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Title: Seed Applied Technology to help Canadian Producers Manage Blackleg in Canola

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Seed applied technology with fungicides and insecticides play an important role in early season protection against stubble and soil-borne diseases and insects in canola. The impact of these early season pests 3-4 weeks after planting can significantly reduce stand establishment causing seedling death, pre- and post-emergence damping-off and overall quality in plant health. *Leptosphaeria maculans* causing blackleg in canola is the most important pathogen in Canada that is a major concern for Canadian Canola Producers. To date crop rotations and genetic resistance have been effective tools in managing Blackleg disease in Canada. However, intensity of canola production has increased significantly over the years with shorter crop rotations increasing the disease incidence and severity in grower fields. In addition, soil moisture management by keeping crop residue on the soil surface sets the stage for blackleg to survive and infection to occur during late spring and summer. In light of early infection, being relevant to a management strategy Seed Applied Fungicides are being evaluated to determine if protecting the seedling at emergence could reduce the risk of infection thus providing genetic durability i.e. limiting the ability of the fungus to adapt to variety resistance under tight crop rotations. SALTRO™ a new Seed Applied Fungicide has been evaluated to assess protection to canola seedlings and to reduce the threat of this disease in canola. SALTRO™ can be seen in the cotyledons and lower leaves using 14C-Saltro studies with treated seed. SALTRO™ is mobile in the xylem with uptake of the active ingredient from root tissue. In addition lab and field studies have demonstrated that SALTRO™ is an effective Seed Applied Fungicide in reducing stem infection on important races of *Leptosphaeria maculans* in Canada. A green fluorescent protein (GFP) tagged strain of blackleg showed that the pathogen infection was restricted in colonizing the plant tissue, due to the seed applied fungicide-reducing disease significantly. These studies warrant further validation in commercial fields.