



Zero Net Emissions Horticulture Demonstration Farm



TIA's Vegetable Research Facility at Forthside will be established as Australia's first dedicated zero net emissions (ZNE) horticulture demonstration farm.

The demonstration farm will be used to test new technologies and alternative input strategies that can reduce emissions (nitrous oxide) while maintaining or boosting crop yields and profitability for cool-climate horticultural crops.

The project will also generate baseline data about emissions from the same crops under current management practices. This new information will help to validate tools that growers can use to calculate emissions from their own farms.

What is the focus?

The demonstration farm will be established in 2025 and will run over a four-year crop rotation cycle. Trials will compare traditional inputs (e.g. NPK fertiliser) with alternative inputs for potato, peas, broccoli, carrots and onion.

The focus areas include:

- Reducing or optimising synthetic nitrogen inputs for each crop to reduce nitrous oxide emissions.
- Increased cover crops to bring symbiotically fixed nitrogen into the system.
- Monitor emissions generated from conventional and alternative management programs, along with yield, quality, and productivity attributes
- Validate scalable and profitable practices that align with Australia's net-zero goals.

Funding

This project has received funding from the Tasmanian Government's Agricultural Innovation Fund.

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KEY POINTS

- Reducing greenhouse gas emissions from agriculture is critical to achieving national and global climate goals, including the target of net-zero by 2050.
- Agriculture contributes approximately 14% of Australia's national greenhouse gas emissions. While most of this is associated with livestock production (methane), 23% is associated with fertiliser use and waste management (nitrous oxide and carbon dioxide).
- The ZNE Horticulture Demonstration Farm will compare different farm management strategies and their impact on emissions, with a focus on nitrous oxide.
- Research will be co-designed with growers and industry partners to ensure practical results for Tasmanian farmers.
- Results from this project will help farmers make decisions about whether solutions are economically worthwhile, practical and sustainable.
- TIA is also a research partner in the national Zero Net Emissions for Agriculture Cooperative Research Centre (CRC).