

Final Report

Facilitating the development of the Australian Strawberry Industry – temperate regional delivery

Project leader:

Dr Angela Atkinson

Delivery partner:

Victorian Strawberry Industry Development Committee (VSIDC)

Project code:

BS15004

Project:

Facilitating the development of the Australian Strawberry Industry – temperate regional delivery BS15004

Disclaimer:

Horticulture Innovation Australia Limited (Hort Innovation) makes no representations and expressly disclaims all warranties (to the extent permitted by law) about the accuracy, completeness, or currency of information in this Final Report.

Users of this Final Report should take independent action to confirm any information in this Final Report before relying on that information in any way.

Reliance on any information provided by Hort Innovation is entirely at your own risk. Hort Innovation is not responsible for, and will not be liable for, any loss, damage, claim, expense, cost (including legal costs) or other liability arising in any way (including from Hort Innovation or any other person's negligence or otherwise) from your use or non-use of the Final Report or from reliance on information contained in the Final Report or that Hort Innovation provides to you by any other means.

Funding statement:

This project has been funded by Hort Innovation, using the Strawberry research and development levy and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

Publishing details:

ISBN 978 0 7341 4649 6

Published and distributed by: Hort Innovation

Level 7

141 Walker Street

North Sydney NSW 2060

Telephone: (02) 8295 2300

www.horticulture.com.au

© Copyright 2020 Horticulture Innovation Australia

Content

Content	3
Summary	4
Keywords	5
Introduction	5
Methodology	5
Outputs ! Bookmark not defined.	Error
Outcomes	17
Monitoring and evaluation	18
Recommendations	21
Intellectual property, commercialisation and confidentiality	22
Appendices ! Bookmark not defined.	Error

Summary

The strawberry industry strategic investment plan (2012-2017) identified industry adoption of research and development outcomes as a critical issue, in part due to a lack of effective communication. The identification of R & D needs within the strategic plan provided justification for a nationally focused industry development program, based on grower's need and preferences. In order to facilitate adoption change, it is necessary to understand the knowledge gaps that need addressing, and the context in which the growers operate, rather than simply providing information.

In 2016 an industry development and communication program was introduced, with a national focus geared towards building a profitable and sustainable Australian strawberry industry. The program consisted of three projects:

- *Facilitating the development of the Australian strawberry industry – national oversight and communications* (BS15002)
- *Facilitating the development of the Australian strawberry industry – sub-tropical regional delivery* (BS15003)
- *Facilitating the development of the Australian strawberry industry – temperate regional delivery* (BS15004)

BS15002 provided oversight of the three projects and produced and maintained key industry communication channels, including:

- The website for industry news and R&D communications (strawberryinnovation.com)
- The quarterly national industry newsletter *Simply Red*
- The monthly national e-newsletter *The Punnet*

Projects BS15003 and BS15004 provided regional delivery of on-the-ground activities including workshops, farm walks, field days, study tours, case studies, grower groups and industry analysis.

The objective of this project (BS15004) was to enhance the adoption of research and development outcomes by growers in the temperate growing regions of Australia, including Victoria, South Australia, Tasmania and the southern growing regions of Western Australia. This represents approximately half of the industry in terms of production.

Building and maintaining industry partnerships and networks and delivering regionally specific industry development activities in the temperate regions has been key to achieving this objective.

Throughout this project, the temperate region Industry Development Officer (IDO), Angela Atkinson, has delivered a wide variety of activities geared toward improving the skills and knowledge of temperate region growers and supporting practice change. These include:

- Needs analysis
- Development of regional demonstration sites/case studies
- Establishment of grower's groups
- Industry analysis – runner data collection and collation
- Planning and delivering workshops
- Participation in and coordination of field walks/field days
- Organization of regional study tours
- Industry networking
- Contribution to production of communication material

These activities have built capacity of strawberry producers in temperate growing regions of Australia, supporting improvements in business practices through increasing awareness of best practice and R&D outcomes.

The investment in the three coordinated projects as part of a coordinated national industry

development program has enhanced industry collaboration and communication within the Australian strawberry industry and with other supply chain participants.

Keywords

Strawberries; Strawberry Industry; Industry Development; IDO; communication; extension; capacity building.

Introduction

Prior to this project, the Victorian Strawberry Industry Development Committee (VSIDC) had delivered BS12016 - Facilitating the development of the Victorian strawberry industry (2014-2016), and had co-funded and managed Victorian industry development since 2000. Industry development projects have not previously been delivered in the temperate regions of South Australia and Tasmania. Growers in Western Australia have previously funded a part-time Industry Development Officer.

The strategic investment plan for the strawberry industry (2012-2017) identified the need to develop a more cohesive, and better-informed, national industry. In 2016, Hort Innovation introduced a national communication and extension program, consisting of BS15002 - Facilitating the development of the Australian strawberry industry, providing national co-ordination and communications, and two regional delivery projects, BS15003 - Facilitating the development of the Australian strawberry industry - sub-tropical delivery and BS15004 - Facilitating the development of the Australian strawberry industry - temperate delivery. The research providers for the national program included RM Consulting Group (BS15002), the Queensland Strawberry Industry Promotions Council (QSIPC) (BS15003) and the Victorian Strawberry Industry Development Committee (VSIDC) (BS15004). This program provided national oversight and a coordinated communications plan, combined with targeted regional delivery of knowledge transfer and extension activities in the temperate and sub-tropical growing regions.

