

Onion impact assessments 2020

During 2019/20, Hort Innovation engaged independent consultants to evaluate the impact of onion research and development over the five years ending 30 June 2019. Assessment provided insights into the type and magnitude of impacts generated from Onion Fund investments.

The evaluation revealed a range of economic, environmental and social benefits being generated for onion growers, supply chain participants and the community at large.





How the impact assessments were made

Project population defined



A pool of Onion Fund research and development (R&D) projects was identified, with the criteria of being completed between 1 July 2014 and 30 June 2019 and with a Hort Innovation managed investment value of at least \$80,000 – met by a total of 35 project investments with a Hort Innovation investment value of \$3.89 million (whole population).

Projects sampled



The final stratified, **random sample of four** Hort Innovation Onion Fund RD&E projects had a total Hort Innovation managed investment value of approximately \$2.4 million (nominal dollars) representing 61.6% of the overall Hort Innovation managed investment in the population (\$3.89 million). Further, for the SIP Outcome area criterion, no project was selected for SIP Outcome area 1 (Demand) (no investment was made in this outcome), one project was selected for Outcome area 2 (Export), two projects were selected for Outcome area 3 (Productivity), and one project was selected for Outcome area 4 (Engagement).

Projects evaluated



Each of the four projects was evaluated using a framework approach, looking at project objectives, activities, outputs and impacts. Some of the impacts identified were also valued in monetary terms.

The approach for evaluating the impacts was performed in line with impact assessment guidelines defined by the Council of Rural RDCs. The impact assessment consultants engaged with researchers, Hort Innovation staff and industry stakeholders to support the evaluations.

The results

The results demonstrated that the benefits of research and development (R&D) investments in the Onion Fund represent a sound return on investment for growers, with the benefit-cost ratio of the eight sampled projects coming out at between **1.95 to 3.18 to one**, with an aggregated benefit-cost ratio average of **2.33 to one**. Together, the benefits of the eight projects are expected to deliver some **\$6.84 million** in additional value to the industry and community over the next 30 years (considering the present value of their benefits, minus the present value of their project costs). Keeping in mind that while some impacts were valued, other benefits weren't quantifiable – meaning these results give a conservative estimate of the true benefits that will be realised.

2.33:1*
BENEFIT-COST RATIO

\$6.84
MILLION
NET PRESENT VALUE

Across all four projects assessed there were 16 individual impacts identified. Of these, approximately 38% were identified as economic (6), 12% environmental (2) and 50% social (8).

Economic impacts

Increased profitability/productivity for Australian onion growers

Example: *Detection and management of bacterial diseases in Australian allium crops (VN13005)* contributed to a reduction in the cost to onion and shallot growers of future outbreaks of exotic bacterial disease (i.e. avoided loss of yield and quality).

Maintained and/or improved market access

Example: *New onion protocols to assure viability of European exports (VN10001)* contributed to avoided loss of industry profit resulting from cessation of onion exports to Europe (including resultant domestic oversupply and price collapse).

Environmental impacts

Reduced risk of chemical export to the off-farm environment

Example: *Managing soil borne diseases of onions (VN13003)* contributed to less chemicals in the farm environment with a reduction in chemical application for the control of onion stunt and root lesion nematodes.

Avoided waste associated with spoiled produce

Example: *New onion protocols to assure viability of European exports (VN10001)* contributed to avoided waste associated with spoiled onions in both Australia and in the export supply chain (unsold onions, onions that deteriorate in the supply chain).

Social impacts

Increased industry and scientific knowledge and capacity

Example: All projects contributed, with researchers and growers having additional capacity and knowledge of the onion industry.

Regional community spill-over impacts driven by increased productivity and profitability by onion growers and their supply chains.

Projects that resulted in additional profitable onion sales will generate flow-on income and employment opportunities in citrus growing areas.

For full details of the impact assessments including detailed reports on each project, visit www.horticulture.com.au/mt19012

* Aggregated benefit-cost ratio

Reporting against the onion Strategic Investment Plan 2017-2021

Impact assessment results can also be used to understand the impacts achieved by the SIP Outcome area. The results provide an assessment of indicative impacts by project but are not representative of all investments undertaken in each outcome area.

Project code	Project title	Present value of benefits (\$m)	Present value of costs (\$m)	Net present value (\$m)	Benefit-cost ratio
Strategic Investment Plan Outcome 2: Export growth achieved through market diversification and product customisation, to support and maintain domestic pricing					
VN10001	New onion protocols to assure viability of European exports.	4.18	2.14	2.04	1.95
Strategic Investment Plan Outcome 3: Reduced costs and improved returns to growers through improvements in business and production skills					
VN13005	Detection and management of bacterial diseases in Australian allium crops	3.04	0.96	2.08	3.18
VN13003	Managing soil borne diseases of onions	2.48	0.99	1.49	2.51
Strategic Investment Plan Outcome 4: An informed, engaged industry results in a greater ability to respond to market shifts					
VN12003	Communications Plan for the Australian Onion Industry extension	1.71	0.81	0.90	2.11

Glossary of economic terms

The following economic terms have been used in the above table, illustrating the cost-benefit analysis results by project sampled:

- **Present value of benefits:** The discounted value of benefits to 2019/20 terms.
- **Present value of costs:** The discounted value of investment costs to 2019/20 terms.
- **Net present value:** The discounted value of the benefits of an investment, less the discounted value of the costs – that is, present value of benefits minus value of costs.
- **Benefit-cost ratio:** The ratio of the present value of investment benefits to the present value of investment costs.

