X-Tend® B With Micro Carbon Technology® Improves Barley Yield and Net Income: Year 3

Research Report

Research by: Jared Spackman, PhD, College of Agriculture and Life Sciences, University of Idaho

Huma® Products: X-Tend® B

Background

Enhanced Efficiency Fertilizer (EEF) additives can improve crop production. Humates have been shown to improve crop yield. The Huma® EEF additive **X-Tend® B** is a concentrated Micro Carbon Technology® product derived from humates with high levels of organic acids and nutrients that is formulated to be blended in liquid fertilizers or to be impregnated onto dry fertilizers.

Objective

Assess the effect of urea untreated compared with urea treated with **X-Tend® B** on barley yield.

Materials & Methods

Barley (cv: ABI Voyager) was grown at the research facility of the University of Idaho in Aberdeen, Idaho. The trial was conducted as a randomized complete block with four replications. The urea-N was divided into single and split applications for 180, 135+45 lb N/acre treatments (Table 1). Each set of urea fertilizers had two scenarios. For the first scenario, the urea fertilizer was not coated with any materials. For the second scenario, urea granules were spray coated with **X-Tend® B** at 2 quarts per ton. The split applications were applied at planting and mid-to-late tillering stages (Table 1). Overhead watering was used to irrigate the crop. Barley was planted on April 21 and harvested on August 26.

Table 1. *Application and Timing of Urea, With and Without X-Tend® B.*

Treatment #	Urea-N (lb/ac)	Application Method	Timing
Urea N	180	Mid-Row Band	At planting
Urea N + X-Tend®	180	Mid-Row Band	At planting
Urea N-split	135	Mid-Row Band	At planting
	45	Broadcast Incorporated. w/Irrigation	Mid-to-Late Tillering
Urea N-split + X-Tend®	135	Mid-Row Band	At planting
	45	Broadcast Incorporated. w/Irrigation	Mid-to-Late Tillering

Results

Even though the yield difference between uncoated urea and **X-Tend® B**-coated urea was not statistically significant, the treated urea improved the barley yield (Figure 1). Under the single application scenario, the positive yield difference between uncoated vs. coated urea was 3 bu/acre. When the application of 180 lb/acre of urea was split in two (135 lb/acre at planting, and 45 lb/acre at mid-tillering) the yield advantage of coated urea over the uncoated urea was 7 bu/acre (Table 2) for the barley crop. The net income advantage of coated urea ranged from $28-$70 per acre with the ROIs between 4–11 to 1 (Table 2).

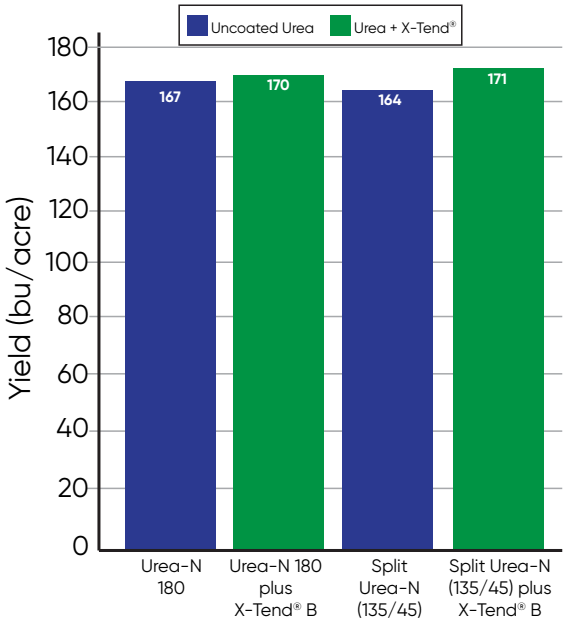

Figure 1. *Malt Barley Yield Affected By Coating Urea + X-Tend® B.*

Table 2. *Economic and Profit Gain Comparison Between X-Tend® B Coated and Uncoated Urea Treatments.*

Treatment: Urea-N (lb/acre) #	Positive Yield Difference (bu/acre)	Net Gain/ acre	ROI Ratio
Urea N 180	–	–	–
Urea N 180 + X-Tend B	3	$28.30	4 : 1
Urea N 135/45	–	–	–
Urea N 135/45 + X-Tend B	7	$70.00	11 : 1

Conclusions

Coating urea with **X-Tend® B** resulted in both yield and economic advantages when compared to urea alone. As an effective EEF, **X-Tend® B** can be a viable replacement for other types of EEFs that might have health and environmental side effects.

Further studies should be conducted to determine if an even lower dose of urea with **X-Tend® B** might be possible to achieve a similar yield result.

1331 W. Houston Avenue, Gilbert, AZ 85233 | 800.961.1220 | Fax 480.425.3061 | info@huma.us | www.huma.us