

### **Desired outcome**

The desired outcome of KVH initiated research (co-funded with Zespri) is to find sustainable solutions that minimise the impacts of Psa-V and support the re-establishment of infected orchards to full productive capacity. The mission of the programme is to find solutions to minimise the financial impact of Psa on the kiwifruit industry by 2015 and neutralise financial impact by 2020 through:

- Global R&D leadership and co-ordination;
- Facilitation of fundamental and additional capability in Psa solution development;
- Development and refinement of sustainable and practical solutions to Psa.

Psa-V research and development needs to be focused on the industry's needs, and producing tangible outcomes that are applied on orchard and in relevant parts of the supply chain.

### **Background**

Research and development is a critical component in the fight against Psa-V. The R&D programme increases technical knowledge and delivers growers with tools and techniques that may be used to combat the disease directly, or enable affected growers to remain productive in the presence of Psa-V. The Psa-V Research and Development Programme is a KVH/Zespri led portfolio managed by Zespri's Innovation team and incorporates a wide range of New Zealand and international research providers.

The programme is overseen by the Psa Industry Steering Group, which is responsible for assessing project proposals, assisting with strategic direction setting, and providing feedback from industry regarding needs and gaps that need filling. Ultimately, the final decisions on what research is funded lies with the KVH and Zespri boards, upon recommendation from the steering group. Research objectives, strategies and goals are established between KVH and Zespri and reviewed on at least an annual basis or as determined by the KVH Board.

The scientific and technical aspects of the research programme are scrutinised during the Psa-V symposiums which also provide an opportunity for engagement by the wider scientific community. These are held in New Zealand on an annual basis with leading scientists from within and outside of the country present. In addition, regular R&D update forum are held for growers, to update on progress and deliver any new information for them to utilise in their orchard operations.

In addition to the R&D programme, small parcels of research funding are available for growers to undertake field trials under the SmartKiwi Innovation Fund.

The KVH/Zespri Psa-V Research and Development Programme makes significant contributions to Psa-V research in New Zealand. However it is one component in a wider R&D effort with numerous other research projects also making significant knowledge advances both within and outside of New Zealand. KVH recognises the importance of these wider contributions and coordinates the Psa-V Research and Development Programme accordingly to maximise effectiveness. Other R&D programmes include; Zespri projects outside of this R&D programme, Zespri New Cultivar Development Programme, contracted to Plant & Food Research for delivery, Zespri's international operations which provide an "off season" research venue, other New Zealand University and Crown Research Institute projects, NZ Post-harvest sector investment in research, and international research.

### **Implementation approach for research and development**

A R&D strategy provides a high level overview specifying the desired outcomes and objectives; management structure; and the industry's needs and strategic priorities. The Psa-V Research and Development Strategy, which is currently being refreshed, focuses on neutralising the financial impact of Psa on the New Zealand Kiwifruit industry through the following five research themes:

- i. Detection: Identification of pathovars and inoculum load
- ii. Epidemiology: Characterisation of the pathogen, host and environment interactions
- iii. Chemical/Biological: Screening of chemical and biological actives and delivery systems to offset Psa impacts
- iv. Management: delivery of Psa resilient production systems
- v. New cultivars: Psa resistant rootstocks, pollinisers and market preferred female cultivars

A roadmap has been developed for each theme to specify desired outcomes to be delivered to the industry from each theme (see next page).

KVH has commissioned Zespri to manage the day-to-day operation of the R&D program, and to ensure effective management structures are in place to effectively plan, organise and monitor the program. Some of the research will be done in-house at Zespri but most will be done through a range of research partners both within and outside of New Zealand.

### **Technology Transfer**

Technology transfer of research outcomes to grower is one of the main intentions of the Psa-V Research and Development Programme. End user adoption of advances in knowledge and techniques is seen as a key method of minimising the impact of Psa-V impacts on the industry. This intent of knowledge transfer has been implemented by making access to research reports freely available to the New Zealand industry through the KVH website, but password restricted and available to international users on a case by case basis only. Other pathways for technology transfer to end-users include post-harvest technical support, Zespri's Canopy website and Orchard Productivity Centre, the KVH hosted weekly Technical Representative Forum, and the annual Psa-V Symposium.

### **Reporting**

Zespri will report on the research programme to KVH and NZ Kiwifruit growers by:

- i. A bi-monthly report to KVH on overall progress by way of a KVH Board paper.
- ii. Bi-monthly reporting to KVH on financial scheduling on project payments.
- iii. Bi-monthly exception reporting of project milestones.

Results and outcomes from each project to be converted into grower summaries and made available to KVH for dissemination to NZ kiwifruit growers.