

Mushroom impact assessments 2019

During 2018/19, Hort Innovation engaged independent consultants to evaluate the impact of mushroom research and development over the five years ending 30 June 2018. The assessment provided insights into the type and magnitude of impacts generated from Mushroom Fund investments.

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





How the impact assessments were made

Project population defined

Projects sampled

Projects evaluated



A pool of Mushroom Fund research and development (R&D) projects was identified, with the criteria of being completed between 1 June 2013 and 30 June 2018 and with a Hort Innovation managed investment value of at least \$80,000 – met by a total of 20 projects with a Hort Innovation investment value of \$7.94 million.

From this pool a **random sample of five projects** was selected (listed in subsequent tables). Together these five projects had a nominal Mushroom Fund value of \$1.75 million (22.0 per cent of the overall investment value). Three of the projects aligned with the mushroom Strategic Investment Plan (SIP) 2017-2021 Outcome 1 (increase consumption) and two aligned with Outcome 2 (production efficiency).

Each of the five 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 R&D investments in the Mushroom Fund represent a sound investment for growers, with the benefit-cost ratio of the five sampled projects estimated at **2.22 to one**. Together, the benefits of the five projects are expected to deliver some **\$3.41 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.

2.22:1
BENEFIT-COST RATIO

\$3.41
MILLION
NET PRESENT VALUE

Through the assessments, 24 impacts were identified as having been generated directly by the five randomly selected projects. The impacts themselves were grouped into seven broad categories. Specific benefits ranged from improved grower awareness of superior technologies to health professionals recommending mushrooms to their patients.

Economic impacts

Lower costs of production for mushroom growers as a result of improved research adoption, superior practices and new technologies.

Example: *Mushroom industry communication plan* (MU08010), supported increased adoption of a range of best practices by mushroom growers.

Additional profitable sales for mushroom growers with additional consumer awareness of health benefits communicated through industry websites and a more effective marketing program.

Example: *Analytics for mushrooms* (MU12005), resulted in improved understanding of the mushroom consumer and targeting of the industry's 'Power of Mushrooms' marketing and promotion campaign.

Improved resource allocation in research resulting from a sustained program of collaboration with overseas mushroom industries.

Example: *International mushroom industry collaboration* (MU09003), provided opportunity for the Australian industry to leverage overseas research investments, achieve efficiencies and allocate funds to other R&D priorities.

Reduced risk of a food safety incident for mushrooms, supporting consumer confidence, consumption and prices received by growers.

Example: *Food safety for the Australian mushroom industry* (MU16005) resulted in a series of recommendations that were incorporated into industry food safety scheme FreshCare.

Social impacts

Improved health outcomes with increased mushroom consumption.

Example: *Communication and education of mushroom nutrition research to health professionals – phase 2* (MU14000), resulted in improved understanding of the health benefits of mushrooms by the Australian community, driving consumption and delivering health outcomes.

Increased industry and service provider capacity. Sampled projects added to the skill sets of growers, IT professionals servicing the industry, medical practitioners and industry association AMGA.

Example: *International mushroom industry collaboration* (MU09003), provided opportunity for an AMGA representative to develop skills in chairing international meetings, design of research programs and collaboration on promotion programs.

Productivity/profitability benefits having a flow-on effect to support improved community wellbeing in mushroom growing areas.

Projects which increase mushroom consumption and production and/or lower the cost of production will generate flow-on income and employment opportunities in mushroom growing areas.

For full details of the impact assessments including detailed reports on each project, visit www.horticulture.com.au/mt18009

Reporting against the mushroom Strategic Investment Plan 2017-2021

The 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 Name	Present Value of Benefits (\$M)	Present Value of Costs (\$M)	Net Present Value (\$M)	Benefit-Cost Ratio
Strategic Investment Plan Outcome 1: Achieve the bold and ambitious target of domestic consumption of 4 kilograms per person per year of mushrooms by 2021.					
MU09003	International mushroom industry collaboration	0.61	0.21	0.40	2.96
MU12005	Analytics for mushrooms	0.91	0.31	0.61	2.98
MU14000	Communication and education of mushroom nutrition research to health professionals – Phase 2	2.80	1.08	1.72	2.59
Strategic Investment Plan Outcome 2: Mushroom growers are profitable and sustainable through increased yields, reduced costs and effective risk management.					
MU08010	Mushroom industry communication plan	1.37	1.03	0.34	1.33
MU16005	Food safety for the Australian mushroom industry	0.51	0.18	0.34	2.89

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 2017/18 terms.
- **Present value of costs:** The discounted value of investment costs to 2017/18 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.

