FLINDERS AGRICULTURE ADVERTISING FEATURE

# Boost soil productivity

THE world of agriculture is recognising the benefits of applying calcium and silicon to soils at the same time.

And, thanks to Flinders Agriculture, the go-to supplier of agronomically proven soil amendments, Queensland primary producers now have ready access to a single product which contains both.

Flinders Calcium Silicate is refined from a 100 per cent sustainable and recycled material and has up to 290 kilograms of silicon and 120kg of calcium per tonne.

Sugarcane, turf, lucerne, macadamia, avocado and cotton growers are all among those who have seen the benefits of using Flinders Calcium Silicate.


Rocky Point canegrower Greg Zipf, Raylorn Farms says his applications of Flinders Calcium Silicate over the past decade have boosted crop health and yield increases in cane and soybeans. Picture supplied

## HOW IT WORKS

Calcium and silicon work hand-in-hand, with both elements being critical to sustain plant health, especially in challenging field conditions.

When applied together, they reinforce each other's benefits.

**Stronger cell walls (structural reinforcement):** Calcium is a key component of the "glue" that holds cells together whilst silicon deposits in the cell wall as solid silica (SiO2) strengthening the cell wall itself.

Together they give cells the structural stability, rigidity and compression strength to become more impenetrable for pathogens and pests.

**Improved disease resistance:** Both calcium and silicon activate plant defence systems but in different ways. Calcium maintains cell wall integrity, reduces the leakage of nutrients from cells (that pathogens feed on) and signals the plants immune response.


Atkinson Transport operations manager Kepler Atkinson says he's had good success using Flinders Calcium Silicate. Picture supplied

Silicon triggers the production of phenolics, phytoalexins and defence enzymes as well as forming a physical barrier under the cuticle. This gives the plant an enhanced systemic resistance to attack.

**Stronger roots:** Calcium is vital for root tip development and improves root branching whilst silicon boosts root mass and density whilst increasing resistance to root pathogens.

Together they produce a healthier more robust root system that absorbs nutrients and water more effectively.

**Increased nutrient uptake and transport:** Calcium creates the root architecture and membrane stability required for nutrient uptake, whilst silicon enhances transporter activity, protects the root tissues and improves calcium efficiency.

Together calcium and silicon enable significantly better nutrient absorption.

**Drought and heat tolerance:** Calcium regulates stomata (controls water loss) and supports membrane stability under heat stress whilst silicon reduces transpiration by thickening the cuticle and enhances water-use efficiency.

**Reduced abiotic stress (salt, metal toxicity and pH):** Stress conditions (salinity, drought, heat, metals) impair calcium uptake.

Silicon is a stress mitigator in that it improves photosynthetic efficiency, water relations, enzyme activity and membrane stability.

By reducing the stress barriers that restrict calcium uptake, silicon indirectly creates conditions where calcium can be more readily absorbed and mobilised.

## CANE JUMPS AWAY

Flinders Calcium Silicate is one of the most economical sources of agricultural silicon.

Third-generation Rocky Point canegrower Greg Zipf, Raylorn Farms, has been applying Flinders Calcium Silicate at a minimum rate of 4.5 tonne per hectare via a belt-spreader for nearly 10 years.

Since using the product, Mr Zipf said he has seen both crop health and yields increase in cane and soybeans.

He said his return on investment has been well worth the outlay.

Flinders Calcium Silicate is recommended to be spread and combined prior to planting.

## GROWER SEES PLEASING RESULTS

Atkinson Ag and Transport is a family-owned business at Maryborough.

The business used Flinders Agriculture's Calcium Silicate Mineral Mulch at a rate of 6t/ha across a wheat crop in 2025.

This year, the business has planted soybeans into the same soil.

Atkinson Transport operations manager Kepler Atkinson said the results have been outstanding.

"The product has helped turn previously non-farmable soil into productive ground and has significantly improved overall soil conditions," Mr Atkinson said.

"We also noticed a clear reduction in salty patches across paddocks.

"Most importantly, we achieved increased yields per hectare in both our wheat and soybean crops this year, along with noticeable improvements in crop quality.

"Throughout the growing period, plant health was excellent, with strong colour and good plant stand quality."

Mr Atkinson said he would highly recommend the product.

"Without a doubt, Flinders Calcium Silicate Mineral Mulch has delivered real improvements to both soil performance and crop outcomes," he said.

## THE TEAM

Flinders Agriculture has been supplying high quality agricultural products for more than 130 years.

Flinders Calcium Silicate is refined and reprocessed at the purpose-built facility in New Chum near Ipswich.

Flinders Calcium Silicate has become a household name in the agricultural industry as an effective source of calcium and silicon for plant growth and soil fertility.

It is sold through most rural retailers across Queensland and NSW.

Contact Flinders Agriculture to find the nearest stockist.