil health practices like cover crops and compost pay the biggest dividends," Mr Hinderager said.

"Single Super and Rustica (N-P-K-S Ca) fertilisers were usually applied pre-plant and early in the growing season, then Calcium Nitrate top dressed as needed.

"It's not always easy to understand and estimate mineralisation rates through winter, spring, and summer conditions. But with a few soil tests, we usually had it right by the mid bulbing stage, allowing nitrogen to run out towards maturity.

"All the subtleties of soil health become big factors in how the crop grows, but even more important is quality and storability."

Although disease and weed control in onions is often a challenge, Mr Hinderager recommends avoiding fumigants of any kind just ahead of planting onions.

"The take home message is to keep growing, applying and retaining organic matter and reduce tillage where possible. Strive for a healthy, functioning soil," he said.



Onions a consistent performer for Aussie households

Data collected by Nielsen and Hort Innovation's Harvest to Home (VG16069) online dashboard is providing valuable insights into the onion industry's performance when it comes to the purchasing habits of Australian households.

The dashboard gathers data from Nielsen Homescan®, a continuous panel of 10,000 households who record all take-home packed and fresh grocery from all retail outlets. The sample is demographically and geographically representative of the Australian household population.

A view of the market

The latest data snapshot reveals that Onions' rise in performance recorded in June 2019 has steadily continued, with dollar and volume sales both increasing over the past 52 weeks, ending 5 October 2019. Over the period there was a slight increase of 3.9% in terms of sales (\$) with a slight rise of 3.3% in terms of volume, flying in the face of total vegetable volume, which was down by -0.6% over the same period.

The dashboard recorded an increase in average spend from \$17.51 in the previous year to \$18.01 then a marginal rise in average weight purchased from 9.2kg to 9.4kg. From a sales view, New South Wales outgrew all states at 6.6%, with Queensland growing by 14.3% in terms of volume.

Major supermarkets, recognised as Coles, Woolworths and Aldi, continue to be the main source of onion sales,

holding the highest dollar share of trade in onions, sitting at 73.2%, also experiencing a rise in dollar sales (3.3%).

The percentage of buying households remained steady, at 91% with the amount purchased per buying occasion remaining unchanged at 0.9kg.

Senior couples remain a key consumer, with 94% of households in this category purchasing onions and spending an average of \$21.93 per year, compared to the average of all shoppers at \$18.01. They are also purchasing more frequently at an average of 11.4 times per year compared to 9.9 times as the average of buying occasions for all shoppers.

Awareness of onions compared to other vegetables remains above average, with shoppers recognising value for money as well as having a good understanding of the different varieties.

**HARVEST
TO HOME**

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Pork Belly and Roasted Onion Purée

Serves 4

A sweet and smooth roasted onion purée pairs perfectly with the richness of the pork belly.

INGREDIENTS:

- 800g piece of good quality pork belly, bones removed and skin scored (ask your butcher to do this)
- 1 tsp of fennel seeds ground
- 4 brown onions
- 1 tbs of butter.
- Olive oil
- Salt and pepper for seasoning
- Broccolini and kinder potatoes, to serve

METHOD:

1. Start the day before by placing the pork on a plate, uncovered, and skin side up on the bottom shelf of the fridge. The dry environment of the fridge will dry the pork skin to help develop a great, crispy crackling.
2. Preheat the oven to 250c.
3. Take the pork from the fridge and allow it to come to room temperature. Rub olive oil on the meat side, season with salt and pepper and the ground fennel seeds.
4. Place the meat on rack in a baking tray meat side down. Rub olive oil over the skin and season with salt.
5. Place pork in the oven and roast for 30 mins. You should see the crackling form in this time.
6. After 30 mins turn the oven down to 150c and roast for a further 2 hours.
7. Once the oven is 150c place the onions with skin on a baking tray and put them in the oven with the pork.
8. Roast the onions for 2 hours. Once cooked, remove from the oven and allow to cool.
9. Using a pair of kitchen scissors cut the onions open. The inside of the onions will be very soft and easily scooped out with a spoon.
10. Put the onion flesh into a blender and add tablespoon of butter. Blend until smooth and season to taste. This purée can be kept warm to the side.
11. Once the pork is cooked remove from the oven and rest for 15 mins. Do not cover with foil as steam will develop and soften the crispy skin.
12. Slice the pork into thick slices. Cut the pork skin side down to make this easier.
13. Serve on a plate with a dollop of onion purée and some steamed broccolini and potatoes.



THE ONION PROJECT

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