**PRAIRIE-WIDE HERBICIDE-RESISTANCE DIAGNOSTIC TESTING**

**SAMPLE SUBMISSION**

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 diagnosis in 2018.

**Weed and herbicide combinations accepted for diagnosis in 2018:**

* 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](http://www.weedscience.org)

You have taken an important step in identifying a weed that may have a unique case of herbicide-resistance. The process for determining if a weed is resistant will usually take about three months if seed germination is adequate. 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](mailto: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-WIDE HERBICIDE-RESISTANCE DIAGNOSTIC TESTING SAMPLE SUBMISSION PROCESS

The following is a step-by-step process for collecting and submitting a seed sample for diagnosis 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 multiple plants in the population with suspected resistance.
2. **About 1000 to 2000 seeds** are desirable.
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’s 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 mould 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 |

**Prairie-Wide Herbicide-Resistance Diagnostic Testing**

**Sample Submission Form**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Owner / Grower** |  |  | **Date of Sampling** |  |
| **Address** |  |  | **Agronomist / Rep.** |  |
| **Town & Province** |  |  | **Grower Cell Number** |  |
| **Postal Code** |  |  | **Email Address** |  |
| **Home Number** |  |  | **Legal Land Description** |  |
| **Fax Number** |  |  | **Suspected Resistance** |  |

|  |
| --- |
| **Please describe the weed problem in this field in as much detail as possible. Use the backside if required.** |
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| --- | --- | --- | --- | --- | --- |
| **Crop Information**  **(at time of herbicide application)** | | **Weed Information**  **(at time of herbicide application)** | | | |
| **Crop** | **Crop Leaf Stage** | **Weed Type** | **Weed Growth Stage** | **Weed Distribution** | **Level of Control** |
| EXAMPLE: Canola | 3 leaf |  | Leaf stage or height | * Widely distributed * Localized patch | * Excellent: 90-100% * Good: 80-90% * Poor: 60-80% * Very Poor: <60% |
|  |  |  |  |  |  |

**CURRENT YEAR HERBICIDE APPLICATIONS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Application Date** | | **Product Name** | **Rate** | **Timing**  (Pre-seed, in-crop, pre/post harvest) | **Temperature at application (°C)** | **Soil Moisture Conditions**  (dry, ideal, excessive) |
| **Month** | **Day** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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**HISTORICAL FIELD HERBICIDE APPLICATION INFORMATION** (Pre-seed, In-crop, Pre / Post Harvest)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Crop** | **Product Name** | **Rate** | **Timing**  (Pre-seed, in-crop, pre/post harvest) |
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