

November 15, 2020

Clubroot Trial Summary – CROP AID PLUS™

Research conducted by Department of Agricultural, Food and Nutritional Science, University of Alberta

In the greenhouse the application of Crop Aid Plus™ (CAP) has shown the capability of reducing clubroot severity on canola as well as maintaining plant growth under clubroot disease pressure. At the lower spore count (SC) of 1×10^5 clubroot resting spores per gram of soil, CAP reduced the disease severity index (DSI) in the soil to less than 50% of the untreated control (UTC) on the susceptible '45H31' and to less than 40% on the moderately resistant 'CS2000' canola cultivar. Both of the two applications of CAP can effectively control clubroot under low disease pressure. Under a higher disease pressure of 1×10^7 all the CAP treatments showed similar reductions of DSI on both cultivars. However, with DSI's of ~92% on the susceptible cultivar and over 62% on the moderately resistant cultivar, the two applications may not deliver enough clubroot control for the higher SC. Additional applications may be required.

CAP consistently delivered significantly higher biomass than the UTC on both cultivars and under low and high SC's.

In the field trials the CAP also reduced clubroot severity. The applications of 1WA and 1WB reduced DSI on both cultivars, the recommendation on spray timing would be 1WB and 1WA for clubroot control, an additional application at 3WA+ may result in better crop growth and yield. The 3WA treatment increased yield by 14.6%, and 23.0% and enhanced biomass by 72.8% and 34.9% respectively on '45H31' and 'CS2000'

The CAP product is made from a blend of lignin extract, kelp extract, and contains multiple micronutrients such as zinc, iron, manganese, and boron. Compared with other chemical products for controlling clubroot, the major advantage of CAP is that it is an environmentally friendly product originating from natural products and does not cause phytotoxicity in the soil ecosystem.

The use of Crop Aid Plus™ should be adopted into an integrated disease management system for canola production.

CROP AID PLUS™

- > is a carbon based liquid solution formulated to enhance and promote beneficial micro-organisms in the soil and act as a fertiliser catalyst reducing loss and soil tie-up of applied fertiliser.
- > maximizes the production of crops exposed to stress derived from cold/hot temperatures, unbalanced soil conditions, moisture availability, and disease.
- > reduces soil compaction within the growing season
- > provides essential nutrients to emerging plants and is formulated to maximize root growth and nutrient uptake.
- > is recommended for all soil types and crops.

**CROP AID PLUS™ bio-stimulant activates and promotes specific soil micro-organisms which are responsible for reducing and eliminating clubroot spores and maintaining plant growth and yield under clubroot disease pressure.*