

Mountain Blue starts an Australian blackberry breeding program

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Mountain Blue is a family owned and operated company on the NSW north coast. Mountain Blue was established in 1978 and have been producing high quality blueberry genetics for many years. More recently they have decided to diversify and consequently have partnered with the University of Arkansas to develop an Australian blackberry breeding trial on the NSW North Coast.

The University of Arkansas have a large fruit breeding program of which blackberries are the leading crop. This program emphasises traits including flavour and sweetness, firmness, thornlessness, primocane fruiting and dwarfism.

To date, the breeding program at the University of Arkansas has developed 41 blackberry varieties. They make around 70 blackberry crosses each year, applying pollen from one parent onto the flowers of another, generating annually around 100,000 to 300,000 seeds for planting in seedling row plots and for use in their cooperative breeding activities with companies such as Mountain Blue.

Mountain Blue imported their first lot of blackberry seed from John Clark at the University of Arkansas in September 2018. This initial seed was open pollinated (known mother but not father), included both primocane and florican material and was a trial to practice germinating and growing blackberries.

The seed was germinated, seedlings were raised early in 2019 and then planted out in September 2019. This first phase has 10 different populations of which they have done one primocane assessment.

In the initial stages, they are focusing mainly on fruit flavour and are tagging any potential plants that look promising so that they can propagate and assess further. The University of Arkansas is allowing Mountain Blue to make their own crosses in the future with anything that has promising characteristics.

In June 2019, Damien Clothier, agronomist at Mountain Blue, travelled to the University of Arkansas to meet up with John Clark and visit the blackberry breeding trials firsthand.



All images supplied by Melinda Simpson, NSW DPI

Figure 1. First phase of breeding program including both primocane & floricane material.



Figure 2 and 3. Phase 2 of the breeding program consisting of 41 different populations.

The aim of this visit was to assess the breeding material and to identify material that Mountain Blue would like to receive and work with in future seed deliveries. The main attributes looked at were taste, medium to large sized fruit, high yielding plants and post-harvest durability.

Another batch of seed incorporating some of Damien's suggestions from his June 2019 visit looking at John Clark's own selections was sent to Mountain Blue in September 2019. This seed was germinated, seedlings grown out and 6800 blackberries were planted out in the field at the end of May 2020.

This batch consists of 41 different populations from designated crosses (known mother and known father), and because of this there is a higher likelihood of these populations showing promising attributes, compared to the original open pollinated plants.

From the 41 different populations, they will be looking for the following characteristics: flavour, fruit size, plant health and structure and yield potential. Plants identified with promise will undergo further assessment and multiplication.

Initially, Mountain Blue's breeding program is looking specifically for thornless primocane varieties that are suitable for the northern NSW/Southern QLD growing region. But future work will look at developing florican varieties for cooler, southern regions.



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