This coordinated national approach to industry development has led to better communication between the major growing regions of Australia enabling a more cohesive national industry, and has facilitated knowledge transfer and adoption of best practice and innovation across the industry.

Methodology

Although BS15004 was contracted in April 2016, the Industry Development Officer, Dr Angela Atkinson, was not engaged until October 2016. Prior to October, RMCG conducted a needs analysis in the temperate production regions to inform the development of the BS15002 program plan. Combined with feedback from Victorian growers after engagement of the IDO, this was used to develop a regional delivery workplan for BS15004.

A program reference group (PRG) was established to provide guidance for all three projects within the national program with the first meeting held in early 2016. The PRG brings together key people with expertise and experience in the strawberry industry, including growers and industry advisors. The scope of the PRG was to provide input into planning and implementation of the project, including:

- Strategic direction for the projects
- Ensuring that the projects meet the needs of the strawberry industry; this includes growers, runner growers, advisors and extension providers and other stakeholders
- Making sure that sound science is used
- Ensuring the projects stay focussed on required outcomes throughout the life of the projects.

The release of the new strawberry Strategic Investment Plan in 2017 prompted a revision of the Year 2 workplan to align with the new industry priorities (see Appendix 1 - Revised Annual Workplan Year 2).

Prior to developing the workplan for Year 3 of the project, feedback was sought from growers in the major growing regions, and members of the Program Reference Group (PRG) on industry priorities for the last year of the project (see Appendix 2 - Annual Workplan Year 3).

The annual workplans were 'live' documents, in order to respond to changing needs within the industry, but with the main objectives based on the strategy outcomes of the Strategic Investment Plan (2017-2022).

Activities to address these outcomes are as follows:

SIP Strategy 1 – By 2021, per capita domestic consumption of fresh Australian strawberries will increase by 10%, underpinned by consistent supply of premium quality fruit that matches consumer desires.

Activities:

- Prepare regular updates on national issues, runner production, variety trials and industry profiles.

SIP Strategy 2 – By 2021, increase exports of Australian strawberries from 4% to at least 8% of national production by volume, in selected markets with a capacity and willingness to pay a premium for quality fruit.

Activities:

- Facilitate learning from leading growers through 'stories of success'
- Conduct networking events, regional tours and e-learning.

SIP Strategy 3 – By 2012, the industry will increase farm productivity (marketable yield per hectare) by an average 10%.

Activities:

- Develop and maintain online resource (website) providing information on R&D outcomes.
- Develop information products on innovation and best practice within the strawberry industry
- Prepare regular updates on national issues, runner production, variety trials and industry profiles.
- Facilitate learning from leading growers through stories of success.
- Develop and deliver online resources such as webinars or videos.
- Conduct workshops and field days to increase understanding of new practices and regulatory requirements.
- Conduct networking events and regional tours.
- Establish and facilitate grower groups to encourage learning and practice change.
- Facilitate a community of practice to share ideas, lead change and provide feedback on the efficacy of the program.

SIP Strategy 4 – By 2021, at least 90% of national production and 90% of growers and other firms involved in the strawberry value chain will be directly engaged with and value national industry services.

Activities:

- Prepare regular updates on national issues, runner production, variety trials and industry profiles.
- Undertake industry analysis to enable better planning and development of the Australian strawberry industry.

Outputs

Outputs for this project were developed in conjunction with the national oversight and communications project (BS15002) and the sub-tropical regional delivery project (BS15003), with input from the Project Reference Group.

Activities

2016 (3rd October to 31st December 2016)

The IDO commenced on 3rd October 2016 as part of the national communication and extension program. Initial activities included meeting growers and other stakeholders in the temperate regions, and visiting growers in Victoria.

- **VSGA AGM and farm walk 29 September**
Opportunity to meet Victorian growers. Approximately 40 growers in attendance, plus industry associates.
- **Wandin Silvan Field Day 15 October 2016**
Networking with growers and industry
- **VSIDC Ladies Dinner 26 October 2016**
Guest speaker at dinner, addressing the role of women in horticulture and plant science, and future directions for the Victorian strawberry industry.
 - ❖ Attendees 80 women from industry.
- **Wandin Research Station Farm Walk 25 November 2016**
Coordinated farm walk in conjunction with National Breeding Program staff.
 - ❖ Attendees 16 growers.
- **Victorian Strawberry Industry Certification Authority AGM 29 November 2016**
Networking with Victorian runner growers and research staff.
 - ❖ Attendees 40.

2017

- **VSIDC Ladies Dinner 23 March 2017**
Coordinated, promoted and facilitated women in industry networking event attended by 80 guests. Guest speaker Karen Thomas (Port Phillip and Westernport Catchment Management Authority) on Native Vegetation Insectariums to support Integrated Pest Management.
 - ❖ Attendees 80
- **Victorian Strawberry Forum 4-5 May 2017**
Coordinated, promoted and facilitated a two-day forum for growers and associates consisting of a series of presentations and farm walks focusing on biosecurity, integrated pest management, disease management, best practice, protected cropping and the national breeding program. A networking dinner was held on the first day with guest speaker, Nicky Mann (Nuffield Scholar 2014 - Berry production in greenhouses and hydroponics). The first day included a farm walk at Strawberry Springs, Millgrove, to showcase best practice in soil and water management and IPM, and the second day included a farm walk at the Wandin Research Station to showcase the national breeding program. The forum was also attended by the sub-tropical IDO and six Queensland growers.

