



Sweetening the deal

Processing sweetcorn is an important annual crop for growers on the North Island's East Coast, but recently this key rotation crop has failed to provide the financial return growers need.

Land rental, chemical and fertiliser price increases combined with declining yields, have made growers question the role of processing sweetcorn in their overall programme. The 2017-18 season resulted in significant financial losses for a number of East Coast process sweetcorn growers.

In response, the Gisborne Produce Growers Association set up a sub-committee dedicated to finding a way forward for processing sweetcorn. It conducted a literary review of international and national research studies on processing sweetcorn in which the name of one researcher featured frequently. Dr Martin Williams is an ecologist with the United States Department of Agriculture's (USDA) agricultural research service and the sub-committee contacted him to

see if he could offer any insights into improving New Zealand sweetcorn yields.

In September a grower representative from Gisborne with co-funding provided by Process Vegetables NZ, met with him in Melbourne, where he was visiting briefly, to discuss sweetcorn production and research in the US and to explore opportunities or ideas that might assist process sweetcorn growers in NZ achieve higher and more consistent yields.

The US has experienced similar economic constraints in processing sweetcorn in the last decade with stagnant yields and prices struggling to compensate for rising input costs. However a number of innovative research studies in recent years reveal opportunities to improve the

sustainability of processing sweetcorn. The key message from these studies was that different varieties have different needs, particularly in regards to plant density. The full report, *Agronomics and economics of plant population density on processing sweet corn* is available at www.martywilliamslab.com/publications2.html

One initiative that is beginning to be adopted in the US is using commercially available sweetcorn varieties that tolerate high plant density, and seeding them at elevated rates that optimise grower and processor profitability. These varieties are more tolerant of interplant competition, maintaining individual plant yield despite more neighbours. Dr William's onfarm research throughout the upper

mid-west shows economic gains to both the grower and processor when growing such hybrids beyond the standard 58,000 plants/ha.

Could such research benefit our sweetcorn production?

Several questions arise;

- **What are New Zealand's plant densities?** Typically, the super-sweet sweetcorn crop is planted near 70,000 plants/ha, however limited observation indicates an average final density of about 45,000-55,000 plants/ha. Such a high plant mortality, if widely confirmed, is cause for concern. Identifying the driving factors of plant mortality are essential.
- **Are currently used hybrids being grown at plant densities that optimise profitability?** Are there certain varieties available in NZ that exhibit density tolerance, like observed in the US? If so how should those varieties be grown in NZ to optimise their performance? These types of questions would require local trials conducted in NZ and this option is to be explored further.

Dr Williams also invited the NZ sweetcorn industry to join the International Sweet Corn Development Association (ISCD) www.sweetcorndevelopment.org

Its goal is to foster cooperation among sweet corn breeders, researchers, processors and seedsmen globally. Its annual meeting, which this year is being held on November 26,-27 in Wisconsin Dells, Wisconsin includes a series of presentations on the latest sweetcorn research.

This growing season, the Gisborne Produce Growers Association will quantify seeding rates, crop emergence, losses in plant density, and potential sources of plant mortality on fields throughout the North Island's East Coast. Additional field-level observations on pests, diseases, soils and crop performance may prove useful in understanding the root causes of stagnant or declining yields.

Once our observations have been compiled, the aim is to have Dr Williams visit NZ in July next year to review the findings, meet with growers and discuss potential courses of action and research. As a grower group, the long term goal is to open a dialogue with international researchers and growers in order to improve the sustainability of NZ processing sweetcorn industry. ✓

Article supplied by the Gisborne Produce Growers Association.



NEVODA

EQUIPMENT CO. LTD

09 238 0770 021 959 948

nevoda@hyper.net.nz

70 Tuakau Road PUKEKOHE

