TOP NOTCH FARMING RESEARCH TRIALS
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Boron Applications in Canola

Boron (B) is a vital micronutrient for canola, playing several key roles in its growth and development. It is essential for synthesizing pectin, which is crucial for maintaining the structural integrity of plant cell walls. Boron also influences flower and seed development, enhancing pollination and seed set—both vital for achieving high yields. Additionally, it facilitates the movement of sugars and nutrients within the plant, ensuring efficient energy distribution for growth. Adequate levels of boron promote healthy root development, improving water and nutrient uptake. Furthermore, boron helps plants resist abiotic stresses like drought and salinity. A deficiency in boron can lead to poor plant health, lower yields, and compromised quality, highlighting its importance in canola cultivation.

Objective:

The objective of this field-scale trial is to assess the effectiveness and cost-efficiency of various boron placements, timings, and rates for canola under different environmental conditions and risk factors.

Project Overview:

Cooperators will implement a replicated field-scale trial comparing boron applications versus untreated check strips, using their own equipment and otherwise normal practices. An agronomist/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 results including economic analysis will be provided. 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.

Treatments:

1. Untreated check
2. Treated (Boron application)

Boron will be applied according to product label recommendations, will be replicated four times, for a total of 8 strips and randomized within the field. Apart from the boron application, all strips must be managed the same agronomically including seeding, fertility, and pesticide applications. Variable rate (VR) fertilizer application can be used.

An example randomized field plan is shown below. Layouts will be provided.

Rep	1		2		3		4	
Plot	1	2	3	4	5	6	7	8
Trt	1	2	2	1	1	2	2	1
	Untreated	Treated	Treated	Untreated	Untreated	Treated	Treated	Untreated

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
- Boron application data
- Plant density (if plant stand looks inconsistent)
- Disease Assessments at podding (approx. 2-3 weeks after flowering)
- Yield – weighed separately for each treatment strip using weigh wagon or grain cart scale
- Harvest samples for each plot
- 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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