- ❖ Attendees Day 1 - 49
- ❖ Attendees Day 2 - 37
- ❖ Attendees networking dinner - 48
- ❖ Presentations <http://strawberryinnovation.com/resources>

For detailed program see Appendix 3.

- **Fruit Growers Tasmania Conference 25-26 May 2017 and visits to Tasmanian growers**
Networking opportunity with Tasmanian growers, researchers and industry associates. Learnings from the conference communicated to wider industry through Simply Red.
- **VSGA Strawberry Ball and Awards night 26 May 2017.**
Assisted in coordinating and promoting the annual networking event, which includes Industry Awards recognizing the contributions of growers and associates.
 - ❖ Attendees 200+, divided equally between growers and industry associates.
- **Fertigation/Hydroponics workshop 30 May 2017**
Coordinated, promoted and facilitated workshop presented by Marcus van Heijst (PRIVA) on Transitioning from soil to substrates.
 - ❖ Attendees 22
 - ❖ Presentation at <http://strawberryinnovation.com/production/2017/7/13/transitioning-from-soil-to-growing-media-part-ii-principles-of-irrigation-fertigation>
- **South Australian Strawberry Growers AGM and grower visits 19 September 2017**
- **Hydroponic Farmers Federation Grower Meeting and Farm Walk 4 October 2017**
Assisted with planning farm walk at Sunnyridge Strawberry farm - irrigation and nutrient management in protected cropping - video content on Strawberry Innovation website.
 - ❖ 10 Victorian strawberry growers attended
- **VSGA AGM and Farm Walk 6 October 2017**
Coordinated speakers for AGM including Bronwyn Koll (Yarra Valley QFF Regional Coordinator) and Dr Scott Mattner (VSICA).
 - ❖ Attendees approx. 80
- **Wandin Silvan Field Days 13-14 October 2017**
Presentation on adoption of IPM and best practice by the strawberry industry, targeted at consumers and community.

2018

- **Qld Fruit Fly webinar – 1st February 2018**
Promotion of webinar to temperate region growers and industry. Presenters included Dan Papacek (Bugs for Bugs), Paul Jones (Bugs for Bugs), Brett Jackson (Biosecurity Qld)
- **BerryQuest International 2018 – 12th to 15th February 2018 – Launceston, Tasmania**

The temperate IDO was responsible for coordination and facilitation of this event, in conjunction with the sub-tropical IDO and members of the blueberry and Rubus industries. 417 delegates, from Australia and overseas, attended the two-day conference and farm tours, with speakers from US, Europe, NZ and Australia presenting on a broad range of topics such as breeding, innovative production systems, biosecurity, export, marketing and pest and disease control. The conference offered a unique networking experience for growers, researchers and the wider industry and growers from all production areas of Australia attended as delegates.



A feedback survey was conducted online after the event– 99% of delegates wanted another BQ, 70% wanted it in 2 years, 91% were satisfied with program/speakers, 85% were satisfied with the farm tours (24% of delegates responded).

- ❖ 417 delegates from Australia and overseas.
- ❖ Refer to Appendix 4 for the conference handbook with full program details.

- **VSIDC ladies dinner 11 April 2018. Speaker Rachel Mackenzie, Growcom**

Coordinated, promoted and facilitated annual networking event for women in industry. Guest speaker Rachel Mackenzie (Growcom).

- ❖ Attended by 70 guests.

- **Workplace Essentials & Hort Code of Conduct Workshop 12 April 2018**

Coordinated, promoted and facilitated workshop featuring Donna Mogg (DLM Consulting) presenting a practical Workplace essentials session and Rachel Mackenzie (Growcom) on the Horticulture Code of Conduct and Fair Farms Initiative.

- ❖ Attended by 22 growers.

- **Workshop - Getting the dirt on soils - 16 May 2018**

Coordinated, promoted and facilitated workshop focused on soil health and management presented by Tony Bundock (Genesis Horticultural Solutions). Tony was engaged to present a series of technical workshops to build knowledge, particularly for next gen growers.

- ❖ Attended by 10 growers.

- **Workshop - Plant nutrition de-mystified - 23 May 2018**

Coordinated, promoted and facilitated workshop on plant nutrition presented by Tony Bundock (Genesis Horticultural Solutions).

- ❖ Attended by 8 growers.

- **Regional Charcoal Rot workshops - 7-11 May, 4, 8 and 22 June 2018**

Coordinated and promoted 8 workshops in different regions in Victoria in collaboration with researchers from the Victorian Strawberry Certification Authority (VSICA) to extend Charcoal Rot project outcomes.

- ❖ Total of 50 growers attended the workshops.

- **Fruit Growers Tasmania Conference 23-25 May 2018**

Networking opportunity with biosecurity researchers and personnel, learnings extended to wider audience through Simply Red.

- **VSGA Strawberry Ball and Awards Night 25 May 2018**

Assisted in coordinating and promoting the annual networking event, which includes Industry Awards recognizing the contributions of growers and associates.

 - ❖ Attendees 200+, divided equally between growers and industry associates.
- **Strawberry Forum - 13 June 2018**

Coordinated, promoted and facilitated whole day forum covering a range of topics including the Hort Innovation funded Charcoal Rot project and National Breeding program, biosecurity including Queensland Fruit Fly and other exotic pests, export opportunities, protected cropping and latest international developments in strawberry production.

