

Alberta's spring wheat breeders team up, add strength

by Kieran Brett

Funding from ACIDF and ALMA is allowing the province's two spring wheat breeding programs to do more for both crop and livestock producers.

The success of Alberta's multi-billion dollar livestock industries is directly tied to the availability, cost and nutritional quality of regionally grown cereal crops. The health of research programs that develop new and better crop varieties, then, is a pocketbook issue for beef, pork and poultry producers.

Here's good news. Today, Alberta's two public spring wheat breeding programs are now one unified, focused team – and it's already showing in the variety registration system.



The new working relationship – between Dean Spaner's team at the University of Alberta and Harpinder Randhawa's group at Agriculture and Agri-Food Canada in Lethbridge – was several years in the making.

“My focus is on hard red and CPS wheats, while Harpinder works in soft white wheats and ethanol, so we were complementary in that way,” says Spaner. “Both of us being public breeding programs, we both serve the public good. We felt comfortable working together, even though we're 500 kilometers apart, and sharing our scientific strengths and weaknesses.”

Collaboration brings focus, precision

Between April 2013 and March 2015, the Spaner (pictured above) and Randhawa (pictured below) programs took steps to combine their resources and pursue a set of shared development goals for spring wheat. Funding from the Alberta Crop Industry Development Fund (ACIDF), under the \$8 million Feeding Initiative funded by the Alberta Livestock and Meat Agency (ALMA), gave the newly formed group additional resources to work with.

For spring wheat development in Alberta, this has been a game-changer. Disease resistance, with an emphasis on stripe rust, has gained strongly. Two new varieties have already been registered, with three more currently in the Co-op registration trials system.

Spaner expects that, over the next two years, between seven and 10 new breeding lines will participate in Co-op trials. These lines cover the General Purpose, CPS, Soft White and New Milling Wheat classes of wheat. Livestock producers will applaud the



team's developmental focus on increasing yield potential for grain, digestible energy and starch.

"To have this many lines entering Co-op trials, that's a significant bump from before," says Spaner. "There's also more precision to our testing now and, with added funding, we were able to do more B-level testing before Co-op trials."

A program to watch

Developing and registering new spring wheat varieties takes many years, diverse scientific and technical talents and a significant financial commitment. In the public domain, these resources can be hard for researchers to secure and sustain. The merger of Alberta's spring wheat breeding programs allows for better use of available funding and personnel, and keener focus on issues that matter to crop and livestock producers.

Giving wheat growers higher yielding and more disease-resistant varieties brings several benefits. Improved profit margins for crop producers will help ensure a consistent supply of feed for livestock. Higher yields should help livestock producers fill a feedbunk at a reasonable cost. With more gene-level disease resistance, there's less need for producers to apply a fungicide, which pays economic as well as environmental dividends.

For his part, Dean Spaner likes where Alberta's public spring wheat breeding effort stands today. Timely funding, he points out, has made all the difference.

"ACIDF has supported both our program, and Harpinder's, significantly over the years," he says. "Over the last 10 or 15 years, there's been a good pickup of expertise at AAFC in Lethbridge and here at U of A. We've grown the breeding program fairly well for Alberta, and we're hopeful we can at least maintain the level of what we've been doing."

