Factsheet: Precision Seeded Canola

Objective:

The objectives of this project were to:

1) To determine if the UltraPro canola roller produces more uniform canola seed placement than conventional rollers
2) To determine if more uniform seed placement has the potential to allow for lower canola seeding rates.

Methodology:

Field trials were conducted near Scott, Melfort, Redvers and Indian Head, Saskatchewan in 2012, 2013 and 2014. The experimental design was a randomized complete block design with four replicates. The treatments combination were six seeding rates and two metering roller types. The hybrid canola variety L150 was direct seeded at all locations in 2012 and 2013 seasons on cereal stubble. In 2014 the variety L130 was seeded at all locations on cereal stubble. Seeding equipment varied between sites and row spacing ranged from 20 to 30 cm. Plot size ranged from 25 to 40 m^2. Fertilizer was applied according to soil test recommendations and herbicides and fungicides were applied as required. The plots were straight combined at Indian Head and Scott and swathed at Melfort.

Table 1. Treatment list

Treatment	Roller	Seeding Rate (seeds m^{-2})
1	Valmar	10
2	Valmar	20
3	Valmar	40
4	Valmar	80
5	Valmar	160
6	Valmar	320
7	UltraPro	10
8	UltraPro	20
9	UltraPro	40
10	UltraPro	80
11	UltraPro	160
12	UltraPro	320

Key Findings:

- Seeding rate was the only factor to significantly affect plant density, maturity and seed yield.
- There were generally no differences in plant density in spring or fall, seed yield or maturity between the rollers at any level of seeding rate.
- Although there appeared to be more uniform distribution of seedlings, on average, with the UltraPro roller than the Valmar at 10-80 seeds m^{-2} seeding rates, this did not translate into improvements in seed yield.
- Irrespective of the roller type used, yield was maximized or reached a plateau at 40 seeds/m^2.
- Differences in uniformity generally disappeared at fall plant population assessment, likely due to the self-thinning nature of canola.

The full report is available at www.warc.ca. Financial support for this project was provided by the Saskatchewan Canola Development Commission (SaskCanola).
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- Growers should continue to use the recommended higher seeding rates (> 80 seeds/m^2) to insure against potential loss of seedlings to early season stresses and to improve yield stability, seed quality and maturity

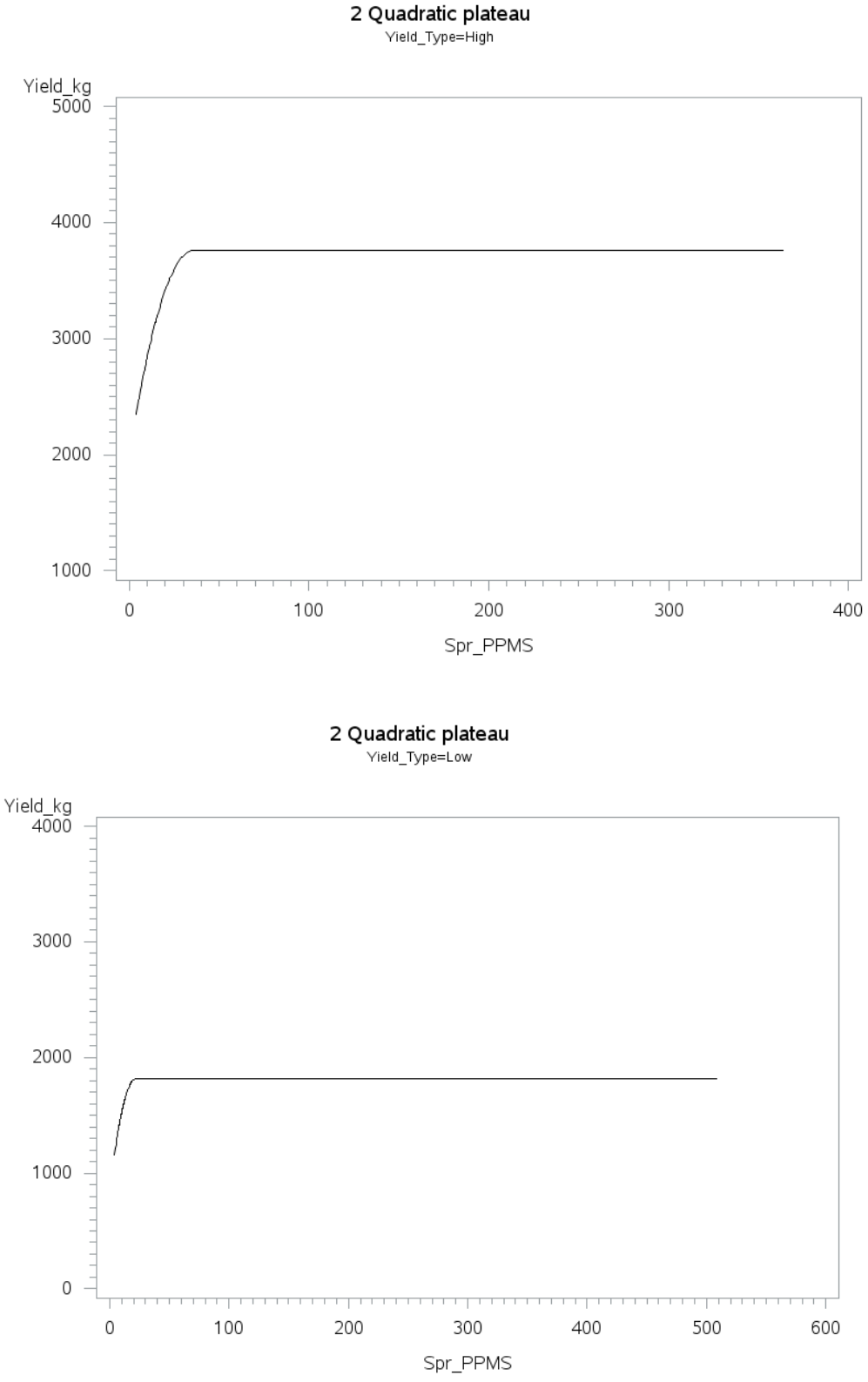

Figure 1. Broken line regression of yield vs plant population at high (top) and low-yielding (bottom) showing plateau in yield

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