 - ❖ Attended by 42 growers (incl. 1 grower from South Australia) and agronomists.
 - ❖ See Appendix 5 for detailed program.
- **Farm walk Blue Hills Berries and Cherries - 13 June 2018**

Coordinated and participated in farm walk to showcase custom protected cropping and hydroponics setup, and irrigation/nutrient control system.

 - ❖ Attended by 12 growers, including one from South Australia.
- **Workshop - Irrigation - tips and tricks to make a little go a long way - 23 August 2018**

Coordinated, promoted and facilitated workshop presented by Tony Bundock (Genesis Horticultural Solutions).

 - ❖ Attended by 10 growers.
- **Grower meeting with CSIRO Systems Approach team - 31 August 2018**

Coordinated and facilitated meetings with Dr Kathryn Fiedler from the CSIRO Systems Approach team and growers interested in participating in trials to establish a systems approach protocol for market access.

 - ❖ Meetings with 5 strawberry businesses.
- **VSIDC Strategic Planning Day 19 September 2018**

Coordinated and facilitated planning day in collaboration with the VSIDC to identify R & D priorities for the Victorian industry.

 - ❖ Attended by 35 growers.
- **VSGA AGM and Farm Walk 5 October 2018**

Coordinated speakers for the AGM including Bronwyn Koll (Yarra Valley Queensland Fruit Fly Regional Coordinator, Area Wide Management of QFF) and Dr Scott Mattner (VSICA, Management of Charcoal Rot).

 - ❖ Attended by approx. 100 growers and associates.
- **Visit to Sunnyridge with Hort students 9 October 2018**

Coordinated and participated in visit to Sunnyridge Strawberry Farm by Horticulture students from Holmesglen Institute focusing on IPM, as part of their industry engagement in their training.
- **Wandin Silvan Field Day 12 October 2018**

Networking opportunity with growers and associates, and opportunity to engage with community to showcase best practice in the strawberry industry.
- **Strawberry Charcoal Rot Project Team Meeting – 16th & 17th October 2018 - Stanthorpe**

Participated in the 2018 annual project team meeting of the Hort Innovation funded national charcoal rot project, providing input into project design and extension activities to communicate

outcomes from the project to growers. The meeting was held at Applethorpe Research Station in Stanthorpe.

- **Charcoal Rot Grower Workshop and Food tampering meeting - 17 October 2018**

Participated in workshop and meeting in Applethorpe, after the Project team meeting on 16 & 17 October 2018.

- **Workshop - Hydroponic and/or protected cropping systems: Why and how to transition - which system works for you 23 October 2018**

Coordinated, promoted and facilitated workshop presented by Tony Bundock (Genesis Horticultural Solutions).

- ❖ Attended by 10 growers.

- **National Spotted Wing Drosophila Preparedness Workshop – 29th October 2018 - Melbourne**

Participated as an industry representative in the SWD stakeholder meeting organized by Plant Health Australia and **cesar**, as part of the Hort Innovation funded SWD preparedness project. The objective of the meeting was to gauge the level of preparedness of industry and governments in the event of an incursion, and seek input from industry groups into raising the level of preparedness. The workshop included talks from invited international experts, details of the project from the delivery partners, and updates on pest control practices. Scenarios were used to determine the gaps in knowledge needing to be addressed within the project.

- **Spotted Wing Drosophila Special Seminar – 30th October 2018 – Wandin North**

Assisted Dr Jessica Lye (cesar) to coordinate the seminar for growers in Victoria and promoted seminar to industry. Presenters included Prof. Rufus Isaacs (Michigan State University) and Bethan Shaw (East Malling Research, UK). The seminar was attended by growers, researchers, agronomists and extension professionals.

- ❖ Attendees approx. 30.

- **Webinar – Transitioning from soil to substrate – 1st November 2018.**

Organised speakers for webinar including Marcus van Heijst (PRIVA) and Scott Carter and Gabi Yasinov (Sunnyridge), and promoted to temperate growing region. Recording of webinar was uploaded to the website for those who could not participate.

- ❖ Participants 20.

- **Industry media training - 5 November 2018**

Organised and participated in media training for grower association members in the wake of the tampering incident, in preparation for the start of the temperate growing season. Assisted growers with media responses for TV and radio interviews coinciding with the start of the season. Represented the industry in Channel 9 studio interview to promote the start of the temperate season.

2019 (to 31st August 2019)

- **Webinar - Spotted Wing Drosophila preparedness 11 April 2019**

Support and promotion of webinar to temperate region growers.

- **SITplus meeting 18 April 2019**

Coordinated meeting with Dan Ryan (SITplus) and growers to discuss potential of SIT fly release in the Yarra Valley.

- **Temperate breeding program steering committee meeting 20 May 2019**

Coordinated meeting with Dr Jodi Neal, Hort Innovation and temperate growers to evaluate results of temperate breeding program and provide suggestions for future direction.

 - ❖ 6 growers in attendance.
- **Grower meeting with Berries Australia and SAI board members 31 May 2019**

Coordinated meeting between Rachel Mackenzie and Jennifer Rowling (Berries Australia), and members of SAI board, with Yarra Valley berry growers to explain Berries Australia and future projects.
- **VSGA Strawberry Ball and Awards 31 May 2019**

Assisted in coordinating and promoting the annual networking event, which includes Industry Awards recognizing the contributions of growers and associates.

