

EXTENSION REPORT

	Project Title: Corn Agronomy Project	
	Date: May 30, 2015	
	Project Start Date: April 1, 2014	Project End Date: March 31, 2018
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Project Activities (February – May, 2015):

Spring of 2015 has been an exciting time for the Corn Agronomy project. With graduate students and new research equipment in place, we have made great progress establishing new field trials once planting weather arrived in April and May.

Project Area 1: Crop Rotation

Objective 1, 2, and 4: Identify the best crops to grow prior to corn in the rotation and Evaluate fertilization strategies for corn grown after canola

Corn test crops were planted into the crop rotation experiments at sites near Carman (U of M Research Farm), St. Agathe, and Stephenfield (on-farm) that had been established during the 2014 growing season. A second set of trials has been established near Carman and Stephenfield to set up for the 2016 corn test crop. A CFIA quarantine has limited soil sampling and some field activities at the St. Agathe site; therefore, although experiments for these two objectives are proceeding, the corn fertilization trial at this site will be limited to a single P, S, and Zn fertilization treatment. Also, rotational treatments for 2016 experiments were not established at this location. Magda Rogalsky, MSc student, is working on this fertilization experiment.

Objective 3: Economic Analysis of optimal crop rotations involving corn

An MSc student, Hazel Sakulanda, continues to working on this project. She is working on a dynamic crop rotation model to optimize farm income, taking into account relative crop yields in rotation over a range of commodity prices, using reported links between previous crops that could incorporate new findings from the agronomic portion of the project. Hazel will be presenting initial findings at the CAES annual meetings in Newport, R.I. at the end of June.

Project Area 2: Residue Management

Objective 4: Identify optimum corn residue management strategies

A soybean test crop was established in the corn residue management experiment established on-farm in the fall of 2014 near Winkler. A second corn residue management experiment was established this spring on-farm near MacGregor with a soybean test crop. An MSc student, Patrick Walther, is monitoring soybean emergence and development along with soil moisture and temperature in the four tillage treatments.

Objective 5: Evaluate fertilization strategies for alternative tillage systems for corn production

Corn test crops were planted into tillage experiments (fall tandem disc tillage vs. fall strip tillage) established in the fall of 2014 near Carman (U of M Research Station) and Portage La Prairie (Canada Manitoba Crop Diversification Center). Fall banding fertilizer treatments (0, 30, 60 kg/ha P₂O₅ applied as MAP) were applied in fall, at time of tillage. Equivalent rates of side banded fertilizer were applied to selected treatments this spring. An MSc student, Magda Rogalsky, is working on this project.

Project Area 3: Corn Heat Unit Evaluation

Objective 6: Evaluation of corn heat unit system for Manitoba

Three hybrids (short, long, intermediate CHU) have been established this spring at 8 experimental sites beside yield trials run by Dr. Lana Reid (6 sites in Manitoba, 2 sites in Alberta). Weather stations and cameras have been installed by Justice Zhanda, a new MSc student working on the project. A schedule for manual observations of corn phenology has been organized between Justice and the site collaborators.

Project Area 4: Corn Row Spacing

Objective 7: Evaluate corn row spacing to optimize corn yield and fall dry down

The corn row spacing experiment was established near Carman (U of M Research Farm) using a new planter with variable row spacing that was purchased through a Western Economic Diversification equipment project in 2014.