

The Western Applied Research Corporation was incorporated in 2003 to facilitate practical field research and demonstration. Please contact staff with any questions regarding the reports or for more information.

# WARC Winter Newsletter

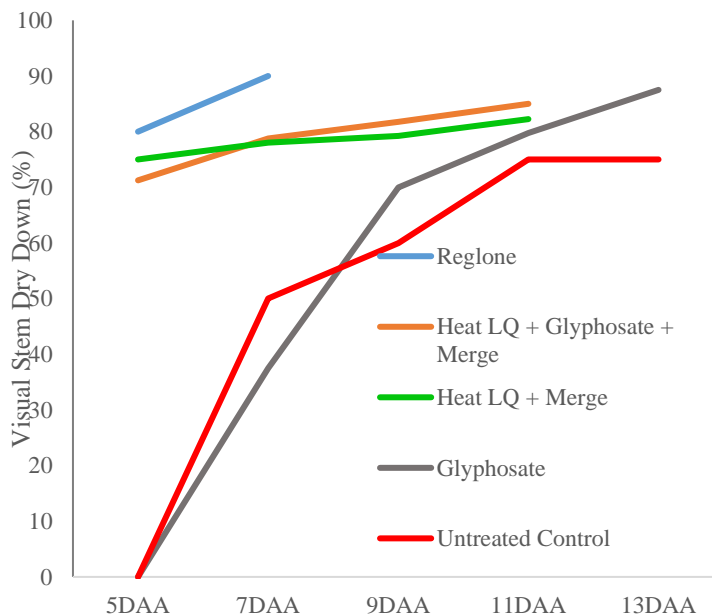
## January 2018

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This winter has been busy with going over last year's findings and creating reports. Until we are done going over 2017 research we thought we would share some of the 2016 research that WARC led. Keep checking the website [www.warc.ca](http://www.warc.ca) for the latest research.

### Evaluating Canola Desiccation Options

The objective of this project was to demonstrate the use of desiccants for straight cut canola and the effects of desiccates on stem dry down.



**Figure 1.** The effect of dry down method (desiccated vs. swathed) on canola stem dry down at Scott, 2016.

The results showed that straight-cut and swathed treatments did not influence overall yield nor oil content. Harvest methods did affect seed quality, percent seed shatter and percent green seed. Swathed and glyphosate treatments had the highest test weight, however, seed weight was the lowest for these two treatments

compared to Heat LQ, Heat LQ + Glyphosate and Reglone. The results showed that straight-cut and swathed treatments did not influence overall yield nor oil content. Harvest methods did affect seed quality, percent seed shatter and percent green seed. Swathed and glyphosate treatments had the highest test weight, however, seed weight was the lowest for these two treatments compared to Heat LQ, Heat LQ + Glyphosate and Reglone.

Reglone had the greatest seed shatter amongst desiccants. Overall harvestability was greatest for treatments of Heat LQ, Heat LQ + Glyphosate and Reglone. Glyphosate as a harvest aid was not effective due to poor stem dry down and overall reduced harvestability. Utilizing both straight-cut and swathed harvest management strategies may help producer's hedge harvest risk by expanding the application window.

### Nitrogen benefits of adapted grain legumes to succeeding crops in NW SK

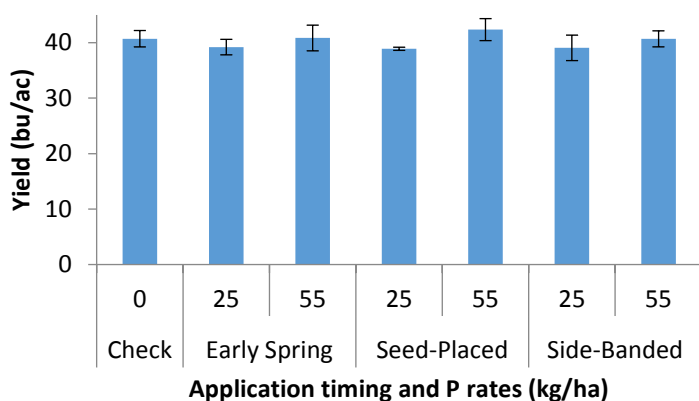
The purpose of this trial is to demonstrate 4R principles for phosphorus (P) in canola with a focus on using the right rate, right placement and right timing of application. Formulations will not be a part of this demonstration because our drills are not equipped for liquid products and the granular alternatives are either not widely utilized or contain multiple nutrients.

There were no differences detected among phosphorus rates ( $P=0.545$ ), placement ( $P=0.8221$ ), or interaction between rates and placement ( $P=0.7097$ ). These results suggest that phosphorus is not a limiting factor in the area as yield was not affected. Seed-placed P fertilizer can result in higher yields, especially, when residual P in the soil is under critical values.

**Table 3.** Phosphorus rates, application timing and placement effects on plant density, yield and normalized vegetation index of canola at Scott, SK in 2017.

P <sub>2</sub> O <sub>5</sub> rate (kg/ha )	Application time and placement	Plant density (plants/m <sup>2</sup> )	Yield (bu/ac)	NDV	NDVI
				I 1	2
				Four Leaf Stag e	Prior to Boltin g
0	-	59 ± 1.0	41 ± 1.5	0.33 ± 0.01	0.58 ± 0.02
25	Early spring broadcast (starter)	51 ± 3.6	39 ± 1.4	0.34 ± 0.01	0.61 ± 0.02
55	Early spring broadcast (replaceme nt)	54 ± 6.9	41 ± 2.3	0.36 ± 0.01	0.65 ± 0.02
25	Seed-placed (starter)	56 ± 5.3	39 ± 0.3	0.35 ± 0.01	0.65 ± 0.02
55	Seed-placed (replaceme nt)	56 ± 5.0	42 ± 2.0	0.37 ± 0.01	0.66 ± 0.01
25	Side- banded (starter)	50 ± 6.8	39 ± 2.3	0.33 ± 0.00	0.58 ± 0.01
55	Side- banded (replaceme nt)	46 ± 4.5	41 ± 1.4	0.34 ± 0.01	0.61 ± 0.01

**Figure 1.** Canola yield (bu/ac) as a response to P placement, application timing and rate.



The results of this trial have provided some beneficial information regarding P fertilization placement regardless of the lack of response among treatments. The probability of having a lower plant stand due to seed-placed P is minimal and the possible yield benefits are high. The lack of yield response to P can be attributed to the residual P levels in the soil. The second measurement of NDVI shows that the plant is able to utilize P more effectively when this element is close to the seed.

### WARC Staff

This fall/winter we have seen many changes in our staff, so to introduce our crew, we have Jessica Weber as General Manager, Jonine Kolbinson has temporary taken over the Executive Administrative position until Chelsea Gruber joins us in the spring once she had completed her B.Sc. in Agri-business at the University of Saskatchewan. Juan Lobo joined us last November and is our new Research Associate. He has a B.Sc. in Agronomy from the University of Caldas, Colombia and a M.Sc. in Plant Science from the University of Saskatchewan. Juan has previous experience as a Research Assistant with the Cereal and Flax Pathology Group at the University of Saskatchewan. Kayla Hawkins joined us in January as our new Research Technician. She is originally from a grain farm outside Wilkie and has her B.Sc. in Agronomy from the University of Saskatchewan. In the spring, Herb Schell along with 2 summer students, Jaden Kapiniak and Jolene Gruber, will be joining us as well.

For more information please feel free to visit our website at [www.warc.ca](http://www.warc.ca) or contact us at:

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