 - ❖ Attendees 160+, divided equally between growers and industry associates.
- **Systems Approach meeting 12 June 2019**

Promoted and participated in meeting with Agriculture Victoria market access team and Yarra Valley systems approach trial participants (Rubus).
- **Strawberry Forum 13 June 2019**

Coordinated, promoted and facilitated forum covering a range of topics including biosecurity, labour hire licencing, Horticulture award, Queensland fruit fly identification and disposal of fruit waste, Charcoal rot disease management, temperate breeding project, soil health and PR and marketing.

 - ❖ Approx. 40 attendees.
 - ❖ See Appendix 6 for detailed program.
- **Webinar - Accessing export markets: opportunities and shared lessons for strawberries - 20 June 2019**

Organized Dr Kathryn Fiedler (CSIRO) to speak on systems approach protocols as part of the webinar. Promoted webinar to temperate region growers and industry.
- **Systems Approach meeting 28 August 2019**

Coordinated and facilitated meeting between Agriculture Victoria market access team and strawberry growers participating in the 2019/2020 system approach trials in the Yarra Valley.

 - ❖ 5 businesses are participating in the trials.

Grower groups and communities of practice

- The annual VSIDC ladies dinner/women in industry dinner continues to be an important networking event for women participating in the industry. Participation of women in the various knowledge transfer events, eg. Forums and workshops has been actively encouraged and has increased during the life of the project.
- Communities of Practice have been established to address issues within the industry and share information and ideas. These include Biosecurity, Queensland Fruit Fly AWM, Waste management and Protected Cropping/substrate production. Members of these CoP include researchers, government departments, local councils, growers, advisors, industry associates and community.

Industry resources produced

- **Fact sheets - Grower Case Studies**
 - Lessons from the field - John Hasan, Wandin Vic

- Benefits of the Yarra Valley Pest Free Place of Production -Bobby Cincotta, Wombat Berries, Wandin North
- Vanessa and Brenton Sherry, Harvest the Fleurieu, SA
- Sunnyridge farm - Transitioning from soil to substrate
- Keeping soil in its place - Mancarella Strawberries, Silvan
- Simon Dornauf - Hillwood Berries
- All case studies can be accessed at <http://strawberryinnovation.com/people/>
- **Fact sheets - Production**
 - How can I control pests? Options for controlling sucking pests in strawberries
 - <http://strawberryinnovation.com/production/2018/8/31/how-can-i-control-pests-options-for-controlling-sucking-pests-in-strawberries>
 - How can I control pests? Options for controlling fruit and foliar diseases in strawberries
 - <http://strawberryinnovation.com/production/2018/8/31/how-can-i-control-pests-options-for-controlling-fruit-and-foliar-diseases-in-strawberries>
 - How can I control pests? Options for controlling chewing and biting pests in strawberries
 - <http://strawberryinnovation.com/production/2018/8/31/how-can-i-control-pests-options-for-controlling-chewing-and-biting-pests-in-strawberries>
- **Posters**
 - Queensland Fruit Fly Identification Poster
 - <http://strawberryinnovation.com/production/2018/2/9/queensland-fruit-fly-identification-poster>
 - How clean are our strawberries? A resource for pick your own and farm gate sales businesses
 - <http://strawberryinnovation.com/markets/2019/5/27/poster-how-clean-are-our-strawberries>
- **Good Practice Guide**
 - Fact sheet - Crop rotation and soil amendments (Land and soil management)
 - Grower profiles - John Hasan (Land and soil management) and Paul Mancarella (Water management)
 - <http://strawberryinnovation.com/good-practice-guide>

Communications activities

- **Regular submission of content for website and The Punnet e-newsletter, including:**
 - VSIDC women in industry dinner - November 2016
 - VSIDC women in industry dinner - April 2017
 - Native vegetation playing a role in IPM - April 2017

- Victorian Strawberry Forum - May 2017
- Hydroponic Farmers Federation farm walk - Sunnyridge Strawberry Farm - October 2017
- Victorian Strawberry Grower's Forum - June 2018
- Biosecurity - Fruit Fly Update - July 2018
- Sunnyridge farm visit by horticulture students - October 2018
- Quick diagnostic test for Queensland Fruit Fly larvae - December 2018
- Masterclasses to improve biosecurity for soil borne diseases - February 2019
- National biosecurity award won by Yarra Valley strawberry grower - March 2019
- Temperate Strawberry Forum - June 2019

All Punnet e-newsletters can be found at <http://strawberryinnovation.com/the-punnet-news/>

- **Development and sourcing of article and grower case studies for the Simply Red newsletter. Case studies and articles developed include:**

