

HUMALITE PRODUCT TRIAL

Canola and Oats

Agricultural humic acid products have the potential to increase crop yields by helping plants take up nutrients more easily through the promotion of soil microbial activity. Humic acids can also stabilize soil structure in compacted soils, increasing water holding capacity while preventing erosion. There are numerous humic products available in Alberta that can be applied as either a granular or liquid soil amendment. Granular humalite is usually applied in-furrow at seeding. This research trial investigates whether humalite application will boost crop yields and grain quality in a dry growing season in Northern Alberta's Peace Region. This small plot trial studies the effect of a granular humic product on the performance of canola and oats in heavy clay soils. Humalite was applied in furrow at a rate between 0-125 lb/ac. The crop varieties used in the trial were CS 3300 canola and AC Morgan oats.

Key Points:

- No significant differences in yield or grain quality for the first year after humalite application

Task	Timeline	Details
Seeding	June 9	Canola 4.8 lb/ac Oats 132 lb/ac
Maintenance	May 10 - July 23	Urea 120 lb/ac S15 80 lb/ac Glyphosate (pre-seed) 1 L/ac Fluroxypur 240 mL/ac; Clopyralid 84 mL/ac; MCPA Ester 281 mL/ac (oats) Coragen 0.71 L/ac Glyphosate 1 L/ac (canola) Assure II 0.75 L/ac (canola)
Harvest	Sept. 15 (oats) Oct. 8 (canola)	Straight-cut

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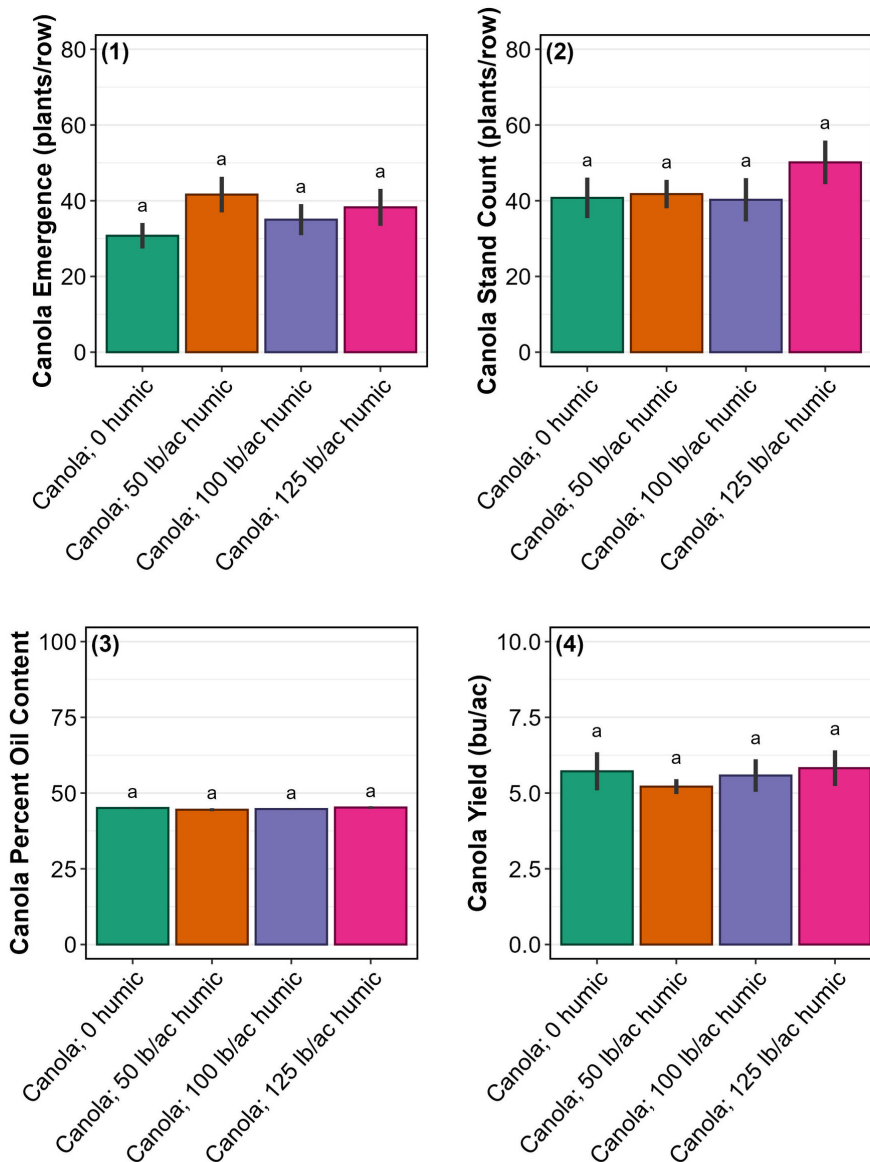


Figure 1. Emergence count (average number of plants per row) of canola 3 weeks after seeding.

