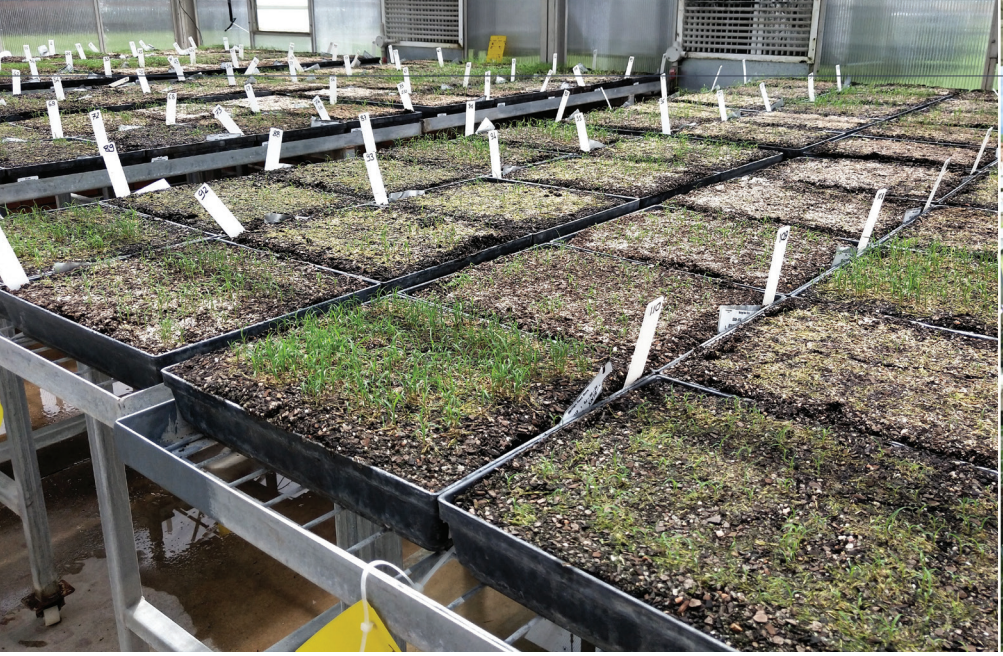

IN THE FIELD WITH THE CENTRAL PLANT BREEDING TEAM

BY CLARE GERSCH, ADOPTION OFFICER, CENTRAL REGION

With several months of dealing with COVID-19, I have recently either been working from my home office or in the field with SRA's Central Region Plant Breeding Team: *George Piperidis, Chris Tom and Ann Boe.*

This time of the year is critical to the growing of the potential new varieties that as a grower you may see in about twelve years' time. Prior to me helping the team, the sugarcane seed - or fuzz - produced at the SRA Meringa station had been germinated by the team at the Mackay station's facilities.

These trays of mass seedlings in the glasshouse needed to be planted into individual pots for hardening off before going to the field.

It was an interesting experience planting out the different, tiny, and fragile individual plantlets. As the trays came out of the glasshouse there were noticeable differences between the trays. Each tray of seedlings has a label identifying the parents and each of these seedlings in a tray is genetically different.

At this stage the seedlings within each tray are very similar in appearance but the trays or families do appear different. I started asking questions to George about the seedlings.

George, can you please explain what I am looking at with a tray of X x Y?

All the crosses for SRA's selection programs are made at our Meringa station and one of my tasks each year is to select which bags of seed (crosses) for starting the selection program in the Central region. I use all the parent information that is available to select the seed, including disease ratings and how they performed previously as a parent and as a variety. Each tray contains seedlings from a different cross, and each seedling is a unique individual that has the potential to become a commercial variety in about 12 years' time, but the chances are very slim. Not many make it through to the end.

Some of the codes of the parents are SRA canes but some of the codes start with other initials what does this mean?

Before a variety is released commercially (with an SRA number), its given name is what we call the seedling code, which provides information on where it was first planted as a seedling and in what year. For example: QC05-316 was first planted in Central (C) in 2005 (05) and '316' is just the selection number from the 2005 seedlings. Q stands for Queensland, 'C' for Central, but could be 'N' for north, 'A' for Ayr, 'K' for Kalamia (joint program with Wilmar) or 'S' for south. By the way, QC05-316 was released last year as SRA21$^{\phi}$.

Please can you explain the international exchange and some of the countries the parents are from.

We have a variety exchange program with several overseas countries, including Mauritius, USA, Brazil, Argentina, Colombia and more recently Japan. We import about 40 or 50 varieties from overseas each year but they have to go through strict quarantine and testing period before being released to the regions. Varieties from overseas have proven to be very important parents in our breeding program.

Some of the codes are actually popular current varieties like Q240$^{\phi}$. Are there other parent canes that growers may be familiar with?

Commercial varieties are also used as parents, even before they are released commercially, they make their way to Meringa to be used in crossing. Some really promising parents that growers would be familiar with are Q208$^{\phi}$, Q209$^{\phi}$, Q183$^{\phi}$ and Q253$^{\phi}$. ■

***(Above left)** Seedlings in the glasshouse.*
***(Above right)** Clare Gersch, Chris Tom, and Anne Boe.*