

## SAMPLE COLLECTION FOR HERBICIDE RESISTANCE TESTING IN WEEDS

### INSTRUCTIONS FOR LEAF TISSUE SAMPLES

*Molecular assays conducted on leaf tissue samples RELY HEAVILY ON QUALITY SAMPLING PROCEDURES in order to produce quality results. Leaf samples should be collected, stored and shipped in the following manner in order to assure the highest quality results are returned.*

1. Collect leaves from **five (5) separate plants** from field with suspected resistance
2. Leaves should be collected from the **upper 6 inches** of juvenile plants or the **four uppermost leaves** of plants that have initiated flowering and seed production
3. Ensure that the plant tissue is relatively clean and dry before placing the **tissue from each plant into separate plastic bags** (ex. Sandwich zip-top bags)
4. Avoid allowing the samples from becoming excessively warm, place sample into a refrigerator/cooler if not immediately shipped
5. Samples should be **stored for no more than 1 to 2 days** and **PREFERABLY SHIPPED OVERNIGHT** to ensure samples arrive in good condition. Degraded samples cannot be tested.
6. Fill out the submitter and field information as completely as possible, and **check the box for the desired screen**

*Test results from leaf tissue samples will be produced within a few weeks.*

### INSTRUCTIONS FOR SEED SAMPLES

1. Seed should be collected from plants in the suspected resistant field that are **at least 20 to 30 ft inside the field edge** to ensure that the plants were treated with a herbicide application
2. Seed should be collected from **approx. 20 individual plants**
3. Waterhemp and Palmer amaranth have both male and female plants, **assure that the plant is female** by rubbing the seed head between your hands/finger and look for the small back seeds to thresh out.
4. Seed can either be threshed or whole seed head clipped and placed into paper bags
5. Seed/seed heads from **each plant should be place into separate bags**
6. Secure bags with tape or other methods to **ensure small seed does not leak out of bags during transport**
7. Fill out the submitter and field information as completely as possible, and **check the box for the desired screen**

Test results from seed samples require several months because plants must be propagated in the greenhouse.

See Sample Submission Form on Page 2

Lab Use Only  
Sample Number:  
Date Received:



**TESTING FOR SUSPECT POPULATIONS OF  
HERBICIDE-RESISTANT WEEDS**



SUBMITTER INFO	FIELD SITE INFO
Submitter's Name:	Date of Collection:
Submitter's Address: City: State: Zip:	Field Site Address: City: State: Zip:
Company/Grower:	GPS Coordinates:
Phone:	County of Collection:
Fax:	Crop in 2016:
Email:	Herbicide use in 2016:

**INDIANA RESIDENTS ONLY- (SAMPLE HANDLING FEE \$11.00 \*)**

<b>Leaf Samples</b>	<b>ALS (#2)</b>	<b>Glyphosate (#9)</b>	<b>PPO (#14)</b>
Waterhemp	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Palmer Amaranth	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Giant Ragweed	<input type="checkbox"/>	N/A	N/A
<b>Seed Samples</b>	<b>ALS (#2)</b>	<b>Glyphosate (#9)</b>	<b>PPO (#14)</b>
Waterhemp	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Palmer Amaranth	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Giant Ragweed	<input type="checkbox"/>	<input type="checkbox"/>	N/A

*\*testing fees are partially supported by Indiana Soybean Alliance*

**NON-INDIANA RESIDENTS - (TESTING & SAMPLE HANDLING FEE \$72.00)**

<b>Leaf Samples</b>	<b>ALS (#2)</b>	<b>Glyphosate (#9)</b>	<b>PPO (#14)</b>
Waterhemp	N/A	N/A	<input type="checkbox"/>
Palmer Amaranth	N/A	N/A	<input type="checkbox"/>
Giant Ragweed	<input type="checkbox"/>	N/A	N/A
<b>Seed Samples</b>	<b>ALS (#2)</b>	<b>Glyphosate (#9)</b>	<b>PPO (#14)</b>
Waterhemp	N/A	N/A	<input type="checkbox"/>
Palmer Amaranth	N/A	N/A	<input type="checkbox"/>
Giant Ragweed	<input type="checkbox"/>	N/A	N/A

**Please ship samples along with this form for next-day delivery to:**

Plant and Pest Diagnostic Laboratory  
LSPS-Room 116, Purdue University  
915 W. State Street  
West Lafayette, IN 47907-2054

**Please include a check or money order  
payable to Purdue University.  
DO NOT SEND CASH**

Shipping or invoice questions? Todd Abrahamson, 765-494-7071 or email: [abraha15@purdue.edu](mailto:abraha15@purdue.edu)  
Testing questions? Julie Young, 765-494-0891 or email: [young294@purdue.edu](mailto:young294@purdue.edu)