



## WARC Summer Review

### **WARC Staff**

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To present our team, we have four full-time employees, including Jessica Weber- General Manager, Kayla Slind – Research Associate, Sukhdeep Kaur - Operations Assistant, Gurtaj Singh – Executive Administrator, and Herb Schell – Casual Technician. Sukhdeep and Gurtaj are our newest employees. They have finished their studies in Agribusiness from Lakeland College, Vermilion.

This summer we had the assistance of three excellent summer students, Keanna Svendsen Striga, Haile Wangler, and Jocelyn Leidl. Our students worked hard and kept everybody smiling. Sadly, they returned to their studies at the end of August. It was delightful to have their smiling faces at WARC, and we greatly value their hard work and devotion this summer. We will miss all of you. Good luck in the new school year!

### **Summer**

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The summer of 2019 has been a busy one at the Western Applied Research Corporation. We conducted more than 45 trials this season. Our staff has worked hard each day to get the best quality research information from our experiments. We have a variety of trials this year, including fertility testing, canola variety comparisons, evaluating intercropping combinations of pea and canola, along with weed and disease management in pulses to name a few. This summer was very hectic due to the numerous herbicide and fungicide applications along with our extensive data collection requirements.

Different tasks finished this summer include plant counts, weed counts, disease and maturity evaluations, plant heights, bio-massing, pod counts, headcount, leaf area index (LAI), chlorophyll readings, normalized difference vegetative index (NDVI) and weeding. From mid-July to mid-August, we scouted the fields for different insects in canola, quinoa, wheat, field peas, faba beans, dry beans, soybeans, and lentils. There was little damage on the plants and the insect population was below the threshold.

Right now, we are on our way into the harvest season. WARC employees are enjoying to see their hard work pay off when a trial comes off successfully.

## Research

Check out the treatment impact of various nitrogen application rates on the development timing of AAC Brandon. This trial is aimed to assess current N fertilizer recommendations in Saskatchewan. All the treatments have a different amount of nitrogen applied at seeding. Fig. 1) represents lighter green plants resulted from the application of 40 lb/ac of actual nitrogen. Fig. 2) shows lush green plants and delayed maturity resulted from the application of 80 lb/ac of actual nitrogen. Photos were taken on August 9, 2019.



**Fig. 1)** 40 lb/ac of actual Nitrogen



**Fig. 2)** 80 lb/ac of actual Nitrogen

## Side-banding vs. mid-row banding fertilizer placement in canola

Pictures shown below represents the reduced stand reductions occurred in treatment 4 (Fig. 3) which included 50 lb/ ac of actual  $P_2O_5$  seed-placed and 120lb/ac of actual N, 45 lb/ac of actual S side banded. Stand reduction were caused by dual banding of N, P, and S. Plant vigour was greater with applications of 50 lb/ ac of actual  $P_2O_5$  mid-row (Fig. 4). This may influence the development timing and yield of the crop. We will post the outcomes on our website. Remember to visit [www.warc.ca](http://www.warc.ca) for further updates!



**Fig. 3** (50 lb/ac of actual  $P_2O_5$ , 120 lb/ac N and 45 lb/ac S – Sideband)



**Fig.4** (50 lb/ac of actual  $P_2O_5$ , 120 lb/ac N and 45 lb/ac S – Mid row)

## Canada Western Red Spring Genetics to Enhanced Efficiency Fertilizer Rate & Product

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The pictures below demonstrate the difference in crop density between various treatments resulting from the application of nitrogen fertilizer at different timing and varying rates. The same variety was used and yet there were vast differences between them as Fig.5) shows the effect of split N application at different timings (65% banded at planting and 35% in crop GS10) whereas, Fig. 6) is an untreated check. This study is aimed at exploring system responses when the latest genetics are combined with enhanced efficiency N fertilizers (EEFs) applied in a range of timing/placement/rate scenarios to determine the benefits provided to achieve the yield, protein and greenhouse gas emission targets.



**Fig. 5)** N: 65% banded at planting and 35% in crop GS10



**Fig. 6)** Untreated

It is exciting that there are clear treatment differences in the trials. We hope that these results will provide valuable recommendations for Canadian producers in the near future!

## Events

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### 2019 Field Day

Our field day was held on July 10, 2019. The day was an enormous achievement! This year our emphasis was on oilseed crops. The day was split into two sessions to make it more interactive for everyone. In the morning, we heard from brilliant speakers, including Dr. Breanne Tidemann about continuous cropping of canola, Michelle Beath described the flax breeding program, Kayla Slind emphasized intercropping canola (3 vs. 5 seeds/ft<sup>2</sup>) and field peas (4 vs. 8 seeds/ft<sup>2</sup>) for disease management, Jessica Weber discussed the different rates of N, P & S as seed-placed, side banded and mid rowed in canola, and Keith Fournier highlighted the canola variety performance trial. After lunch, Dr. Manjula Bandara spoke on nitrogen use efficiency in oil seed-pulse-special crop rotation, Dr. Patrick Mooleki explained the factors influencing seed-placed toxicity of phosphorus in canola, Alick Mulenga demonstrated tame mustard tolerance to clomazone applied pre-plant for cleaver control and Dr. Kelly Turkington defined the management of sclerotinia stem rot of canola using fungicides and risk assessment tools. It was an exceptionally informative day!



Dr. Thomas Kelly Turkington talking about improving the management of sclerotinia stem rot of canola



Jessica Weber talking about side banded and mid rowed fertilizer placement in canola

We want to thank everyone for coming out and enjoying the day with us, as well as our annual and event sponsors who make the amazing events like our Field Day possible!

### **Crop Diagnostic School**

Saskatchewan Ministry of Agriculture organizes the Crop Diagnostic School (CDS) each year. Every year one of the Agri-ARM sites hosts the event, and this year Crop Diagnostic School was facilitated by the Western Applied Research Corporation (WARC) on July 23 and July 24. The target of CDS is to provide hands-on training and accurate diagnostic skills to agrologists, producers, and Certified Crop Advisors (CCAs) in Saskatchewan. There were various trials demonstrated by the Saskatchewan Ministry of Agriculture, which includes insect identification and scouting station, disease station, club root station, herbicide matrix station, intercropping station and inoculation station.

**Stay tuned for details about our trial results!**

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If you have any questions, call our office anytime at (306) 247-2001 or email [exec.admin@warc.ca](mailto:exec.admin@warc.ca).