

Stubble Components Demonstration

The demonstration was established to test whether increased N rates influence the quality (nitrogen content) of the stubble produced.

Scout wheat was sown on May 4th with 125 kg/ha DAP. Soil N (0-60 cm) was 74 kg N/ha. The demonstration was topdressed on August 2nd and again on August 20th at various rates. Crop samples were taken just prior to harvest to test for harvest index (the proportion of grain to total biomass). Grain yield data was collected and stubble tested for nitrogen content.

The results

Topdressing strategy, yield, grain protein, stubble N content (not replicated) and harvest index (replicated data)

Treatment	TD1 kg urea/ha	TD2 kg urea/ha	Yield t/ha	Protein %	Stubble kg N/ha	Harvest Index
1	100	100	7.45	9.4	6.8	0.450
2	100	200	6.95	10.7	6.9	0.463
3	100	0	7.54	9.3	5.4	0.446
4	100	300	6.57	11.1	7.7	0.476
5	200	0	7.45	9.9	5.7	0.461
6	200	100	6.51	9.5	4.7	0.456
7	200	200	7.67	10.6	6.0	0.475
p						0.075
lsd						0.022
cv%						2.90

What does it mean?

The higher the rate of N at the second topdressing resulted in higher stubble N ($r^2 = 0.81$), but overall the N content of the stubble was low. Total N topdressed had a weak relationship with stubble N content ($r^2 = 0.34$).

The higher the total amount of topdressed urea resulted in a higher Harvest Index ($r^2 = 0.84$).

Overall the Harvest Index (HI) was higher than expected for the irrigated crop compared with dryland crops where the HI is approximately 0.4.



GRDC Stubble Initiative