

**Project Title:** Using strategic applications of nitrogen to increase wheat yields and grower returns through improved nitrogen and water use

H1/05 Final Report

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### **Executive Summary**

Over the past three seasons research at the Hart fieldsite has supported previous evidence that tactical post emergent applications of nitrogen can increase water and nitrogen utilisation in wheat. Importantly this strategy was shown to be effective in contrasting seasons.

Post emergent applications of nitrogen produced the same or significantly higher grain yields and protein compared to where all the nitrogen fertiliser was applied at sowing.

The work showed that manipulation of the wheat canopy through row spacing, crop density or grazing prior to stem elongation did not negatively impact on grain yield or quality. This has clearly highlighted the flexibility of grain yield formation in wheat.

The strategy has been widely adopted over the past few seasons and has provided an important tool for reducing financial risk by offering the ability to balance nitrogen inputs based on early crop growth, accumulated rainfall, soil moisture and the anticipated rainfall to come. This has reduced costs and increased profits not only through saved fertiliser, but by also growing a thinner crop, better able to cope with a dry finish.