

Canary seed is often considered a low input cereal crop that grows best on heavy clay or clay loam soils in Saskatchewan. For many decades canary seed has been grown and sold into the bird seed market and the varieties grown for this purpose are considered hairy or non-glabrous. In recent years, new varieties have been developed in hopes of a potential human food market. These varieties are hairless or glabrous and have been adopted by some canary seed producers in recent years. This project was developed to demonstrate the response of hairy versus hairless canary seed varieties to seeding rate and the addition of potash (KCl). The small plot trials were conducted at Melfort, Yorkton, Indian Head, and Swift Current, SK in 2022. Two varieties of canary seed were selected (Hairy vs. Hairless), each of which were seeded at 400 seeds/m<sup>2</sup> (35kg/ha) or 620 seeds/m<sup>2</sup> (55kg/ha), and with or without the addition of 45 kg/ha of potash at seeding.

Data collection consisted of plant density, lodging, days to maturity, and seed yield. When variety was significant, results were often consistent across sites whereby the hairy variety had greater plant densities (Table 1), decreased lodging, longer days to maturity, and increased seed yields (Table 2) as compared to the hairless variety. Increasing seeding rate only significantly increased plant density (Table 1), and the addition of potash only significantly increased yield at one site (Table 2). The only significant varietal interactions were that the hairy variety was more responsive to increases in seeding rate as plant densities and yield were increased at the higher seeding rate. The addition of potash also decreased lodging in the hairless variety, and yield declined at one site when potash was applied to the hairless variety. In this

demonstration, differences in varietal responses to agronomic inputs were less frequent than anticipated, as significant differences were more often a result of variety alone rather than the interaction between variety and agronomic inputs.

Table 1. Treatment means for canary seed varietal response to agronomic inputs in 2022. Means within a column followed by the same letter do not significantly differ.

Main Effect	Yorkton	Melfort	Swift Current	Indian Head
Plant Density (plants/m <sup>2</sup> )				
Variety	0.0139	0.0095	<0.0001	NS
Seeding rate	<0.0001	<0.0001	0.0003	0.0001
Potash (KCl)	NS	NS	0.0164	NS
<b><u>Variety</u></b>				
Hairy	331.9 a	345.2 a	368.4 a	429.2 a
Hairless	293.1 b	314.2 b	281.3 b	412.3 a
<b><u>Seeding rate</u></b>				
400 seeds/m <sup>2</sup>	262.9 b	266.3 b	299.8 b	360.7 b
620 seeds/m <sup>2</sup>	362.1 a	393.1 a	349.9 a	480.8 a
<b><u>Potash (KCl)</u></b>				
45kg/ha Potash	307.7 a	335.2 a	340.0 a	416.2 a
No Potash	317.3 a	324.2 a	309.6 b	425.3 a

Table 2. Treatment means for canary seed varietal response to agronomic inputs in 2022. Means within a column followed by the same letter do not significantly differ.

Main Effect	Yorkton	Melfort	Swift Current	Indian Head
Grain Yield (kg/ha)				
Variety	0.0003	0.0033	<0.0001	<0.0001
Seeding rate	NS	NS	NS	NS
Potash (KCl)	0.0248	NS	NS	NS
<b><u>Variety</u></b>				
Hairy	2381.4 b	3058.0 a	852.7 a	3311.2 a
Hairless	2668.2 a	2757.1 b	500.0 b	2831.2 b
<b><u>Seeding rate</u></b>				
400 seeds/m <sup>2</sup>	2519.3 a	2913.4 a	667.2 a	3103.9 a
620 seeds/m <sup>2</sup>	2530.3 a	2901.7 a	685.4 a	3038.6 a
<b><u>Potash (KCl)</u></b>				
45kg/ha Potash	2604.4 a	2920.7 a	693.1 a	3056.1 a
No Potash	2445.2 b	2894.4 a	659.6 a	3086.1 a

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