

## HONOURS PROJECT

**Project Title:** Breakdown of agrichemicals inside crop plants

**Supervisor(s):** Prof. Josh Mylne



### Project

Without agrichemicals like fungicides, crops would fail. Even taking into account the basic requirements for chemical registration, very little is known about the lifespan of fungicides inside plants. This includes understanding of what each fungicide is biotransformed into or how environmental conditions or plant species affects the rate and type of biotransformation. This project will focus on *in planta* behaviour of fungicides to address a significant gap in knowledge on the fate of fungicides once applied to plant systems. This is a new project that will use a model plant and sensitive, quantitative tandem mass spectrometry to examine the kinetics of efficacy, duration and biotransformation of fungicides, and bioactivity of derived compounds that could be applied to fungicide fate in different crops.

**Funding:** We are funded to work on fungicides by the GRDC (Grains Research and Development Corporation who use levies paid by grain growers and contributions from the Australian Government to fund research that creates enduring profitability for Australian grain growers.

**Special requirements:** The project will have a strong mass spectrometry component. Students will have access to an OrbiTrap Exploris 120 (a highly sensitive mass spectrometer) and trained and supported in its use by a full-time technical mass spectrometry expert and post-doctoral fellow.

### References:

ThermoFisher (2022) Introducing the NEW Orbitrap Exploris 120 Mass Spectrometer.

<https://www.thermofisher.com/order/catalog/product/BRE725531>