

North Central Region Canola Research

Annual Report 2008-09

Project Title: Development of spring canola lines for biodiesel applications in the North Central Region

Principal Investigator: Dr. Phillip E. McClean, Department of Plant Sciences, 270 B Loftsgard Hall, North Dakota State University, Fargo, ND 58108-6050
Phone: 701-231-8443; E-mail Address: phillip.mcclean@ndsu.edu

The objective of this research was to develop spring canola lines with high seed yield and high oil content for biodiesel production. On the basis of 2008 summer trial performance, eight elite lines have been identified with high seed yield, high oil content and better disease resistant to blackleg and sclerotinia stem rot disease. We made diallel crosses to get suitable recombination to develop superior lines with high oil/acre. Forty F_2 's were planted advanced to $F_{2:3}$ generation of inbreeding in the summer nursery at Prosper, ND in 2009. A total of 430 $F_{3:5}$ have sent to winter nursery Chile for generation advanced to $F_{3:4}$ generation of inbreeding during 2009-10. In the WN, 3 plants per line will be selfed for generation advance and seed from the rest of the plants on each line will be bulked for evaluating in North Dakota in summer 2010. Seeds collected from WN will be evaluated for seed oil, seed protein and their fatty acids composition. We are also increasing 300 F_1 hybrids in WN Chile for early generation testing in summer 2010. We have evaluated 177 hybrids during summer 2009 and selected 30 F_1 hybrids for advanced yield trial in 2010. The seeds for advanced yield trial have sent to WN Chile for generating F_1 hybrids. All the research activities conducting in this research to develop superior canola lines adapted to North Central Region of the USA.