

MANAGING HERBICIDE-RESISTANT WEEDS IN THE PACIFIC NORTHWEST

Best Management Practices (BMPs) to manage herbicide-resistant weeds are critical to the long-term sustainability of wheat production in the Pacific Northwest.

Using BMPs is the most effective way to address herbicide-resistant weeds, especially when incorporated into a long-term weed management plan.

Herbicide-resistant weeds in the Pacific Northwest

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|----------------------------|---------------------|
| 1 Common Lambsquarters | 5 Mayweed Chamomile |
| 2 Downy Brome (Cheatgrass) | 6 Prickly Lettuce |
| 3 Italian Ryegrass | 7 Russian Thistle |
| 4 Kochia | 8 Tumble Mustard |
- Photo courtesy of WaNWCB.



START CLEAN

- Plant into weed-free fields and keep them weed-free.
- Plant weed-free crop seed.
- Understand weed biology, particularly timing of seed germination, seed dormancy, and seed longevity.
- Prevent field-to-field and within-field movement by starting equipment usage in weed-free areas and by cleaning equipment after use.
- Control weeds in borders to prevent weed influx into the field.

STAY CLEAN

- Scout fields routinely, and closely monitor the outcome of herbicide treatments. The sooner problems are detected, the better the chance you can adjust your management strategy.
- ★ **Use multiple herbicide mechanisms of action (MOAs) that are effective on troublesome or herbicide-resistant weeds.**
- Follow the herbicide label - use the correct rate at recommended weed sizes.
- Use crop competitiveness to suppress weeds.
- Diversify weed management practices - prevent weed seed production and reduce weed seeds in the soil seed bank.
- Use mechanical management practices, as needed.
- Manage weed seed during and after harvest to prevent weed-seed bank buildup.
- Know and understand the effects of the weed management inputs you apply on each weed species.

If weeds are present after application, determine the reason! Consider the following:

- FIELD HISTORY**
HAS THE TREATMENT WORKED BEFORE?
- WEED BIOLOGY**
WERE WEEDS PRESENT AT APPLICATION?
- ENVIRONMENT**
WEATHER CONDITIONS FOR HERBICIDE ACTIVITY?
- APPLICATION PROBLEMS**
ARE THERE CLEAR PATTERNS?
- CROP CULTURAL PRACTICES**
IS THE CROP VIGOROUS?

Herbicide Resistance - seek support for suspected herbicide-resistant populations!

SEEK SUPPORT

Contact your local cooperative extension office for help creating a weed management plan or if your current plan is ineffective, or see EM108: Advances in Dryland Farming in the Inland Pacific Northwest, Chapter 9, for an approach to creating such a plan (bit.ly/EM108ch9).

Stay informed! Visit the Herbicide Resistance Resources page of the WSU Wheat and Small Grains Website (bit.ly/wsu-herbres) to stay current with developments in herbicide resistance and resistance management in the region.



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