

Plant Vitality Accelerator Program

2025 PARTICIPANT PROFILE

NanoSoils Bio





NanoSoils Bio

Smart nanoparticles for stronger germination,
less stress and healthier crops



The Industry Problem

- Slow germination rates in some seed varieties
- Lodging in cereal crops like wheat and barley
- Overreliance on chemical fertilisers and pesticides
- Limited efficacy of some biological solutions



Solution

- Improves germination and reduces lodging – without altering plant genetics
- Triggers precise nutrient release to maximise uptake
- Fully degradable silica-based nanocarriers
- Compatible with current seed coating processes
- Works across a wide range of seeds and plants
- Scalable nano-encapsulation technology to reduce input costs





Benefits

Improved Germination Performance

Faster and more reliable

Decreased Input Usage

Decreased reliance on fertilisers and pesticides

Reduction in crop lodging

Soil health benefits

Improved soil health from amorphous silica

Cost effective

Cost-effective delivery method for growers



Markets

Seed industry

- Horticulture
- Broadacre (including wheat, barley, sorghum)
- Pastures

Fertiliser and biofertiliser industries

Seaweed production



Validation

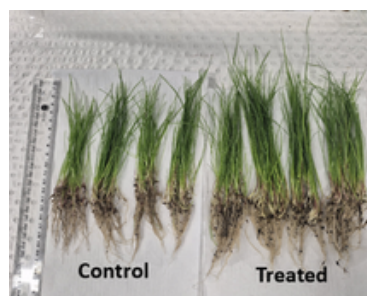
12 years of R&D to develop safe, degradable nanoparticles

5 pilot trials conducted

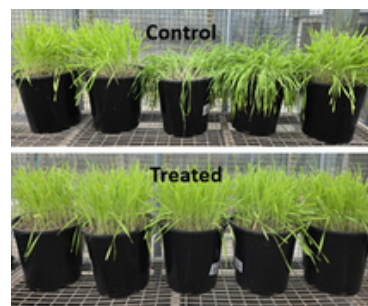
1 licensing negotiation

2 licensing discussions

3 patented solutions



1.8 times more yield in biomass for tall fescue seeds treated with



Nanoparticles prevent lodging for barley and wheat under drought



Pictured (left to right): Dr Azrhy Mohd Ghazali, Dr Cong Vu and Scientia Professor Justin Gooding

About the Founder, Cong Vu

Dr Cong Vu is the Founder and CEO of NanoSoils Bio. He completed a PhD in nanomedicine at UNSW in 2021 under the prestigious Scientia scholarship. His research focused on using nanoparticles to deliver anticancer drugs while protecting healthy cells. A discovery involving mitotane, a drug linked to the banned insecticide DDT, sparked the idea to apply similar nanotech principles to pesticides for safer environmental outcomes. In 2021, he founded NanoSoils Bio to commercialise this innovation. Two patents from his PhD work have been assigned to the company by UNSW, and he has been working full-time on NanoSoils since its launch.



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