

**Progress report 2008-2009  
December 2010**

**Project: Identification of herbicide-tolerant canola breeding lines with resistance to blackleg and evaluation of fungicide treatments to manage blackleg**

PI: Luis del Rio, Department of Plant Pathology, NDSU, Fargo, ND 58105

Co PIs: Mukhlesur Rahman, Department of Plant Sciences, NDSU, Fargo

This is a new project that combines activities in two areas, breeding and disease management. Blackleg, caused by *Leptosphaeria maculans* is a serious fungal disease affecting canola (*Brassica napus* L.) in North Dakota. Blackleg epidemics have increased in intensity in the last few years. One of the reasons for this increment is the development of strains with new virulence profiles (PG 3, 4, and T) which overwhelm the resistance currently available in commercial canola genotypes. In the summer of 2010, 45 NDSU canola breeding lines with resistance to glyphosate were evaluated in disease nurseries located in Langdon, ND and Roland, MB for their reaction to blackleg. The later site was elected to evaluate reaction against PG3 and PG T. Similarly, the lines have been planted in greenhouse conditions in Fargo and have been inoculated with strains of PG3 and PG4. Line NDSU 9070, which has been evaluated in this nursery for two consecutive years, has shown to be more resistant than most breeding lines and the commercial controls used in the studies. Data from the greenhouse inoculations will be collected within the next two weeks. Greenhouse trials are being conducted to evaluate fungicides for control of blackleg. We are in the initial stages of the screening process and intend to reduce the number of alternatives for the upcoming field season. This is a new project, no publications have been produced.