

ROTATIONS AND FERTILITY RECOMMENDATIONS

The objective of this experiment is to observe which fertilizer recommendation (either one provided by an A&L Laboratories soil chemical analysis or one provided by a WARD Laboratories Haney soil test) is best for crops such as wheat, canola and pea. Height in wheat varied across fertilizer treatments. The total rate of fertilizer recommended by A&L and Haney, respectively, increased height in wheat stands compared to wheat subject to 30% of the rate recommended by A&L (P=0.0080, Figure 1). Moisture (P=0.3713), test weight (P=0.1358), as well as N (P=0.3131), P (P=0.3186) and K (P=0.6721) content in plant tissue was the same across treatments. Canola yield was highest when 100% of the recommended fertilizer rate by A&L was applied, compared to other treatments (P<0.0001, Figure 2). Moisture (P=0.0852) and height (P=0.3075) were the same regardless of fertilizer applications. Further, in canola, N (P=0.6759), P (P=0.3580) and K (P=0.0694) content was the same across all treatments. Since there were no applications done on field pea stands, only a standard application of 13-33-0-15S at 120 lb ac⁻¹, there was no effect in either parameter (height, test weight, moisture, yield or N, P and K content in plant tissue). Since the recommendations of A&L at 30% were not great enough, a full fertilization rate from the Haney soil test was used on both treatments where A&L recommendations were 30% and 0%. Thus these two treatments are essentially the same. This explains why no difference between them was found. There was no effect in content of macronutrients such as N, P or K, in either crop which could be a result of fertilizer nutrients being lost either by leaching, runoff or denitrification.

Figure 1

Yield of wheat stands subjected to different fertilizer recommendations as per soil chemical and WARD Haney analysis tests for fertility*

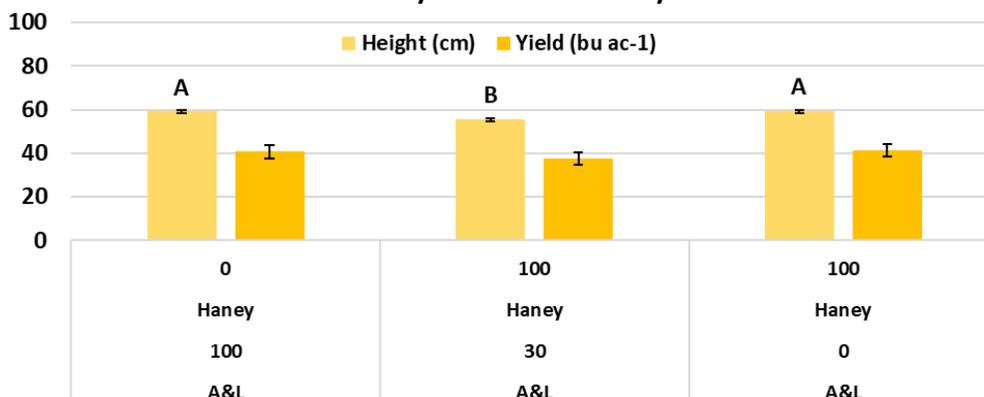
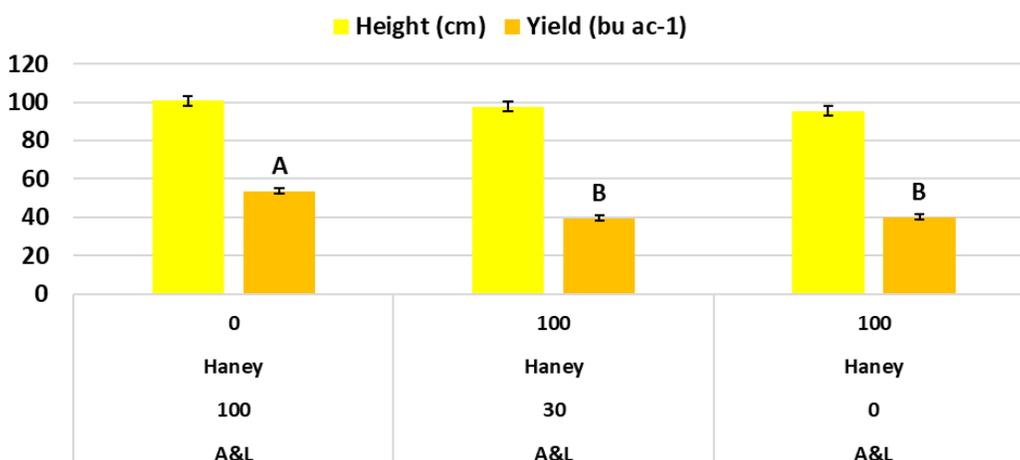


Figure 2

Yield in canola stands subjected to different fertilizer recommendations as per soil chemical and WARD Haney analysis tests for fertility*



*Values with no letters determine no statistical difference across treatments