

## RESISTANCE TEST SERVICES AT AG-QUEST

Herbicide-resistant weeds are an ever-increasing problem in Western Canada. Ag-Quest conducts resistance tests to help producers identify herbicide-resistant populations in weed SEED samples. Assays are conducted on live plants in growth rooms treated with the requested herbicide(s). Test results are derived by comparing the growth and development of tested weed samples with known resistant and susceptible weed populations. We can test major annual weeds (wild oats, green foxtail, cleavers, kochia, lamb's-quarters, redroot pigweed, shepherd's-purse, smartweed, stinkweed and wild mustard, etc.) with most post-emergent herbicides and some soil-applied herbicides. New tests are being developed as the need arises. We will NOT disclose the grower/field information without consent.

**Note:** Assay results are based on the sample of weed seeds sent to our lab. Results will only reflect the herbicide resistance in that particular sample, which may or may not be representative of the entire field (depending on sample collecting methods). Due to environmental and other factors, actual response under field conditions may occasionally vary from the lab results.

**Any liability for work contracted to Ag-Quest will be limited to the quoted cost for the work affected. Except for the quoted cost, any other warranty or liability of any kind and recovery of any incidental or consequential damages or claims is specifically excluded.**

## RESISTANCE ASSAY PRICES – effective February 1, 2019

All weeds ..... \$ 125.00 + GST per herbicide (per test)  
*Prices are subject to change without notice.*

### Volume Discount

> 10 tests .....\$120.00/test  
 > 50 tests .....\$115.00/test  
 > 100 tests .....\$100.00/test

### **Note:**

**DO NOT** send payment with the samples.

An invoice will accompany the test results. Please pay based on the invoice.

Make the cheque payable to Ag-Quest Holding Ltd. Include PO# if needed.

*Credit cards will be accepted. Please call (204)776-2087 to process payment.*

### SEED SAMPLE REQUIREMENTS

In order to facilitate accurate, reliable test results, please follow the sample requirements below:

1. Collect **MATURE & DRY** seeds.
  - Immature seed can reduce germination and seedling vigor, resulting in inaccurate results or inability to conduct test at all.
  - Be aware of late-maturing weed species such as kochia, which may not be ready to sample at the time of crop desiccation or harvest.
  - Damp seed may produce mold and make the sample unusable. After sample collection, spread out seeds on a paper to air dry for a few days at room temperature before packing.
  - Field should not be sprayed with pre-harvest glyphosate, which may reduce germination.
2. Put **DRY** seeds in paper bags or envelopes; do not use plastic bags.
  - Plastic bags trap moisture and increase the chance of spoilage.
  - We recommend paper lunch bags (approx. 5 x 3 x 10 inch) filled  $\frac{1}{2}$  to  $\frac{3}{4}$  with **PURE** seed. This amount should be enough for multiple tests.
3. Sample should consist of pure seed and be **CLEAN** (separated from chaff).
  - Many weed seeds enter a period of dormancy in the fall. In order to overcome this dormancy in wild oats, we individually remove the seed coat and puncture the seed.
  - This is a time-intensive process, especially with excessive chaff. As a result, samples of poor quality submitted after **July 2019** may incur an additional **processing fee of \$10 per test**.
4. Ship **ASAP**; samples received before **January 31** will ensure results prior to spring seeding.

The above guidelines represent ideal conditions. As field researchers, we understand that situations are not always ideal and will make a reasonable attempt to test less than ideal samples. Minimum requirements for testing:

5. At a minimum we require **25 g** of pure weed seeds for **EACH** herbicide test.
  - Weed seeds that have been sprayed with pre-harvest glyphosate may still be viable, depending on maturity at the time of application.
  - Seeds collected before ideal mature stage may still be viable. Please ensure these samples are thoroughly dried and cleaned (pure seeds only, remove chaff) to avoid spoilage.

If you have questions regarding sample preparation or quality, please contact us.

**\*\*\* SAMPLE SUBMISSION DEADLINE – JANUARY 31 \*\*\***

## SEED SAMPLE SUBMISSION FORM

Please complete the form (PRINT) below for every sample submitted.  
 \*\*\* SAMPLE SUBMISSION DEADLINE – JANUARY 31 \*\*\*

<b>SAMPLE SUBMITTED BY:</b>	<b>BILLING INFORMATION:</b> <input type="checkbox"/> same as submitter
Company:	Company:
Contact Name:	Contact Name:
Mailing Address:	Mailing Address:
City:                      Prov.:              PC:	City:                      Prov.:              PC:
Phone:	Phone:
Email:	Email:
<b>FIELD INFORMATION:</b>	
Weed:	Field ID:
Date of Collection:	Herbicide Use in 2019:
Field Desiccated in 2019: Yes <input type="checkbox"/> No <input type="checkbox"/>	Lab ID (Lab Use Only):

### HERBICIDE(S) TO BE TESTED

<b>Group 1:</b>	<input type="checkbox"/> Fenoxaprop	<input type="checkbox"/> Quizalofop	<input type="checkbox"/> Sethoxydim
<input type="checkbox"/> Clethodim	<input type="checkbox"/> Clodinafop	<input type="checkbox"/> Pinoxaden	<input type="checkbox"/> Tralkoxydim
<b>Group 2:</b>	<input type="checkbox"/> Imazamox	<input type="checkbox"/> Metsulfuron	<input type="checkbox"/> Thifensulfuron
<input type="checkbox"/> Florasulam	<input type="checkbox"/> Imazamox+Imazapyr	<input type="checkbox"/> Nicosulfuron	<input type="checkbox"/> Thifensulfuron+Tribenuron
<input type="checkbox"/> Flucarbazone	<input type="checkbox"/> Imazamox+Imazethapyr	<input type="checkbox"/> Pyroxsulam	<input type="checkbox"/> Tribenuron
<input type="checkbox"/> Imazamethabenz	<input type="checkbox"/> Imazethapyr	<input type="checkbox"/> Thiencarbazone	
<b>Others:</b>	<input type="checkbox"/> Difenzoquat (Gr.8)	<input type="checkbox"/> Glyphosate (Gr.9)	
<input type="checkbox"/> Bromoxynil (Gr.6)	<input type="checkbox"/> Fluroxypyr (Gr.4)	<input type="checkbox"/> Triallate (Gr.8)	
<input type="checkbox"/> Dicamba (Gr.4)	<input type="checkbox"/> Glufosinate (Gr.10)	<input type="checkbox"/> Trifluralin (Gr.3)	Other _____

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**Please Ship Seed Samples (One Form Per Sample) To:**

**Ag-Quest Holdings Ltd. (Attn: Dr. Haisheng Xie)**

**By mail: Box 144,  
Minto, Manitoba R0K 1M0**

**By courier: #210 South Railway Street,  
Minto, Manitoba, R0K 1M0**

**Questions: Phone: 204-776-2087**