- Case study - Lessons from the field - John Hasan, Wandin Vic - Simply Red Issue #44, December 2016
- Article - Wandin Research Station Farm Walk - Simply Red Issue #44, December 2016
- Update - Victorian industry update - Simply Red Issue #45, March 2017
- Case study - Benefits of the Yarra Valley Pest Free Place of Production, Bobby Cincotta - Wombat Berries Wandin North - Simply Red Issue #46, July 2017
- Article - Fruit Grower's Tasmania Conference - Simply Red Issue #46, July 2017
- Article - Victorian Strawberry Industry Ball report - Simply Red Issue #46, July 2017
- Article - Victorian Strawberry Forum 4th & 5th May 2017 - Simply Red Issue #46, July 2017
- Case study - Vanessa and Brenton Sherry, Harvest the Fleurieu SA - Simply Red Issue #47, September 2017
- Article - Protected Cropping Australia 'Future Growing' Conference - Simply Red Issue #47, September 2017
- Case study - Sunnyridge Farm - Transitioning from soil to substrate - Simply Red Issue #48, December 2017
- Case study - Keeping soil in its place - Mancarella Strawberries - Simply Red Issue #48, December 2017
- Article - Owner Reimbursement Costs - Why is this important for the industry? - Simply Red Issue #48, December 2017
- Article - Agribio at Latrobe University and Post-entry Quarantine at Tullamarine - Simply Red Issue #48, December 2017
- Update - Temperate Region Update - Simply Red Issue #48, December 2017
- Case study - Simon Dornauf, Hillwood Berries, Tasmania - Simply Red Issue #49, March 2018
- Article - Biosecurity - Queensland Fruit Fly Update - Simply Red Issue #49, March 2018
- Article - Protected cropping - shared lessons from Berry Quest - Simply Red #49, March 2018
- Update - Temperate Region Update - Simply Red Issue #49, March 2018
- Article - Plug plants and other developments in high tech strawberry production: WA strawberry growers workshop - Simply Red Issue #50, July 2018
- Update - Temperate Region Update - Simply Red Issue #50, July 2018

- Article - Improving Integrated Pest Management through biodiversity - Simply Red Issue #51, September 2018
- Update - Temperate Region Update - Simply Red Issue #51, September 2018
- Article - Improving our preparedness for Spotted Wing Drosophila - Simply Red Issue #52, January 2019
- Article - Transitioning to HARPS - Simply Red Issue #52, January 2019
- Update - Temperate Region Update - Simply Red Issue #52, January 2019
- Article - Yarra Valley strawberry grower wins National Biosecurity Award - Simply Red Issue #53, April 2019
- Article - Labour Hire Licensing Laws update - Simply Red Issue #53, April 2019
- Article - CSIRO Food Innovation Centre - Simply Red Issue #53, April 2019
- Update - Temperate Region Update - Simply Red Issue #53, April 2019
- Article - What's new at the Biosecurity Centre of Excellence? - Simply Red Issue #54, June 2019
- Update - Temperate Region Update - Simply Red Issue #54, June 2019

All Simply Red issues produced during this project can be found at <http://strawberryinnovation.com/newsletters/>

Presentations:

- Speaker at VSIDC women in industry dinner 29 October 2016 - The importance of women in plant science/horticulture and future directions for the Victorian Strawberry Industry.
 - ❖ Attendees 80
- Developing an on-farm biosecurity plan - Strawberry Forum 4-5 May 2017.
 - ❖ Attendees 49
 - ❖ <http://strawberryinnovation.com/production/2017/5/18/on-farm-biosecurity-angela-atkinson-and-callum-fletcher>
- Wandin Silvan Field Day - 13 & 14 October 2017 - Adoption of Integrated Pest Management by Victorian Strawberry Industry
- Berry Quest International 2018 Farm tour 15 February 2018 - Strawberry Innovation National Communication Program
- During the strawberry tampering crisis in 2018, the Victorian industry association elected the IDO to be the point of contact for media enquiries and interviews. In preparation for the start of the temperate season, after the tampering crisis in Queensland, the IDO was involved in interviews to promote the temperate industry, including a studio interview with Channel 9.

Other Activities:

The IDO has also been involved in a number of committees and groups related to industry development and biosecurity throughout the duration of this project, including:

- Agriculture Victoria Horticulture Industry Network (HIN) - network of extension professionals from 29 horticulture industries meeting 4-6 times per year to improve cross-horticultural industry collaboration, improve industry capability, accelerate practice change and provide an efficient and effective link between horticulture industries, government, research institutions and businesses.
- Yarra Valley QFF Area Wide Management Committee - promoting and supporting area wide management of Queensland Fruit Fly in the Yarra Valley through collaboration with industry, local government, supply chain and community.

- Yarra Valley QFF Regional Governance Group - industry representative on committee overseeing activity of Agriculture Victoria Regional Fruit Fly Coordinator Program in the Yarra Valley.
- Spotted Wing Drosophila project steering committee - invited to sit on steering committee overseeing three Hort Innovation funded projects to improve preparedness for SWD, delivered by cesar, Plant Health Australia, Plant & Food Research NZ and IPM Technologies.
- Box Hill Institute Biosecurity Centre of Excellence Course Advisory Committee for Bachelor of Biosecurity - industry representative on committee.
- Box Hill Institute Biosecurity Centre of Excellence Steering Committee for development of qualifications in Agritourism, with emphasis on biosecurity - industry advisor to course developer.

Outcomes

The aim of BS15004 has been to enhance the adoption of innovation and technology by growers within the temperate production regions through improved communication of research and development outcomes, to build capacity within the industry. This has been achieved by building industry partnerships and networks, and delivering regionally specific industry development activities. Improving the knowledge and skills base of growers, will support practice change for long-term sustainability and profitability of Australian strawberry businesses.

The activities delivered through the project have been designed to support the key outcomes of the Strategic Investment Plan, and can be broadly grouped into three areas:

1. Industry coordination – activities that provide a framework for improving coordination and cohesiveness within the Australian Strawberry Industry.
2. Knowledge transfer – delivery of topic specific activities and events that address the particular needs of the industry.
3. Communications – activities focused on informing industry on events, issues and the latest R&D.

