

Canola Early Seeding Date and Flea Beetle

Traditionally, seeding occurs based on an arbitrary calendar date rather than reflecting on the current conditions. Earlier seeding allows producers to optimize the short growing season by capturing the benefits of longer frost-free periods including access to early soil moisture, early season growing degree-day accumulation, increased vegetative growth periods, early season precipitation, increased day-length at anthesis and reduced average temperatures at grain fill (Collier et al. 2020). An additional benefit of seeding earlier is that the crop has a better chance of avoiding the negative effects of warmer, drier summers on flowering or pod fill. It also helps mitigate the longer days to maturity for new, higher-yielding varieties, while allowing a longer seeding window for producers in a busy time of the year, dispersing the overall pressure and work.

Collier, G.R.S.; Spaner, D.M.; Graf, R.J.; Beres, B.L. The integration of spring and winter wheat genetics with agronomy for ultra-early planting into cold soils. *Front. Plant Sci.* 2020, 11, 89.

Objective:

The objective of this field scale trial is to evaluate earlier seeded canola and its effect on plant density, flea beetle density, yield, green seed, oil content and overall production, while also showing producers that early seeded canola can be accomplished throughout Saskatchewan.

Project Overview:

Cooperators will implement a replicated field-scale trial comparing several seeding dates in a canola/wheat field of their choice, using their own equipment and otherwise normal practices. An agronomist or trial manager will provide support throughout the season, including setting up the trial and collecting data. Statistical analysis of the data will be conducted following harvest, and a report with individual results including economic analysis will be provided to each cooperator. Data from all on-farm trials will also be pooled to examine the results across different management, soil, and weather conditions. Results from all trials will be publicly available, however individual farm data will be kept anonymous, apart from the location of the trial (nearest town or R.M.). Collaborators will be invited to join a network of producers who are conducting on-farm research through field tours and a year-end wrap up meeting. This program is available to members in good standing.

Study Design:

Two different canola seeding dates will be compared:

1. Early
2. Standard

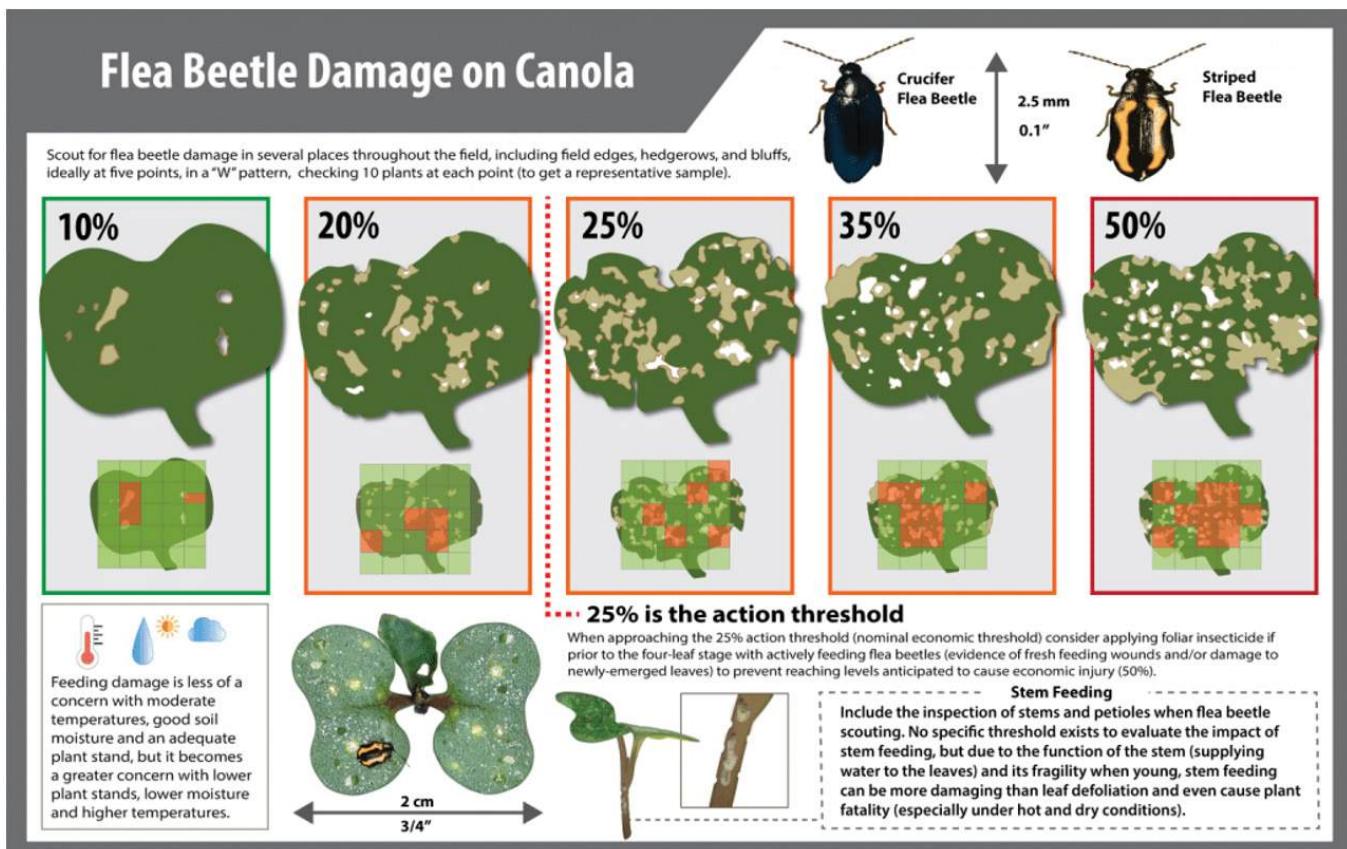
Field 1:	Field 2:
Early Seeding Date (minimum of 80 ac)	Normal Seeding Date (minimum of 80 ac)

Seeding dates will be determined in coordination with the producer and agronomist, to establish target dates based on weather, previous years and farming practices. The two seeding dates will be seeded in fields in close proximity to one another. One field may be used with a minimum of 80 acres for each seeding date. Apart from seeding date, both must be managed the same agronomically including seeding speed, seeding rate, variety, seeding depth and pesticide application. Variable rate (VR) fertilizer application can be used. An example randomized field plan is shown.

Data Collection:

Agronomists or trial managers will help the cooperator seed the trial according to the protocol and will complete the following in-season data collection.

- Spring soil sample
- Plant density at emergence and 2-4 leaf stage
- During plant density assessment, flea beetle damage ratings will also be conducted using the scale provided
- Yield – weighed separately for each treatment strip using weigh wagon or grain cart scale
- Harvest samples for each treatment strip
- Regularly scouting for treatment differences in weed pressure, flowering, maturity, disease pressure, plant health, or plant structure
- Economical breakdown
- Management data
- Weather data



For more information or to participate in the program contact:

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