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.

**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.
- Diversify weed management practices – prevent weed seed production and reduce weed seeds in the soil seed bank.
- Use crop competitiveness to suppress weeds.
- 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.

**HERBICIDE-RESISTANT WEEDS IN THE PACIFIC NORTHWEST**

- Russian Thistle
- Prickly Lettuce
- Downy Brome (Cheatgrass)
- Mayweed Chamomile
- Kochia
- Tumble Mustard
- Common Lambsquarters
- Italian Ryegrass

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.

**Stay informed!** Visit the Herbicide Resistance Resources page of the WSU Wheat and Small Grains Website (smallgrains.wsu.edu) to stay current with developments in herbicide resistance and resistance management in the region.