Outcome 1: By 2021, per capita domestic consumption of fresh Australian strawberries will increase by 10%, underpinned by consistent supply of premium quality fruit that matches consumer desires.

The project has enhanced the communication to fruit growers in the temperate regions from both the National Breeding Program and commercial runner growers regarding availability and characteristics of new varieties, through regular updates.

Adoption of best practice, and new technologies such as protected cropping, as a result of industry development activities, supports grower's capacity to provide consistent, premium quality fruit.

Outcome 2 – By 2021, increase exports of Australian strawberries from 4% to at least 8% of national production by volume, in selected markets with a capacity and willingness to pay a premium for quality fruit.

Previously in the temperate growing regions, interest in export has not been as strong as in the sub-tropical regions. However, this is changing, and growers within the Yarra Valley Queensland Fruit Fly Pest Free Area (PFPP), in particular, had used their pest free status to gain access to fruit fly sensitive domestic markets, with some accessing international markets. A case study of Wombat Berries in Wandin showcased the benefits of the PFPP for interstate trade.

In early 2018, the YV PFPP was suspended, and these markets were no longer accessible without post-harvest treatment. The IDO has worked with Agriculture Victoria and CSIRO to have strawberries included in both the National CSIRO systems approach project and Agriculture Victoria's systems approach project to develop a protocol that can be accepted for domestic, and potentially international trade, into fruit fly sensitive markets, based on property freedom for fruit fly.

Increasing interest in export opportunities has led several growers to invest in new technologies, such as protected cropping, in order to produce consistent high-quality fruit needed to supply export markets.

This increased interest was demonstrated by the participation of growers in an export focused webinar held in April 2019.

Outcome 3 – By 2021, the industry will increase farm productivity (marketable yield per hectare) by an average 10%.

Throughout the course of this project a range of activities have been used to provide growers with information to improve farm productivity.

Growers have had a broad range of opportunities to access the latest information, including:

- Workshops and field days and networking events providing information on innovation, technology, best practice and regulatory requirements.
- Online resources including latest news, R & D outcomes, fact sheets, case studies, presentations from workshops and forums, videos and webinars.
- Information products, including the Good Practice Guide, posters, fact sheets.
- Regular updates on national issues, runner production and variety trials.
- Grower groups and communities of practice to facilitate sharing of information

Knowledge transfer events have been consistently well attended through the course of this project, and feedback from growers has been positive.

Outcome 4 – By 2021, at least 90% of national production and 90% of growers and other firms involved in the strawberry value chain will be directly engaged with and value national industry services.

A key activity supporting this outcome has been the development and maintenance of a comprehensive database of all growers, and other supply chain participants and service providers, within the temperate production regions. This has facilitated the distribution of the communications tools developed as part of these projects, including the Simply Red quarterly newsletter, the Punnet monthly e-newsletter, and email communications to growers as required.

The hard copy Simply Red newsletter was particularly well received by growers in the temperate regions, who had not previously received industry newsletters.

The industry newsletters and updates have been welcomed by all stakeholders, from growers who now have better access to R&D outcomes to researchers and industry associates who have been able to communicate better with growers through these channels.

Utilizing a number of different communication channels through these projects has resulted in a broad and extensive reach to growers and stakeholders in the industry.

As a result of the coordinated delivery of the three projects within this program, communication and engagement between states and regions has delivered a more cohesive and connected national industry.

Monitoring and evaluation

An analysis of the needs of growers in the temperate region was conducted in the initial phase of the National projects by RMCG as part of the development of the BS15002 program plan, prior to the engagement of the industry development officer in October 2016. A strategic planning day was held by the VSIDC in late September 2016, and was attended by the industry development officer prior to their engagement. The outcomes of that meeting, in conjunction with needs analysis undertaken by RMCG informed the work plan for regional delivery of project BS15004. The release of the new Strategic Investment Plan in 2017 (2017-2022) instigated a revision of the workplan for Year 2.

Prior to developing the Annual Work Plan for Year 3 of the project, industry members in the main production regions, and the PRG, were consulted with regard to industry needs, and feedback on the activities delivered in Years 1 and 2 of the project was sought. The following priorities for Year 3, and specific activities listed, were determined from this information, and used to inform the development of the Year 3 Work Plan.

PRIORITY	APPROACH
Substrate production and protected cropping	Build capacity and support producers to transition into new production techniques by providing information on costs of production, production techniques and experiences of producers who have made the transition
Market development opportunities (export)	Provide industry members with information on market development opportunities, how to realise opportunities and processes involved in accessing new markets
Biosecurity	Provision of information resources on key pests and delivery of webinars on management options for key pests
Innovation	Provide industry members with information on the latest innovations and how these could be applied to their business
Planting material quality	Liaise with industry organizations, runner growers and fruit producers to determine the best approach for ensuring consistent, high quality planting material
Waste management	Inform industry of options for second grade fruit, new technologies which could be applied to value-add fruit, and innovative ways of managing plastic waste
Understanding regulatory requirements	Inform and engage with industry members on the regulatory requirements around sourcing and management of labour, Horticulture Code of Conduct and HARPS through delivery of workshops and information products

The MERI Framework for the project *Facilitating the development of the Australian strawberry industry*, including BS15004 - temperate regional delivery, was developed by RMCG as part of the national oversight project, BS15002.

