

Hamleigh #2 Nitrogen Use Efficiency (NUE) Demonstration Site

Crop Productivity (2017)

The following three charts compare N applied as urea with enhanced efficiency fertiliser (EEF) products at the following rates;

Six easy steps (6ES) + 25% N = 170kg/ha N

6ES = 130kg/ha N

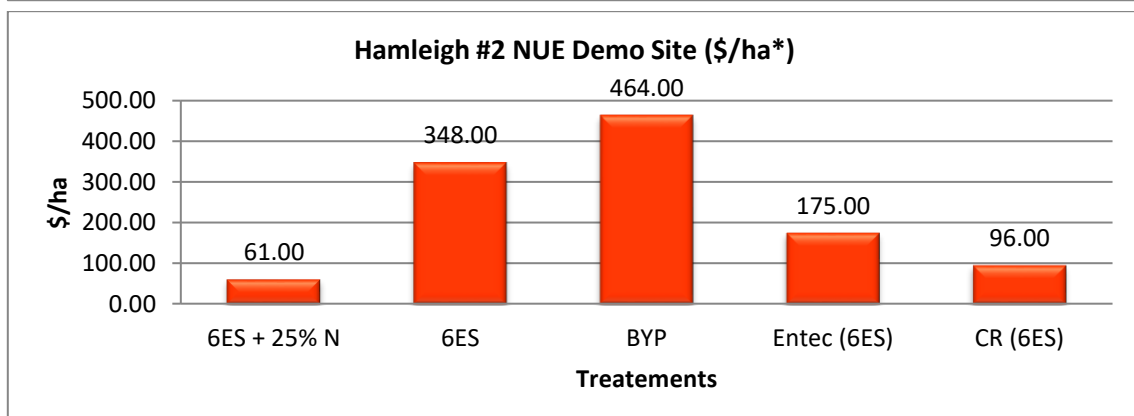
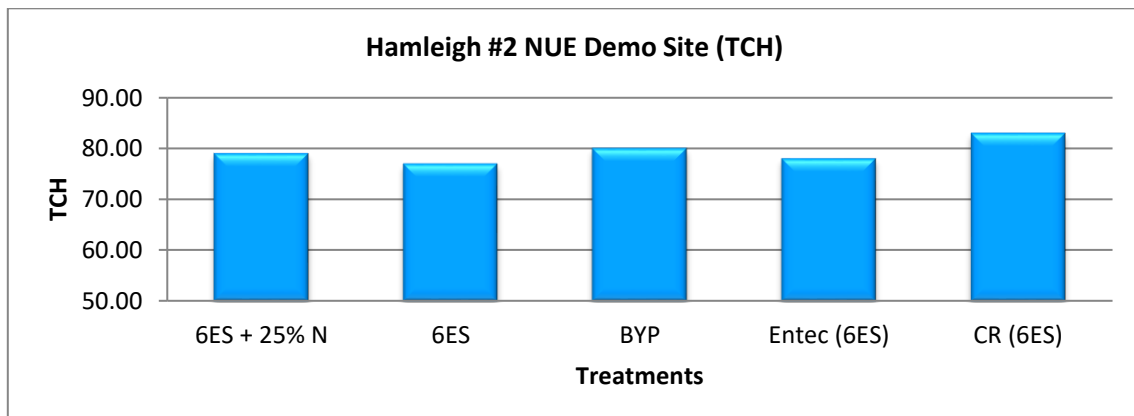
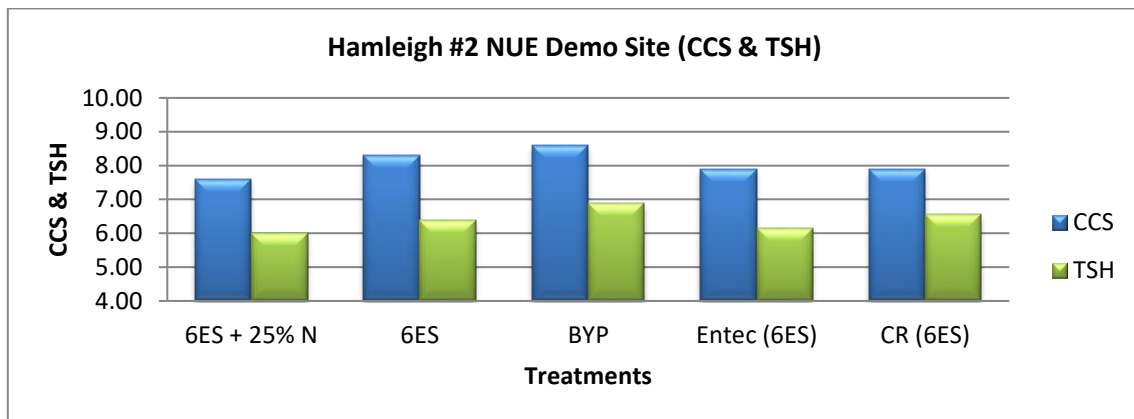
Block Yield Potential (BYP) = 145kg/ha N

Entec® = 130kg/ha N

Agromaster® / urea blend (25% / 75%) = 130kg/ha N

While results indicate that the EEF treatments are similar, or perhaps even slightly better than the straight urea for TCH, there was a reduction in CCS. This reduction, in conjunction with the extra cost of the EEF products, resulted in reduced economic return. The cost associate with the extra 40kg/ha N applied in the 6ES + 25% N treatment also resulted in a poorer economic return for that treatment.

