



PRO-HORT PUTS THE VALUE BACK IN EVALUATION

Anna Mouton reports on a new programme that empowers producers to select cultivars wisely.

A new programme for the evaluation of pome and stone fruit cultivars was recently launched at Klipboschlaagte near Ashton. The Pro-Hort programme is the result of a collaboration between Hortgro and Provar. Pro-Hort aims to empower producers by generating accurate information on which to base cultivar selection.

“This initiative arose from mistakes made in the past by producers,” said André Smit, director of Hortgro Stone, speaking at the launch. “A mistake in cultivar selection can cost a producer anywhere from R450 000 to as much as R1.6 million per hectare. We at Hortgro Stone realised that our producers can’t continue making these sorts of mistakes — it’s simply too expensive.”

The solution was to establish a programme for the independent evaluation of cultivars. In 2015 Hortgro partnered with Paarl-based company Provar to develop the capacity needed for large-scale cultivar evaluation. What started as a three-year project culminated in the founding of the Pro-Hort programme.

“The objective of Provar is to generate independent data that producers can use to reduce the risk associated with planting new cultivars,” said Iwan Labuschagne while addressing attendees at the launch. Labuschagne is a geneticist and former apple breeder who founded Provar in 2013. “That’s our goal and of course the goal of the Pro-Hort programme.”

THE HORTGRO-PROVAR PARTNERSHIP

The site at Klipboschlaagte is one of nine that already has trees. Another two sites will be planted in the 2020 season. “Most of our sites are in the Western Cape. There is one in the Langkloof and another in Limpopo,” said Smit. A site is also planned for Tulbagh. During the past season, 3 500 trees were established in the various Pro-Hort orchards.

“The trees we want at these sites are usually phase three selections from the Agricultural Research Council’s breeding programme, or cultivars that are already established abroad, that are imported to South Africa by intellectual property groupings,” explained Smit. He invited all intellectual property owners to participate in the evaluation programmes at Pro-Hort sites. “Even if a cultivar is not open to everyone, it can still be planted on these sites, but then the cultivar owners just carry the cost of the evaluation since it’s in a closed group.”

Hortgro supports the Pro-Hort programme by providing capital for the initial development of the trial sites as well as remunerating the site owners for routine management of the orchards. The site at Klipboschlaagte is part of Smuts Brothers Agri.

“Those of you who have had experimental sites on your farms will know that at best it’s a complex matter,” said Smit. “It might seem glamorous initially but it can quickly become a burden. So we are very grateful for the sites we have and the willingness of people like Grant Smuts to assist us.”

Hortgro selects three stone and two pome fruit cultivars every year and funds their full semi-commercial evaluation. At the end of the process, the cultivars are awarded a certificate by Provar that details all the results of the evaluation. Producers can use this information to decide whether a cultivar is likely to be suited to their farm.

“This system will only work if producers ask for this evaluation certificate when they are offered a new cultivar,” stressed Smit. “The certificate will empower you with information to decide whether, within your microclimate and your marketing channels, the cultivar offers value.”

EVALUATION FROM THE GROUND UP

Werner Truter is Provar’s horticulturalist and he described the process of developing the trial orchards. “The trees weren’t just delivered and planted. We worked closely with the site owners and managers to choose the land. The soil was surveyed and analysed. We designed the orchards according to this information and corrected and cultivated the soil as indicated.”

Each orchard has temperature loggers to precisely measure cold and heat units as well as to register any anomalies that may impact tree performance. Orchards also have soil probes to ensure optimal irrigation. Traps are in place to monitor pests such as fruit flies and false codling moth. The sites are securely fenced and access strictly controlled.

Truter has been working closely with technical advisers to ensure the best possible orchard management. This includes seeking guidance on the latest training systems. “We want to train the trees so that we can evaluate them in the way that they are likely to be planted in the future,” he explained.

“Evaluation is the collection of data,” elaborated Carl Hörstmann, stone fruit evaluator at Provar, “but data is meaningless without a frame of reference. So what we’ve done with these sites it to create a frame of reference by choosing sites that represent our pome and stone fruit production areas and the variation in climate among those.”

Control cultivars have been planted at each site and new cultivars are compared against these. Cultivars are trialled on standard rootstocks as well as preferred rootstocks that have been chosen for their suitability to the specific site and cultivar.

Hörstmann listed the exhaustive criteria by which cultivars are assessed, starting at blossom and taking in everything up to the quality of fruit after an extended storage period. “We generate masses of data which we process using Culteva — our software package — so that it’s useful for both intellectual property owners and producers.” Culteva was developed in-house at Provar and is available as a mobile app.

Evaluation is a long game. "It takes six to nine years to establish the cultivars on different rootstocks in different areas," said Hörstmann. "We at Provar begin to look at production and fruit quality after two to three years and we try to determine as soon as possible whether a cultivar should undergo a full evaluation, or whether it should rather be given a serious iron application in the shape of a chainsaw."

"This isn't a quick fix," confirmed Smit. "It's a long-term investment but that's in line with how you as producers live your lives in the context of long-term crops."