The Key Evaluation Questions (KEQs), as identified by RMCG in the MERI framework, are arranged by five key themes:

1. Impact: What has changed or is different as a result of the industry development undertaken, either positive or negative? e.g. extent of change to knowledge, skills, attitudes, management practices or businesses/organisations (operational or economic)
2. Effectiveness: To what extent were the planned industry development activities achieved?
3. Appropriateness: To what extent did the activities and the way they were undertaken align with stakeholder needs and expectations? To what extent has the innovation being tested contributed useful information to address the objectives? Which innovation practices or technology employed did not contribute to / deliver on outcomes? And why?

4. Efficiency: To what extent did the project achieve the desired result within budget and timeframes?
5. Legacy and sustainability: To what extent will the project have a lasting impact on the capacity of the Australian strawberry industry? What, if any, lessons have been learned that could improve the success of future projects?

RMCG has undertaken detailed evaluation of the overall program encompassing the three projects, BS15002, BS15003 and this project, BS15004.

- In the temperate region, evaluations were conducted for all workshops and forums based on the KEQs developed. Knowledge and confidence of topics was assessed prior to and after events, as well as whether participants would consider changing on farm practices as a result of participating in the activity. An example is given in Appendix 7 - Strawberry forum evaluation May 2017.
- The challenge of recording evaluation data from these activities is seen in the survey from the Strawberry Forum on 4 May 2017 (Appendix 7) which is a compilation of 20 responses (collected in hard copy form) out of 49 attendees. The use of online surveys was trialled towards the end of the project, however responses to these surveys are traditionally low. The use of a real time app, such as PollEverywhere, may be of use in the future.
- Similar evaluations were performed after all workshops and forums, and in all cases responses indicated an increase in confidence in the material covered, and the majority of participants considering implementing the new knowledge. Consultation with grower association committees was also used to review activities and events, and seek input into future activities.
- In most part, activities planned in the annual workplans were achieved as intended, with some adjustments made to actual outputs, eg. Case studies, fact sheets etc, due to changes in circumstances.
- The activities undertaken within the project provided a range of opportunities for growers to engage with new information and technology. Similar information was made available to growers on different platforms, including hard copy newsletters, face-to-face presentations and hands-on workshops, webinars, and on-line resources on the Strawberry Innovation website such as recordings of webinars and presentations from workshops and forums. The number of growers engaging with online resources increased during the duration of the project, however face-to-face meetings, workshops and the hard copy newsletter are still the preferred means of communication by many growers.
- Strong relationships and industry networks were built within the timeframe of BS15004, from October 2017 to August 2019. Engagement of growers with new information and industry development activities increased, which will potentially result in practice change on farm.
- The coordinated national approach to industry development, and good working relationships between the delivery partners, has resulted in increased communication between growers and industry in the main production areas and has already resulted in a more cohesive national industry.

Recommendations

The aim of BS15004 was to contribute to the development of the Australian strawberry industry by providing regional delivery of knowledge transfer and industry development activities to growers and industry associates within the temperate growing regions of Victoria, South Australia, Tasmania and the southern region of Western Australia.

With rapidly changing technology, changes in markets, increased biosecurity threats and business challenges facing the industry, growers recognize the importance and benefit of an efficient, effective and responsive industry development program.

Recommendations for future industry development projects include:

- Industry development remains very important to growers, and continuation of the program has support from industry.
- The region-specific model of delivering extension activities has been successful and is preferred by growers, however the benefit of collaboration and information exchange between regions has been highlighted by these projects.
- Future projects should account for the difficulties of on-the-ground delivery of industry development activities in Western Australia by IDOs based in the eastern states, and provide funding for a regional IDO in Western Australia.
- In some regions, particularly Western Australia, cultural and language barriers continue to be an impediment to ensuring all growers have access to information necessary to make informed decisions.
- Future projects must continue to provide adequate resources to coordinate and facilitate industry events, provide high quality industry newsletters and information products, and maintain a comprehensive and easily negotiated website for digital resources.
- There is support from growers for a Berry Industry Development project including Rubus and blueberries, with a combination of activities targeted to individual berry industries and cross-industry activities.
- It is important that industry events and activities are scheduled to ensure maximum participation, which will differ in different production regions. This would be more challenging with a berry industry development program (incorporating Rubus and blueberries) and would require careful planning.
- As growers become more time poor, reliance on information technology to access information will increase, and adoption of activities such as podcasts and webinars will become more widespread and should be part of any future projects.
- Collection of industry data has remained a challenge for this project. Data from runner growers was targeted as a desired outcome of both BS15004 and BS15003, but has remained a challenge due to the commercial nature of the information. The industry as a whole would benefit from the collection of benchmarking data for production, but this was not within the scope of the current projects.
- The strong working relationship between the temperate and sub-tropical delivery partners through the national project has been beneficial to the industry in providing the opportunity to share knowledge, expertise and collaboration on industry activities. It is hoped that a similar collaborative approach with a cross-industry project would further enhance industry development.

Refereed scientific publications

None to report

Intellectual property, commercialisation and confidentiality

No project IP, project outputs, commercialisation or confidentiality issues to report

Appendices

- Appendix 1: Revised annual workplan Year 2.
- Appendix 2: Annual workplan Year 3.
- Appendix 3 Strawberry forum flyer May 2017
- Appendix 4: Berry Quest Conference Handbook
- Appendix 5: Strawberry forum flyer June 2018
- Appendix 6: Strawberry forum program June 2019
- Appendix 7: Strawberry forum evaluation May 2017

