

Glyphosate- or Auxinic-Resistant Kochia and Russian Thistle Prairie Surveys

AGR1854

Annual Report

April 2019

Objective: To determine the distribution and abundance of glyphosate-resistant (GR) or auxinic-resistant kochia and other targeted weeds, including Russian thistle, waterhemp, and ragweed species, in Manitoba in 2018, Saskatchewan in 2019, and Alberta in 2021 through a survey of 300 sites in each province.

Progress:

As planned, a survey of 300 sites in Manitoba was completed in the fall of 2018. The samples have been processed and are ready for screening when greenhouse space becomes available.

Preliminary results:

Preliminary results were not expected until the second year of the project.

Deviation:

The initiation of the greenhouse screening of the Manitoba was delayed a few months due to changes project personnel and limited greenhouse space. Dr. Hugh Beckie, the original PI and lead on each of the project milestones, retired before the project was initiated. Additionally, his technician retired after the field work was completed in 2018. In the absence of a replacement for Dr. Beckie and his technician, Dr. Charles Geddes (AAFC, Lethbridge) agreed to lead the herbicide screening. However, greenhouse space for the new project was limited in Lethbridge and a planned lighting retrofit restricted available space in Saskatoon. Therefore, funds associated with screening were not spent in the 2018/19 fiscal year and will be transferred to next year. Despite the delay, we anticipate the screening will be completed next fiscal year, as planned.

Annual Extension Report

The objective of this project is to determine the evolution or spread of glyphosate-resistant (GR) or auxinic-resistant kochia in Manitoba in 2018, Saskatchewan in 2019, and Alberta in 2021 since the 2012/2013 baseline surveys. In the 2012/2013 surveys, GR kochia was found in 5% of randomly-surveyed sites in Alberta and Saskatchewan (annually-cropped fields and non-crop areas such as oil well sites, railway rights-of-way, and roadside ditches), but only two sites in Manitoba (corn and soybean fields in the Red River Valley). The three surveys that comprise this project follow the GR kochia and Russian thistle survey conducted in Alberta in 2017, in which 50% of sites had GR kochia but no GR Russian thistle was found. The results of this project will inform producers and other stakeholders in the agri-food sector of the current incidence of GR or auxinic-resistant kochia and emerging GR weeds so that mitigation measures can be deployed efficiently and effectively. As planned, seed was collected from 300 sites were surveyed in Manitoba in the fall of 2018 and results of greenhouse screening are expected in 2019.