Of interest was the BYP treatment, which indicated an increase in both CCS and TCH over the 6ES recommendation; despite the extra 15kg/ha of N applied.



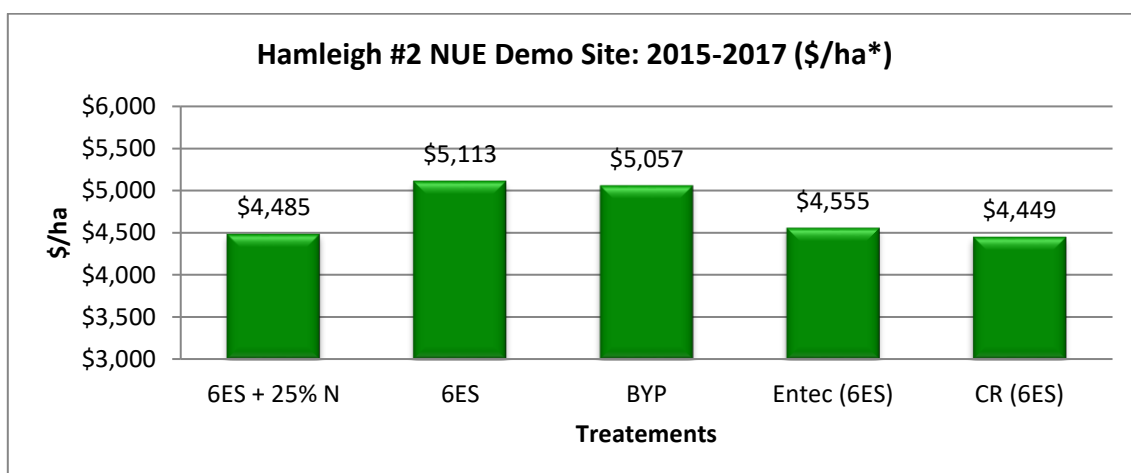
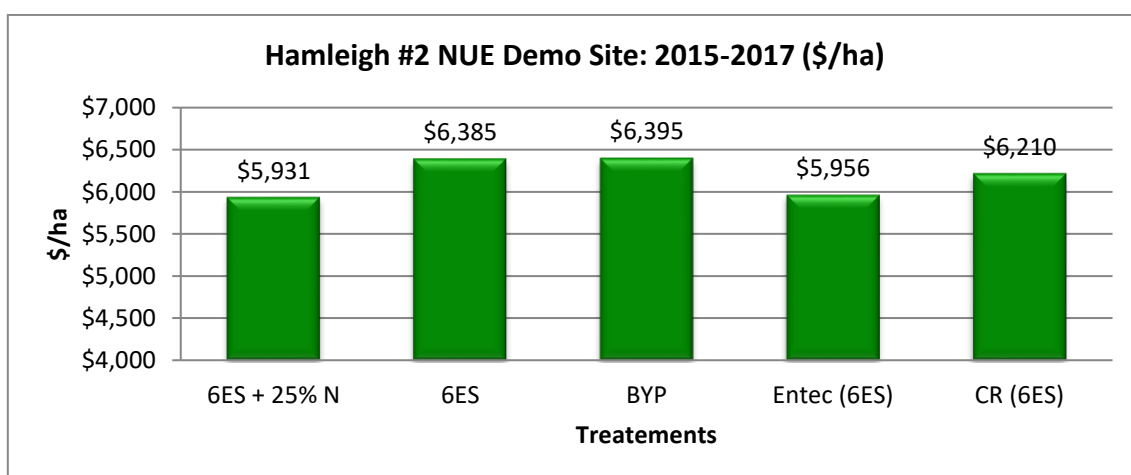
Economic Return (2015 – 2017)

The following two charts reflect the basic economic return for the Hamleigh #2 demo site over a three-year period (1R – 3R). The first chart looks directly at the return, regardless of the cost of the fertiliser applied. The second chart looks at economic return after the cost of the fertiliser has been considered.

On this site the economic return was predominantly affect by variations in CCS between treatments and the cost of the N fertiliser and N product applied. Over the three-year period the 6ES + 25% N and both EEF treatments yielded similar tonnage to the 6ES and BYP treatments. The CCS was however lower in the former three treatments. This is possibly due to the extra 40kg/ha N in the 6ES + 25% N and residual N persisting for longer in both EEF treatments.

This, in combination with the extra cost of purchasing the N fertiliser, resulted in a lower economic return for the 6ES + 25% N, Entec® and Agromaster® (CR) treatments.

Had both EEF treatment rates been reduced by the current recommendation of 20% N/ha the outcome may have been different; at least for the Entec® and Agromaster® (CR) treatments. Regardless, the extra N applied in the 6ES + 25% N treatment was obviously surplus to crop needs.



NOTES:

- Soil type = heavy clay
- Commercial Cane Sugar (CCS) and Tonnes of cane per hectare (TCH) supplied by Wilmar Sugar (commercially harvested)
- \$/ha calculated on \$500/t sugar price and \$9.90 harvesting and levies.
- \$/ha* = less cost of fertiliser applied
- Fertiliser price based on actual commercial cost (only variation in fertiliser = rate and type of N applied)