

Key Recommendations for Season 2023

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Varieties Recommended: Maximum economic yields cannot be obtained without cultivating the high yielding disease resistance varieties. Following varieties are recommended for cultivation:

Hard Red Spring Wheat: Prefer Rednet that not only gives higher yield, but also higher protein content than the two other high yielding varieties; Brandon and AAC Wheatland. Stamp Seeds (<https://www.stampseeds.com/>) and Seednet (<https://www.seednet.ca/>) are the seed sources for Rednet. It has very good rating for falling numbers and has an elevated resistance to Fusarium Head Blight and Don Accumulation resistance. It has good resistance to stem, stripe and leaf rust. It is of medium height, has strong straw and good standing ability/lodging resistance.

Feed Barley: Synasolis, Oceanik (both 6 row) and CDC Bow and AAC Synergy (both 2 row) have given high yield over long time and are therefore recommended for cultivation on farms.

Forage Barley: Grow CDC Churchill or CDC Copper (both 2R) that gave over 10 MT/ha forage dry matter yield – highest among all 6 row and 2 row barley varieties.

Oat Varieties: AAC Douglas and AC Rigodon are recommended because of their higher grain and straw yield as compared to the other varieties.

Soybean: Badger R2X and Bourke R2X that had outstanding grain yields during the past few years could be preferred to other varieties.

Liberty Canola: L357P and LA344PC, the two varieties with shatter reduction trait that out yielded other Liberty Canola varieties, are recommended.

Roundup Ready Canola: 6086CR and CS8600CR-T proved to be the best from seed yield point of view. However, these varieties didn't give higher seed yield than the Liberty Canola varieties. Therefore, Liberty Canola varieties could be given a priority to have herbicide diversity on farms.

Clearfield Canola: Grow 5545CL, which produced the highest seed yield among the Clearfield Canola varieties.

Alfalfa Varieties: Revolution MD, Response WT and Shockwave are recommended, because of their high dry matter yield and protein content.

New Agronomic Practice: Seed alfalfa by missing one row after every two rows, without reducing the seed rate, to maximize alfalfa dry matter yield.

Plant Growth Regulators: Manipulator didn't increase grain yield of wheat, but both Manipulator and Moddus increased grain yield of Barley; Moddus did more than Manipulator. Therefore, prefer Moddus to Manipulator to control lodging in cereals.

Fertilizers/Nutrients Application:

- 36 kg sulphur (equals 150 kg ammonium sulphate)/ha is optimum for alfalfa and canola production. Corn would be okay with 24 kg sulphur (equals 100 kg ammonium sulphate)/ha and cereals could do with 12 kg sulphur (equals 50 kg ammonium sulphate)/ha.

- Increasing rate of nitrogen (N) application from 80 to 160 kg N/ha increased wheat and barley straw yield by ~1 MT/ha, but not grain yield. If you need more straw add more N.
- There is no better alternative than application of nitrogen (N) from three sources; part from ammonium sulphate to match sulphur requirements of crops and rest of the N to be applied from urea ($2/3^{\text{rd}}$ of balance N) and ESN ($1/3^{\text{rd}}$ of balance N). New Fertilizers, Apex, Top Phos, MAP + MST and SymTRX weren't better than urea, ESN and AS blend and the P fertilizers used by you!
- Continue applying phosphorus and potassium as per the soil tests.
- Apply boron (B) @ 1-2 kg B/ha to all crops; prefer higher rate for alfalfa. Apply zinc (Zn) to corn @ 7 kg Zn/ha. Apply other micronutrients if the soil test indicates other micronutrients deficiency.

For seed sources other than Rednet, see LUARS Annual Report 2022 or consult Thunder Bay Co-op or Thunder Bay Feeds or a member of the TBARA or me. Check with me if you have any questions or concerns.