Figure 2. Stand count (average number of plants per row) of canola at maturity.

Figure 3. Oil content (%) of canola treated with humalite at seeding.

Figure 4. Yield (bu/ac) of canola treated with humalite at seeding.

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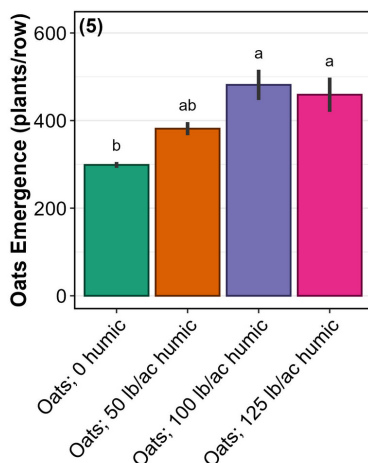


Figure 5. Emergence count (average number of plants per row) of oats 3 weeks after seeding.

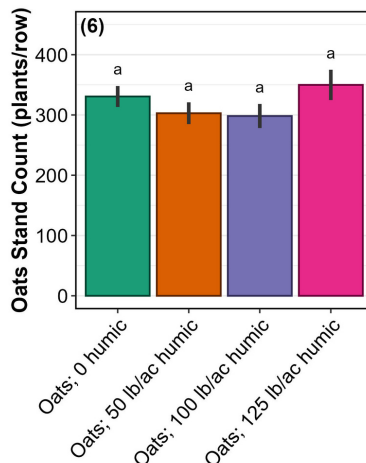


Figure 6. Stand count (average number of plants per row) of oats at maturity.

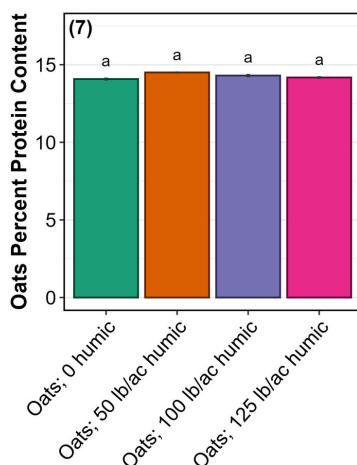


Figure 7. Protein content (%) of oats treated with humalite at seeding.

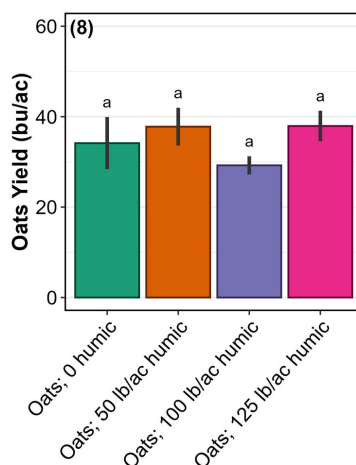


Figure 8. Yield (bu/ac) of oats treated with humalite at seeding.

The application of humalite did not result in increased canola emergence (Figure 1), canola stand count (Figure 2), canola percent oil content (Figure 3) or canola yield (Figure 4) under the dry conditions of North Star, Alberta. In our trial, the agronomic performance of all treatments was statistically, almost identical, indicating that granular humalite provided no quantifiable advantage in this season.

Some numerical differences were observed at higher humalite rates. This trend was more pronounced for oats emergence where we had statically significant differences for higher application rates of humalite, i.e., 100 lb/ac and 125 lb/ac, (Figure 5). We suspect the prevailing dry growing conditions and the heavy clay soil at the North Star research site may have restricted the potential treatment effects; therefore, further research across multiple growing seasons and soil conditions is recommended to fully evaluate humalite efficacy in the Peace Region. Past research in other areas of Alberta indicate that at least 3 years of humic application are required before changes in soil properties will be observed.