ROTATIONS AND FERTILITY RECOMMENDATIONS RESULTS – 2021

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 an 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 results of fertilizer nutrients being lost either by leaching, runoff or denitrification.

Figure 1

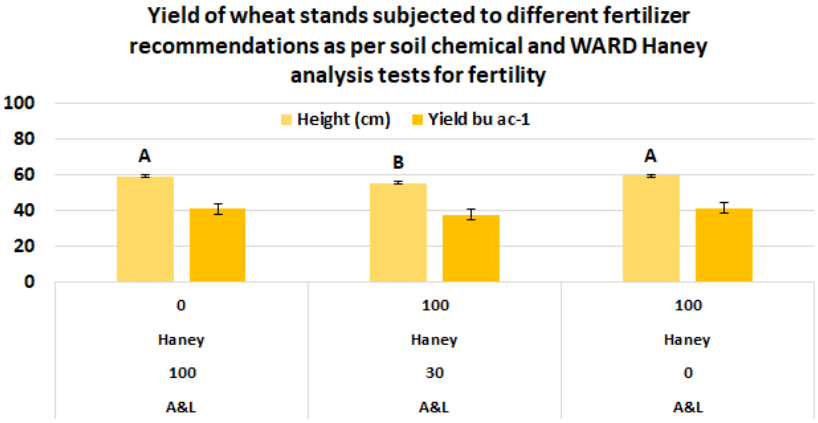
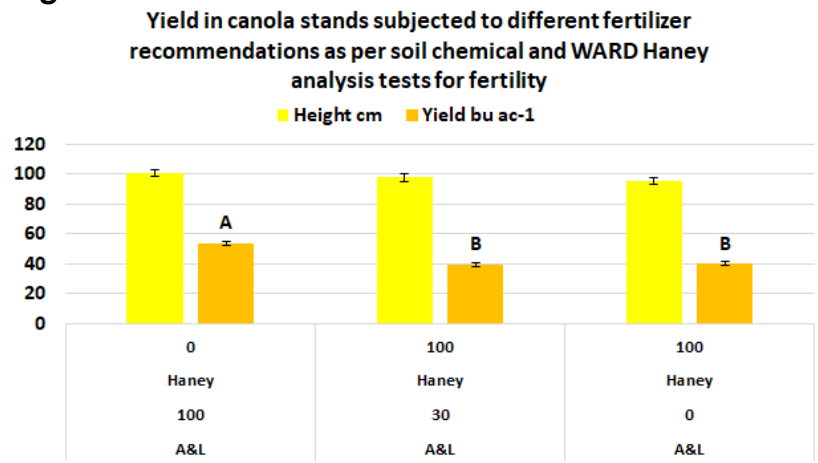


Figure 2



Seeding, Maintenance, and Harvest Information

Rotations and fertility recommendations based upon the Haney soil test (Spring Wheat, Canola, and Field Pea) - Seeding, Maintenance, and Harvest Information*

Seeding**		Maintenance						Harvest***
		Fertilizer		Herbicide		Insecticide		
Date	Depth	Date	Product	Date	Product	Date	Product	Date
Spring Wheat (AAC Brandon at 30 plants ft^{-2})								
May 24	1 in.	May 24 Jul. 1	13-33-0-15S (100 lb ac^{-1}) 46-0-0-0 (Top up app. according to treatment)	May 16 Jun. 23 Jun. 23 Jun. 23 Sep. 23	RT 540 (0.66 L ac^{-1}) Fluroxypyr (0.32 L ac^{-1}) Clopyralid (0.11 L ac^{-1}) MCPA (0.365 L ac^{-1}) Roundup Transorb HC (1 L ac^{-1})	Jun. 29 Jul. 14	Coragen (0.101 L ac^{-1}) Coragen (0.101 L ac^{-1})	Oct. 2
Canola (CS 2300 at 10 plants ft^{-2})								
May 24	0.75 in.	May 24 Jul. 1	13-33-0-15S (100 lb ac^{-1}) 46-0-0-0 (Top up app. according to treatment)	May 16 Jun. 21 Oct. 1	RT 540 (0.66 L ac^{-1}) Roundup Transorb HC (0.66 L ac^{-1}) Liberty 150 SN (1.4 L ac^{-1})	Jun. 29 Jul. 14	Coragen (0.101 L ac^{-1}) Coragen (0.101 L ac^{-1})	Oct. 13
Field Pea (AAC Lacombe at 10 plants ft^{-2})								
May 17	1 in.	May 17 Jul. 1	13-33-0-15S (120 lb ac^{-1}) 46-0-0-0 (Top up app. according to treatment)	May 16 Jun. 14 Jun. 14 Sep. 7	RT 540 (0.66 L ac^{-1}) Viper ADV (0.404 L ac^{-1}) 28% UAN (0.8 L ac^{-1}) Reglone Ion (0.86 L ac^{-1})	Jun. 29 Jul. 14	Coragen (0.101 L ac^{-1}) Coragen (0.101 L ac^{-1})	Sep. 24

* All treatments were set-up as a randomized complete block design (RCBD) with four replicates
** All plots seeded with Fabro no-till disc drill plot seeder equipped with planter-mounted coulters.
*** All plots harvested with Wintersteiger Nurserymaster Expert plot combine.
Note: Dates and treatments applicable to all trials referenced in each respective chart unless specified.