

Plant Raisers' Award

Russell George Lowe



Russell Lowe, 2020 recipient of the RNZIH Plant Raisers' Award.

Russell Lowe of The New Zealand Institute for Plant & Food Research Ltd, Te Puke, has been awarded the 2020 Plant Raisers' Award for the breeding and selection on *Actinidia chinensis* Planch. var. *chinensis* 'Zesy002', the fruit of which are marketed as Zespri® SunGold Kiwifruit.

From the mid-1990s Russell became involved in breeding tetraploid kiwifruit – breeding stock with twice as many chromosomes as the diploid cultivar 'Hort16A'. The tetraploids tended to have larger fruit with a better shape and longer storage life. He set out to combine these traits with the better flavour offered by some diploid types, including 'Hort16A'. In 2002, Russell planted his third generation of seedlings which led to the selection of Gold3, registered as 'Zesy002'.

Initially it seemed that the main advantage of the selection 'Zesy002' was that it would widen the market window for New Zealand yellow-

fleshed kiwifruit. Much more important, however, 'Zesy002' proved to be reasonably tolerant of *Pseudomonas syringae* pv. *actinidiae* (Psa), which causes bacterial canker of kiwifruit. Psa was first discovered in New Zealand in November 2010 and began devastating orchards of 'Hort16A', then Zespri's most valuable cultivar, and one that was the result of a cross made by Mark McNeilage and selected by Russell and his colleague Hinga Marsh from the seedling population.

'Zesy002' was therefore chosen as the replacement to 'Hort16A' and by 2018, almost all orchards of 'Hort16A' had been removed and there were about 6500 ha of 'Zesy002' orchards established, nearly half of New Zealand's total area in kiwifruit. The transition from 'Hort16A' to 'Zesy002' was achieved remarkably quickly. In 2018, exports from New Zealand of Zespri® SunGold Kiwifruit were worth more than the exports of the green *Actinidia chinensis* var. *deliciosa* (A.Chev.) A.Chev. 'Hayward' fruit, as they fetch higher prices. Last year (in 2019) more Zespri® SunGold Kiwifruit fruit than 'Hayward' fruit were exported.

This new yellow-fleshed kiwifruit, the result of Russell Lowe's work, is now Zespri's most valuable product. It is no exaggeration to say it saved the New Zealand kiwifruit industry.

According to the Zespri 2018 Annual Report, "SunGold ... is a game-changing product that consumers love. SunGold is expected to drive future growth ...".

Russell Lowe has spent all his working life with the Department of Scientific and Industrial Research and then its successors, HortResearch and now Plant & Food Research. To be involved in the selection of a remarkably successful cultivar such as 'Hort16A' is the dream of any plant breeder. To follow this up with the breeding and selection of another "game-changing" product such as 'Zesy002' shows that the original selection of 'Hort16A' was not simply a lucky chance.

In addition to the 2020 Plant Raisers' Award from the RNZIH, Russell Lowe has received other recognition for his breeding work on kiwifruit. In 2012 he received the inaugural 'Hayward' Medal for contributions to the kiwifruit industry, in 2015 he jointly received (with K. Hoeata and T. Paterson) the Plant & Food Chairman's Award for the breeding and selection of 'Zesy002' – Zespri® SunGold Kiwifruit, and in 2018 he was a senior member of the team that was awarded the Prime Minister's Science Prize for the Plant & Food Research response to Psa infection of kiwifruit.

**Citation prepared by
A.R. Ferguson**

