



“Evaluating new next-generation strategies to boost breeding efficiency for feed and forage production in barley and triticale”

BOOSTING BARLEY AND TRITICALE BREEDING

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LEAD RESEARCHER: Flavio Capettini and Jennifer Zantinge (Field Crop Development Centre, Olds College)

COLLABORATORS: Yadeta Kabeta, Lori Oatway, Mazen Aljarrah, Erin Collier (Field Crop Development Centre, Olds College); Kequan Xi (Alberta Agriculture and Forestry); Aaron Beattie (Crop Development Centre, University of Saskatchewan); James Tucker, Ana Badea (Agriculture and Agri-Food Canada)

Background: Continued improvements in the yield and nutritional quality of barley grain and annual forages are essential to maintain a competitive cattle feeding sector in Canada. The Field Crop Development Centre (FCDC) in Lacombe is Canada’s only crop breeding program dedicated to and making a deliberate effort to improve feed grain and cereal forage crops with livestock production in mind. Utilization of new breeding techniques and strategies, especially those using genomic techniques like marker assisted selection, should help speed up the breeding process.

Objectives: The objectives of this study are to:

1. Upgrade the breeding program at FCDC by developing and applying new next generation genotyping technology to concentrate desirable genes into elite breeding lines
2. Supply relevant genomic data and genetic markers to breeders
3. Utilize marker assisted selection to improve the precision of selection of breeding lines for crossing

Implications of the Research: The breeding and release of new feed grain and cereal forage crops is a long term, incremental endeavor. Continued investment in this area doesn’t pay dividends immediately but ensures that continuous improvement in important traits like yield, standability, digestibility, disease resistance, etc. occurs well into the future.

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