

PRAIRIE HERBICIDE RESISTANCE RESEARCH LAB

Sample Submission Process

Dear Submitter,

Thank you for your interest in confirmation of suspected herbicide-resistance on your farm. The list below outlines the weed and herbicide combinations accepted for free testing in 2019. Any seed submitted may be used by the Herbicide Resistance Research Lab for research purposes.

Weed and herbicide combinations accepted for testing in 2019:

- All suspected glyphosate (group 9)-resistant weeds
- Auxinic herbicide (group 4)-resistant kochia
- Other cases of suspected herbicide-resistance not listed in the front of your provincial Guide to Crop Protection or on www.weedscience.org

You have taken an important step in identifying a weed that may have a novel herbicide-resistance trait. The process for determining if a weed is resistant will take about three to four months if seed germination is adequate. We will do our best to return results before the following growing season. To help with this, please submit samples prior to December 15, 2019. If you have questions about the status of this process at any time, please feel free to contact me for an update.

Kind regards,

Dr. Charles Geddes

Weed Ecology and Cropping Systems

Research Scientist / Science and Technology Branch

Agriculture and Agri-Food Canada / Government of Canada

Charles.Geddes@canada.ca / Tel: 403-359-6967 Cel: 403-360-2466

Lethbridge Research and Development Centre

5403 – 1st Avenue South

Lethbridge, AB, CA

T1J 4B1

PRAIRIE HERBICIDE RESISTANCE RESEARCH LAB

Sample Submission Process

The following is a step-by-step process for collecting and submitting a seed sample for testing of suspected herbicide-resistance by Agriculture and Agri-Food Canada. If you have questions or require clarification, please contact:

- **Charles Geddes:** 403-359-6967 or Charles.Geddes@canada.ca

Diagnosis of a herbicide-resistant weed requires submission of mature seed. Accuracy depends on the quality of the sample submitted along with the inclusion of relevant information. Below is the proper process to sample, package and submit weed seeds for herbicide-resistance testing.

Sampling

1. Collect only **mature, healthy seed** from the suspected plants. Green or diseased seed will not germinate properly and will impede the diagnosis or make testing impossible. If possible, collect seed from at least 15 plants in the population with suspected resistance.
2. **About 1000 to 2000 seeds** are required.
3. Collect seed from weeds that have **survived the herbicide** application. If other labelled weeds were controlled in the field there may be reason to suspect resistance.
4. Thoroughly complete the weed sample submission form including information on: past and present crops, herbicide product used and rate of application, timing of application (month, day, year, growth stage of crop, growth stage of weed), temperature conditions around the time of application, and the weed distribution and level of control.

Packaging and Handling

1. ALLOW SEED TO **AIR DRY** BEFORE SHIPPING! This is done by placing the seeds in paper bags and allowing them to air dry for a few weeks in a dry environment near room temperature. This prevents mold from developing during shipment.
2. Seed should be **relatively clean** with as little foreign material as possible.
3. Once the seeds are dry they should be packaged in any **durable container** including strong plastic bags and then placed in sturdy cardboard containers (or equivalent) prior to shipping.

**BE SURE TO COMPLETE THE ENCLOSED SEED SAMPLE SUBMISSION FORM AND
SEND ALONG WITH THE SAMPLE**

Submission

Please send the seed sample to:

Charles Geddes

P.O. Box 3000

5403 – 1st Avenue South

Lethbridge, AB, CA

T1J 4B1

(403) 359-6967

Charles.Geddes@canada.ca

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Sample Submission Form

FIELD INFORMATION: Please complete 1 sheet for each weed type.

Owner / Grower _____	Date of Sampling _____
Address _____	Agronomist / Rep. _____
Town & Province _____	Contact Phone Number _____
Postal Code _____	Contact Email Address _____
Home Phone Number _____	Suspected Resistance _____
Suspected Resistance _____	Herbicide Test Requested _____

Please describe the weed problem in this field in as much detail as possible. Use backside of the form if required.

Crop Information <small>(at time of herbicide application)</small>		Weed Information <small>(at time of herbicide application)</small>			
Crop	Crop Leaf Stage	Weed Type	Weed Growth Stage	Weed Distribution	Level of Control
EXAMPLE: Canola	3 leaf		Leaf stage or height	<ul style="list-style-type: none"> ▪ Widely distributed ▪ Localized patch 	<ul style="list-style-type: none"> ▪ Excellent: 90-100% ▪ Good: 80-90% ▪ Poor: 60-80% ▪ Very Poor: <60%

CURRENT YEAR HERBICIDE APPLICATIONS

Application Date		Product Name	Rate	Timing <small>(Pre-seed, in-crop, pre/post harvest)</small>	Temperature at application (°C)	Soil Moisture Conditions <small>(dry, ideal, excessive)</small>
Month	Day					

HISTORICAL FIELD HERBICIDE APPLICATION INFORMATION (Pre-seed, In-crop, Pre / Post Harvest)

Year	Crop	Product Name	Rate	Timing <small>(Pre-seed, in-crop, pre/post harvest)</small>