

NEWS FROM THE NATIONAL PASSIONFRUIT BREEDING PROGRAM

Peter Bundock | Southern Cross Plant Science | Southern Cross University | E: peter.bundock@scu.edu.au

PF15000 National Passionfruit Breeding Program is a strategic levy investment under the Hort Innovation Passionfruit Fund.

We're now two years into the three-year Breeding Program project. I am continuing to work on getting trials for this season established to trial some Panama lines, Rootstock lines and crosses to select promising new scion varieties.

ROOTSTOCK TRIALS

The trial of different rootstocks will determine if there is any evidence that there are lines that perform better in some way compared with the current rootstock varieties (Pandora of one extraction or other). We have whittled the numbers down to eight different lines being tested in this trial. Some will have Misty Gem grafted onto them (grown at Bundaberg) and others will likely have Sweetheart or Flamenco (northern NSW sites).

PANAMA TRIALS

There are five different lines to compare in this trial. It is early days with regard to breeding any new panama varieties as, at least in theory, it should take some years to carry out a cross, and then generate a new line that is true-breeding. For best results selection would need to be carried out each generation.

SCION TRIALS

It is looking like we may get around 700 vines or so for trialling from a number of crosses. Unfortunately, germination was very poor from some crosses, so we only got a handful of seedlings from the crosses involving Misty Gem, for example.

There was a great response to the expression of interest sent out to growers for trialling of vines this season.

In fact, we were oversubscribed thanks to the response from Queensland. Seedlings for the three trials are being raised by McLeod's and Widebay Passionvine nurseries and SCU is also raising several hundred seedlings from crosses to be grafted onto rootstock before trial.

FURTHER EVALUATION OF 29 SELECTIONS FROM 2016-17 SCION VARIETY TRIALS

In the AUTUMN 2018 edition of the Passion Vine, I mentioned 29 promising selections from the 2016-2017 trials that had been grafted onto rootstock for further evaluation. A considerable amount of effort has gone into evaluating these 29 grafted selections which were planted in triplicate at different locations in November last year. Four of these 29 had previously gone out to a number of growers to assess (I took some to the AGM in October 2017). This was based on their performance as seedlings. However, the four original selections did not perform well in further evaluations by both growers or in comparison with the other 25 selections. A number of selections performed much better than these four vines and so we plan to carry out further trialling with around 12 of these selections – some more extensively than others.

These 12 selections have performed particularly well and there are some promising vines amongst them. Most are from crosses involving Pandora and the fruit does resemble Pandora in some respects rather than the typical purple of Sweetheart. But the fruit is of good size, colour and delicious tasting. They are currently our best bet for a new commercial scion variety generated from the project, at least until the results of the 2018-19 trial become available.

We have gone back to some of the mother vines where possible, to select tips for grafting for evaluation over the next season.



ABOVE: Selecting tips for grafting from original mother vines located at Yandina, Qld.

Among the seedlings being raised at SCU are some obtained recently from the USA. According to the labels, there are both flavicarpa (Panama) types as well as a smaller number of purple types. It will be interesting to see how they perform. With a bit of luck (I am something of an optimist!) they will bring something new and good to the Australian breeding program.

We have been in contact with colleagues in Columbia and Taiwan, both of which countries have flourishing passionfruit growing industries. Unfortunately, obtaining seeds from Columbia would not be straightforward as there are now apparently strict rules and regulations governing the transfer of plant genetic resources out of the country.

Finally, many thanks for the help and assistance provided by trialists, growers, nurseries and Passionfruit Australia. Let's hope there are some good seeds in this next batch of trials and that we get clear information on what are the best rootstock and Panama lines.

Happy planting & harvesting in the upcoming months!