FINAL REPORT

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

UHS10454

The effect of controlled release nitrogen fertilisers on dual purpose wheat biomass production, grain yield and protein content

PROJECT DETAILS

PROJECT CODE:	UHS10454
PROJECT TITLE:	THE EFFECT OF CONTROLLED RELEASE NITROGEN FERTILISERS ON DUAL PURPOSE WHEAT BIOMASS PRODUCTION, GRAIN YIELD AND PROTEIN CONTENT
START DATE:	01.01.2013
END DATE:	15.12.2013
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ORGANISATION:	THE UNIVERSITY OF SYDNEY
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Summary

This study aimed to evaluate the effect of different application rates of controlled released nitrogen fertilisers on crop biomass production, plant nitrogen content and grain yield in a high rainfall climate

product registrations listed in PUBCRIS for current information relating to product registration.

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Old or Archival Reports (Projects that concluded in 2007 or earlier)

The information contained in these older reports is now several years old, and may have been wholly or partially superseded or built upon in subsequent work funded by GRDC or others. Readers should be aware that more recent research may be more useful for their needs. Findings related to agricultural chemical use are also potentially out of date and are not to be taken as a recommendation for their use.

Conclusions

The application of industry standard Incitec Pivot® urea and Everris® 43% N controlled release nitrogen fertiliser on dual-purpose EGA Wedgetail◊ wheat increased early production of biomass and plant nitrogen content compared with uncoated urea. Everris® 43 %N polymer coated urea showed the greatest dry biomass production compared with the unfertilised control and other fertilisers. Both Incitec Pivot® urea and Everris® 43% N showed strong early biomass production during the both grazing events although Everris® 43% N gave the highest protein percentage and grain yield at harvest compared with the other fertilisers. This data supported the hypothesis that controlled released nitrogen fertiliser can potentially increase dry wheat biomass production, grain protein and yield with higher application rates of Everris® 43% N performing better compared with industry standard Incitec Pivot® urea.

Recommendations

Controlled released nitrogen fertilisers Everris® 43% N on dual-purpose EGA Wedgetail◊ wheat increased early production of biomass and plant nitrogen content during the grazing events. Following the grazing events Everris® 43% N showed the greatest yield responses for both grain yield and protein compared to the other products.

Achievement/Benefit

Overview of Project Achievements

This project indicated that the data supported the hypothesis that controlled released nitrogen fertilisers can potentially increase dry matter, grain portein and grain yield.