

Ultimate Canola Challenge 2015

The intent behind the UCC is to identify the best management strategies for growers by testing various techniques and products over and above the CCC recommended best management practices for canola.

In 2015 the Ultimate Canola Challenge (UCC) began including field scale trials in addition to small plots. The field-scale trial protocol allows canola growers to implement their own UCC, by testing and evaluating the performance of new tools or techniques for their farms.

Objective:

To determine whether or not there is a yield response in canola with the addition of boron, when broadcast-incorporated or applied as a foliar application at the early flower stage.

Leaving a check strip:

Leave a check strip in the trial. A check strip ensures differences in crop performance in the treatments are due to the treatment differences and not naturally occurring spatial variation. The further the check strip is from the other treatments, the less confident one can be that differences in product performances are real.

The check strip should reflect your best management practices for your canola crop. Check strips should not be on field edges or areas that are not typical of the field. Ensure the check strip is wider than the width of your swather.

The selected field should be as uniform as possible in topography and soil.

Seeding:

- Ensure the same variety is used for all treatments in the trial
- Seeding rate, seeding depth and speed must be the same for the entire trial

Fertility:

- Profitable canola production relies heavily on adequate plant nutrition. The field should be soil sampled in detail – 0-15, 15-30 and 30-60 cm depths testing for N, P, K S and all micronutrients including Boron. Also test for EC, pH and Organic matter.
- Tissue testing measures the nutrient content of above ground plant parts during growth. Avoid unusual, dead or stressed plants, as well as those covered with soil or recent sprays. Cut samples with a clean, rust-free knife or scissors. Send separate samples from good and poor areas within a field. Make sure the plants in each area are at the same growth stage. Before taking a sample, get the sample collection and submission techniques.
- Use the same fertility practices across the entire trial, then add the boron treatment

Boron Application Options:

▪ **Sodium borate**

The most common boron product is sodium borate. Broadcast and incorporated in the spring at rates of 0.5–1.5 lb. B/ac. or foliar applied at 0.3 B/ac.

- Broadcast-incorporated is the safest method, as boron can be toxic to canola seedlings. Application rates should not exceed 1.7 kg/ha (1.5 lb./ac.) on soils with a pH less than 6.5 to avoid boron toxicity problems
- Banding. Do not place more than 1.7 kg/ha (1.5 lb./ac.) in close proximity to the seed row

▪ **Foliar application**

Another option is a foliar application at the early flowering stage. Ensure foliar applications do not exceed 0.3 kg/ha (0.3 lb./ac.) to avoid toxicity problems.

- Apply foliar boron alone and not tank mixed with other products at the same time
- For all applications, extreme care must be taken to apply the correct amount uniformly to avoid toxicity
- Seed placement is not recommended as concentrated boron can be toxic to seedlings. Rates of sodium borate that exceed 1.0 lb./ac. in the seed row can kill canola seedlings

Weed control:

- Use normal weed control practices for the entire trial
- Follow label recommendations for rates and timing
- When spraying a herbicide, spray perpendicular to the direction of seeding to ensure the same amount of wheel tracks throughout the trial

Disease control:

- Use normal disease control measures for the entire trial if required
- If applying a fungicide, spray perpendicular to the direction of seeding to ensure the same amount of wheel tracks throughout the trial

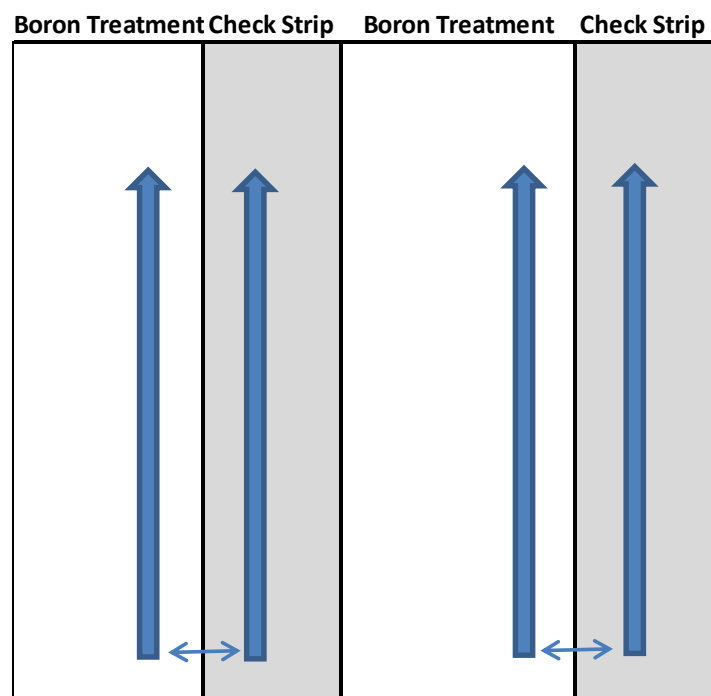
Insect control:

- Use normal insect control measures for the entire trial, if insects exceed acceptable thresholds. Follow label recommendations for rates, thresholds and timing
- If chemical control of insect pests is necessary, select a product registered for the purpose, and apply it at a stage when a benefit is ensured. Applying too early or too late in the life cycle of the pest you are targeting may not give a desired result.

Swathing:

- If swathing the canola crop, swath at 60% seed colour change
- When swathing, leave a 4' buffer between the products where they meet in the field to be sure that a "true" test is being done to compensate for possible mixing of the products along the split line
- After each treatment has been swathed, the rest of the field can be swathed. Make sure the swather passes that represent the trial have been marked

Swathing/Harvesting Recommendations:



When swathing, leave a 4' buffer between treatment splits.

Harvesting:

- Use a weigh wagon to get the most accurate yield data
 - Make sure weigh-wagon calibrated prior to harvest season. Start with an empty hopper (prime on surrounding canola and dump) and harvest only the strips as per the swathing recommendations. Measure the exact length and width of the strips. Make sure hopper is empty after each treatment. If there were noticeable differences in maturity between strips, keep a grain sample in a zip lock bag from each strip and measure moisture content later.
 - **Total Bushels** = Weight in pounds ÷ 50
 - **Total Acres Harvested** = (Total Length ft x Total Width ft) ÷ 43,560
 - **Bushels per Acre** = Total Bushels ÷ Total Acres Harvested

Record keeping:

Keeping records of your trial is important to the success of the trial. Plan on weekly scouting of the trial to note visual differences of the treatment, and make informed decisions about weed, disease or insect control, stand establishment issues and swathing and harvest timing.

Record weather events, such as hail, frost, excessive heat, excessive humidity, excessive rain etc. Refer to the UCC Note Collection File to keep accurate records throughout the season.