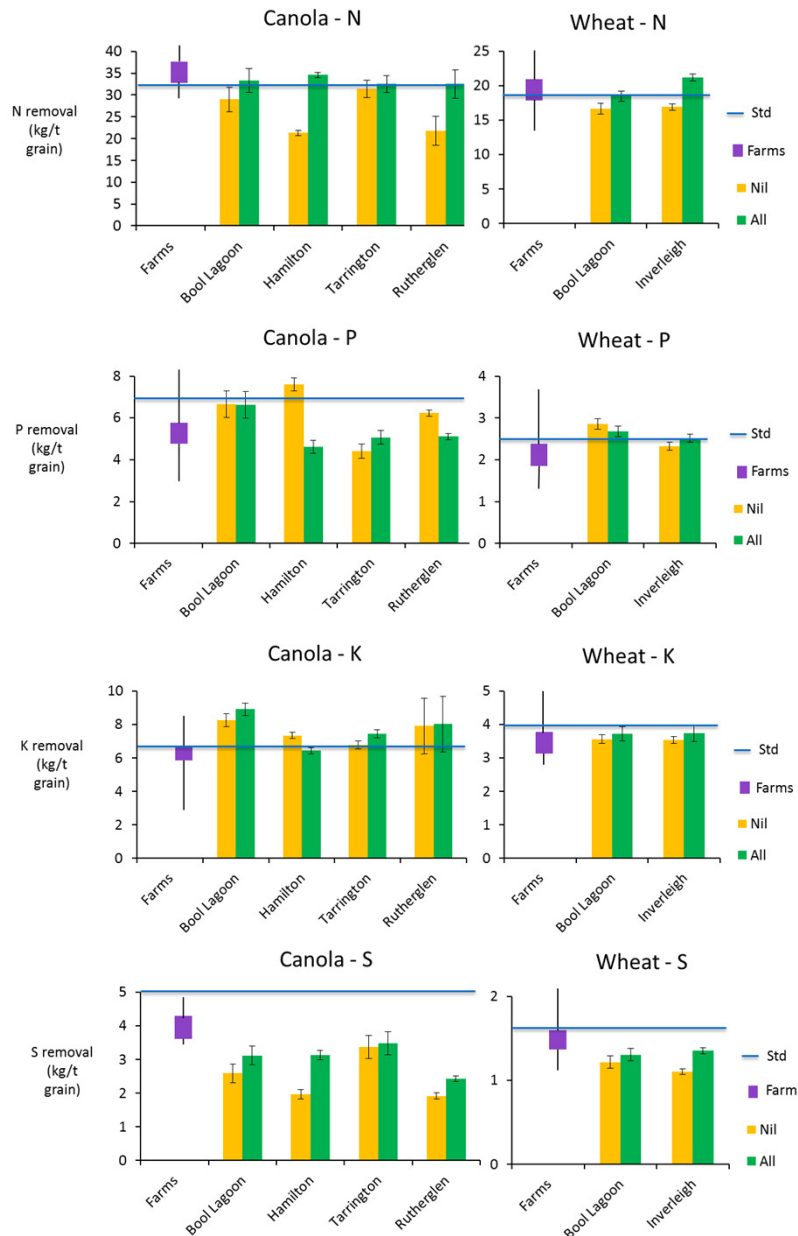


# How Are Replacement Nutrient Quantities Influenced By Fertiliser Management ?

Malcolm McCaskill , Amanda Pearce, Aaron Vague, Brendan Christy, Rob Norton, Debra Partington, Penny Riffkin



- This study was conducted in Australia’s high rainfall cropping zone which can yield 10 t/ha of wheat and 6 t/ha of canola
- In 2014 and 2015, we analysed 60 farm canola samples delivered to silo receival sites and 56 wheat samples
- In 2016 samples were analysed from nutrient omission experiments at 4 sites for canola, and 2 for wheat
- The “Nil” treatment only received 30 kg N/ha at sowing
- The “All” treatment received 50 kg P/ha, 50 kg K/ha, 20 kg S/ha and N to 100% of estimated requirements
- Nutrient removal was compared with standardised values from the IPNI Crop Nutrient Removal Calculator



## Findings

- Fertiliser management did not have a strong influence on removal per tonne grain except at Hamilton and Rutherglen where there were large grain yield responses
- The standardised values over-estimated removal of S for both crops and P for canola
- Standardised values were close to farm samples and the “All” treatment for N, K and P for wheat
- Higher N removal per tonne of grain in the farm samples were probably because 2014 and 2015 were drier than 2016



Nutrient removal from commercial farms (purple shows interquartile range, lines extend to the minimum and maximum) in 2014 and 2015, and nutrient omission trials in 2016, relative to standardised values from the IPNI Crop Nutrient Removal Calculator (Std) at reference moisture contents of 7% for canola and 11% for wheat.