

ADOPT

Agricultural Demonstration of Practices and Technologies

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Demonstration of New Crop Varieties for NE Sask

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Objectives:

This project demonstrated to producers the latest releases of crops from the Crop Development Centre. This demo focused on wheat, oats, red lentils, and green and yellow field peas. Producers are always looking for new varieties and like to see field demos before committing large acres to a new variety. Each chosen crop was compared to a check variety of the same crop, giving producers hands on comparisons of the new with existing varieties..

Rationale:

Our research indicates that producers feel this is the most important type of project to get them onto the farm to witness the results. Positive results would suggest producers would adopt these new varieties for future crops.

Materials and Methods:

During May we seeded 3 varieties of each of HRS wheat, oat, yellow pea, and green pea along with 4 varieties of red lentil were seeded with a JD 9350 hoe drill (Table 1).

Crop Type				
Wheat	Oat	Yellow Pea	Green Pea	Red Lentil
CDC Stanley*	CDC Minstrel*	CDC Golden*	CDC Patrick*	CDC Redbow*
Vesper VB	CDC Dancer	CDC Saffron	CDC Raezer	CDC Redberry
Fieldstar VB	CDC Seabiscuit	CDC Hornet	CDC PLuto	CDC Cherie
				CDC Rosebud

*Denotes the check variety

Wheat seed was treated with VitaFlow 280 and seeded on oat stubble at a rate of 107lbs/ac on May 21. Nitrogen was applied at a rate of 55lbs/ac, with 25lbs/ac of phosphorous applied with the seed. Our initial rate of 0.40l/ac of Achieve applied June



20th with 0.50l/ac of Turbocharge was followed by an application of MCPA Amine at a rate of 12oz/ac on June 25th. Proline was applied at a rate of 135grams/ac on July 6th when wheat was at 20% bloom and harvest occurring Sept 15th.

All oat varieties were seeded into barley stubble at a rate of 102 lbs/ac on May 16th. Nitrogen was applied at a rate of 45 lbs/ac, with 20 lbs of phosphorous, along with 15lbs of sulphur seed placed. On June 25th MCPA at rate of 12 oz/ac was applied for broadleaf weed control. On July 6th 240ml/ac of Headline was applied for disease control. The oats were harvested on Sept 27th.

Peas were all treated with TagTeam and seeded on wheat stubble at a rate of 170lbs/ac on May 17th. Phosphorous was applied with the seed at a rate of 25lbs/ac. Pursuit was applied June 20th at 2oz/ac. All peas were harvested Sept 15th.

All lentils were treated with TagTeam and seeded on wheat stubble on May 17, at a rate of 40lbs/ac, except CDC Cherrie seeded at 50lbs/ac. Sencor was applied at a rate of 110 grams/acre on June 19th and harvest occurred Sept 15th.

Results:

Despite wet soil conditions, wheat emergence was excellent. Normally the area where the trial was located has adequate drainage, but excess rain caused extensive flooding and soil was saturated during most of the season. As a result yields were very low (Table 2). Overall Fieldstar VB was highest yielding at 17.5 % more than the check variety CDC Stanley, while Vesper VB provided intermediate yield. In the Saskatchewan Ministry of Agriculture publication 'Varieties of Grain Crops 2012' Vesper is described as being considerably higher yielding than either CDC Stanley or Fieldstar VB in areas 3 and 4 where the CLC is located. The discrepancy in our results may reflect the abnormal growing conditions in 2012.

Oat emergence was delayed due to cool moist conditions but overall was very even. As temperatures rose, all varieties grew very aggressively with minimal disease pressure, Feeding by blackbirds decimated all varieties making any comparisons between varieties invalid. Throughout the growing season CDC Seabiscuit appeared to look better overall and in the end yielded 54.8bu/ac.

Pea emergence was slowed by cool conditions and as soil temperatures warmed, the stand improved. Pursuit provided excellent weed control. Extensive goose damage affected yield of all yellow and green peas. CDC Hornet looked like a clear winner of all the yellow varieties right from the beginning and achieved a 6% increase in yield over the check variety CDC Golden and a 15% increase over CDC Saffron. We feel Saffron's yield was reduced to excessive moisture. CDC Raezer was the clear green pea winner with a yield increase over the check variety CDC Patrick by 11% while CDC Pluto's yields were damaged by geese.



Red lentil showed excellent emergence, but with slow growth wild oats competed very effectively with the crop. Extreme wet conditions prevented herbicide application at the appropriate timing and wild oat competition increased. CDC Redberry had a 7% increase in yield over its closest rival. With yields affected from weed competition, any variety recommendations would be unfair.

Table 2. Yield of Wheat, Oat, Yellow and Green Pea and Lentil varieties at the Conservation Learning Centre in 2012.

Crop	Variety	Yield (bu/ac)
HRS Wheat	CDC Stanley	27.4
	Vesper VB	29.3
	Fieldstar VB	33.2
Oat	CDC Minstrel	30.8
	CDC Dancer	45.7
	CDC Seabiscuit	56.8
Yellow Pea	CDC Golden	47.1
	CDC Saffron	42.9
	CDC Hornet	50.2
Green Pea	CDC Patrick	39.0
	CDC Raezer	43.7
	CDC Pluto	20.7
Red Lentil	CDC Redbow	18.8
	CDC Redberry	28.4
	CDC Cherie	22.0
	CDC Rosebud	26.4

Conclusions:

Abnormally wet conditions along with bird damage compromised all the variety trials in 2012, making it difficult to draw any conclusions about variety performance. The data from 2012, may have some relevance for other exceptionally wet years, but have limited value as a predictor of yield in more normal future years.

Supporting Information

Acknowledgements:

We would like to express our gratitude to the Ministry of Agriculture for the funding support and in-kind support with this project. To recognize the ADOPT program and the Ministry we had signage at the sites.



Field Days:

- Conservation Learning Centre – Annual Field Day – July 17th - 45 people
- Conservation Learning Centre – Combine Clinic – Aug 9th – 55 producers
- Report on the project to be posted on our website
www.conservationlearningcentre.com

Abstract.

To provide information to local growers about performance of new varieties we planted three varieties each of wheat, oat, yellow and green pea along with four varieties of lentil. Very wet conditions resulted in relatively low yield of both wheat and oat, and made variety comparisons difficult. Fieldstar VB was the highest yielding wheat variety, while CDC Minstrel oat was rather low yielding, with blackbirds playing a role by damaging this variety more than others.. The highest yielding oat was CDC Seabiscuit. The yellow pea variety CDC Hornet yielded 50 bu/ac while CDC Saffron yielded only 43 bu/ac. The green pea variety CDC Razer yielded almost 44 bu/ac while CDC Pluto yielded only 21 bu/ac. Pluto was badly damaged by feeding by geese, while other green and yellow pea varieties sustained less damage. Lentil yields were reduced by competition by wild oat, but still produced reasonable yields considering how wet the weather was. CDC Redbow yielded the least at just under 19 bu/ac while CDC Redberry yielded over 28 bu/ac. While there were differences between varieties, the value of this data in making predictions about future performance is limited by bird damage as well as excess moisture.

