

Better crops start with enhanced soil health

FOR the past three years Darling Downs farmer Don Baartz has been monitoring the performance of Flinders Agriculture calcium silicate.

Mr Baartz from Baartz Farming at Branchview, Cecil Plains, intensively crops cotton and corn for silage.

After consistently applying 3 tonnes per hectare of calcium silicate, Mr Baartz said he had observed two main changes.

They were enhanced soil health, with significant structural and nutritional improvements in the soil profile, and greater crop resilience demonstrated as sustained, robust plant health throughout both the cotton and corn rotations.

"Having successfully boosted our baseline soil health over the last decade using composted manures, there remained a need to increase the mineral and calcium content to maximise the improvements," he said.

"In fields treated with two applications, we are transitioning this strategy forward.

"We plan to move from the initial capital rate down to a strategic maintenance application to sustain the excellent results we've had from this product."

A SAVIOUR FOR STRESSED CROPS

Flinders Agriculture business services manager Wendy Howe said silicon was most likely to provide economic benefits in cotton when crops were grown under drought or intermittent water stress, on sandy or weathered soils with low available silicon, in saline conditions, and in high-



Cecil Plains cotton grower Don Baartz (top left) has been testing Flinders Agriculture calcium silicate (right) since 2023. Flinders Agriculture agronomists Mike Webster, Scott Beckett and Boyd Williams (left) work directly with growers to improve soil health. Pictures supplied

yield production systems where nutrient use efficiency was important.

Ms Howe said applied silicon can increase the uptake of key nutrients such as nitrogen, phosphorus, potassium, calcium and magnesium.

Studies had found significant increases in lint and seed yield where silicon was applied, as well as improvements in fibre characteristics such as staple length, fibre strength and micronaire values, leading to higher-quality cotton, she said.

"Although responses vary by region and pathogen, silicon strengthens plant tissue and can enhance natural plant defenses which may reduce susceptibility to some

ADVANTAGES FOR COTTON

Silicon is not considered an essential nutrient for cotton, but Flinders Agriculture business services manager Wendy Howe said research had shown it can provide some important benefits, especially for crops growing under stressful conditions.

- Increased cotton growth, boll development, lint and seed production, and overall yield.
- Better fibre quality.
- Improved drought tolerance and water use efficiency.
- Enhanced uptake of key nutrients, which often results in stronger growth and improved nutrient-use efficiency.
- Greater resistance to environmental stressors.
- Stronger plant structure, which can be less prone to lodging and physical damage.
- Reduced disease and pest pressure.

diseases and insect attacks," she said.

After starting Mineral Mulch in 2011, Ms Howe

and husband Rob, bought Flinders Dolomite in 2021.

They combined the two and renamed the business

Flinders Agriculture in 2022.

Ms Howe said the company had since grown into a leading supplier of soil amendments across southern Queensland and northern NSW and they were looking to expand its reach further.

One of their core focuses was improving soil health for more productive crops.

"The products, made from recycled materials, deliver key elements such as calcium and silicon, helping to strengthen plant root systems and overall resilience," Ms Howe said.

"We aim to improve soil health so crops are healthier and stronger, which ultimately helps maxim-

ise yields."

Ms Howe said her team of agronomists played a central role, working directly with growers to assess soil conditions and recommend tailored solutions.

"Our agronomists are out there doing soil tests and helping growers improve their soil," she said.

"If a crop isn't performing, the first place to look is the soil which can often be underestimated."

Growers using the company's products had reported improved yields and healthier soil, with strong results across multiple crop types including lucerne, cotton, macadamias and avocados, she said.

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