

SRA plant breeder Roy Parfitt showing frost damage in one of the varieties within the Gayndah FAT.

Heading west: Gayndah trials assess frost tolerance

Is there potential to push the boundaries of current sugarcane production further by expanding into frost-prone areas? The team at Isis Central Sugar Mill is keen to find out, with research support from SRA and implications for many areas of the industry.

It is a common challenge for many cane-growing regions: horticultural crops, tree-changers looking for a horse paddock, and timber plantations have reduced the area of sugarcane growing land.

In other regions, it is not crops or grass, but houses and industrial estates that are sprouting onto cane country.

The risk of declining cane supply and its long-term threat to mill viability is typified at Isis, where macadamias and avocados are common on the landscape.

SRA has already been working with industry on this challenge through research projects that are looking to maximise production from marginal soils, as sugarcane farming is pushed into these areas.

Separate work has also started establishing frost plots at Gayndah, in a region better known for its grazing and citrus industries.

The investigation is being driven and led by Isis Central Sugar Mill, and they see it as a potential long-term solution for ensuring a sustainable cane supply.

According to Chairman Peter Russo, while they consider that the investigation is still in the early stages, they are also excited by the opportunity that it presents.

“We are in the feasibility stage, but we are slowly ticking off key milestones,” Mr Russo said. “We are working with the Federal Government to investigate water possibilities (from Paradise Dam), and we have secured a rail corridor for the freight.

“There is plenty of fertile land in the region, and there is already interest from land owners.

“But we are not rushing. We know that the Gayndah region has grown other crops in the past, and we need to be mindful of why people stopped growing those crops.”

SRA is conducting four variety trials, including a Final Assessment Trial (FAT) near Gayndah and these are expected to run for two more years.

A FAT features about 175 different varieties – or potential new varieties – that have progressed through years of development through the SRA breeding program. FATs assess new varieties in the field and provide valuable data to help local Regional Variety Committees

(RVCs) make an informed decision on whether a new variety is suitable for release.

The plots at Gayndah, and one site in particular, were hit with some significant frost events in 2017, which has provided plant breeder Roy Parfitt and his team with valuable data to assess.

Mr Parfitt said there were two planting times for the trials – September/October, and another in March/April, as planting time was also a key question.

“Obviously one of our first priorities is assessing how varieties stand up to frost,” Roy explained. “But we also know that every variety will start deteriorating at a different rate. We know that the varieties that deteriorate more slowly have more value, as they could allow for more time to get the cane to the mill after it has been frosted.”

He said that frost would continue to be just one factor in variety selection. “We still need to assess the full range of characteristics such as tonnes, CCS, and other characteristics such as disease resistance.”

Isis Chief Field Officer, Paul Nicol, said that the Isis Board visited the sites in August, and they were surprised by how well the cane had grown.

“We’ve had a tough season with drought, then Cyclone Debbie, and then drought again, but some of this cane is comparable to cane closer to the coast at Isis,” he said. “We like the look of some of the response to frost, and we are hopeful that if we find a suitable variety with some frost tolerance then it would also be useful in other areas.

“We experience similar frosts at our growing areas near Wallaville and Gin Gin, so this has important lessons for other growers.

“It also has implications for a lot of sugar growing regions of Queensland and NSW.

“It is early days, but we are grateful that SRA had the foresight to bring trials here.”

For more information

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Below: Roy Parfitt and Isis Chief Field Officer, Paul Nicol, assessing information on the Gayndah FAT.

Below insert (left): Paul Nicol says that there were seven to eight frosts at this FAT site in 2017.

Below insert (right): A close-up of frost damage in one of the varieties.

