

Take a Stand with Canola Plant Populations

Speakers:

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Objectives:

- 1- To demonstrate the effect of different target plant populations of Canola
- 2- To demonstrate the effect of different row-spacing of Canola

Collaborator: Canola Council of Canada

Demonstration Treatments:

1. TSW = 3.5 g at 5 lb/ac
2. TSW = 6.5 g at 5 lb/ac
3. TR = 3 pl/ft²; SR = 46 seeds/m²; 12" row spacing
4. TR = 3 pl/ft²; SR = 46 seeds/m²; 24" row spacing
5. TR = 6 pl/ft²; SR = 92 seeds/m²; 12" row spacing
6. TR = 6 pl/ft²; SR = 92 seeds/m²; 24" row spacing
7. TSW = 5 g at 2 lb/ac; 12" row spacing
8. TSW = 5 g at 5 lb/ac; 12" row spacing

Demonstration Summary:

The good news is the hot, dry summer made sclerotinia somewhat scarce in canola fields this summer, but there was a minor downside — there weren't many examples to show farmers attending a sclerotinia control session at this year's Crops-A-Palooza, even in the inoculated demonstration plots at the Canada-Manitoba Crop Diversification Centre (CMCDC) here. But they still got plenty of useful information about managing the fungal disease which will no doubt return in future.

Canola Council of Canada agronomy specialist Nicole Philip was disappointed that she couldn't actually show the comparisons between sclerotinia-tolerant and susceptible varieties or the effect of fungicide application timing, but had some take-home messages for producers.

Take a number of counts throughout the field 20-25 days after seeding and assess whether the number of plants per square metre (or square foot) or plants per metre (or foot) of

row match the target goal. If plant counts are not within reason given the seeding rate, look for causes and determine ways to improve the success rate. Stands with plant densities below 40 to 50 plants per square metre (4 to 5 per square foot) are unlikely to achieve the full yield potential that could be achieved with higher plant densities under the growing conditions for that season. However, they may still outperform reseeded crops in most cases, due to the ability of individual plants in thin stands to compensate with additional branching and pod production, and the typical trend to lower yields from later seeded crops.

Consider the calendar date when assessing whether to reseed. A thin stand of 20 plants per square metre (2 per square foot) in the last part of May or early June often will usually have greater yield and profit potential than if the same field is reseeded. Reseeding adds to production costs and the reseeded field will have a much shorter growing season (and yield potential) because it was seeded so late. However, if fields can be reseeded before the third week of May with good soil conditions for rapid emergence, reseeding may be profitable. (Canola growers are encouraged to discuss reseeding policies with their insurance carriers and seed company reps, and look at weather data for their region.)

An accurate average plant stand count will determine whether crop establishment measures achieved the target goal. How many plants did you expect based on the seeding rate? And is the plant stand in line with this expectation? Answers to these questions will help growers improve stand establishment practices for next year, and help with management decisions for the current crop. To do counts, use a 50 cm by 50 cm square or a hoop with an inside diameter of 56 cm. Both are the equivalent of 0.25 of a square metre. Count the number of plants inside the square or hoop, and multiply by 4 to get plants per square metre. (for plants per square foot use a one foot square or divide the plants per square metre by approximately 10).

Another method is to use a metre stick and count the seedlings per metre of row. Take that number and multiply by 100 then divide by the seed spacing in cm to get plants per square metre. For example, 25 plants per metre multiplied by 100 then divided by 25 cm (10" row spacing) is 100 plants per square metre (approximately 10 per square foot). For all methods, several counts per field are required to get a good average.

Fields should be monitored and walked starting 10 days after seeding if conditions are good, or 15 days if conditions are cool. If the plant stand is less than expected for the given seeding rate, seed size and estimated seedling survival, then check equipment settings, seed characteristics and field conditions to identify why the ideal plant population was not achieved. The cause or causes may relate to the seeding operation, such as inconsistent depth, excess fertilizer placement with seed, or mechanical issues. Frost, wind or flooding, insects or disease, or herbicide residues could also be factors. When stands are spotty and thin, careful management is required to preserve the plants present. More conservative thresholds may be warranted for insects, weeds and diseases.