Herbicide Resistant Waterhemp Is Here

How Do We Manage It?

Here at River Country we have identified waterhemp in nearly all areas of our trade territory. This means that if waterhemp is not physically on your farm, it is probably within a few miles away. Why is this important, and what should we do to manage resistant waterhemp? A few facts for you:

1. Waterhemp competes with crop plants through sheer numbers instead of plant size (unlike giant ragweed). Mature waterhemp plants produce a prolific amount of seeds; an average of 250,000-500,000 per plant.
2. Waterhemp outcompetes crops because it grows faster; under good conditions this can be 1 to 1.25 inch per day. Don't count on your crop to canopy and choke it out like other weeds.
3. Waterhemp has a longer germination window then most other annual weeds; a single residual herbicides application won't last the full season of emergence.
4. Waterhemp has male and female plants so its genetic diversity changes faster and it more easily develops resistance to herbicides; at this time some waterhemp has tested resistant to six (!) different herbicide groups.
5. Waterhemp is most commonly spread by combines or birds (geese) bringing seed from infested fields and through manure applications containing seed from feed or bedding.

Learn to Identify & Track Waterhemp

It is crucial to identify waterhemp and fields that have waterhemp ASAP to ensure you can plan for the future. Waterhemp is a member of the pigweed family and can resemble redroot and smooth pigweed or Palmer Amaranth in earlier stages. At this point it is the most difficult to identify but in general, waterhemp leaves will be thinner, longer and more oval vs spade shaped. Later on in the season as it produces seedheads, it may resemble lambsquarter at distance but a closer look will reveal the same features of the leaves and long, thin and fairly uniform (not bunched up like lambsquarter or pigweed) seedheads. A fully mature plant is probably the easiest to identify, so pay close attention during harvest to evaluate your fields. (*See pictures on back of this flyer.)* Keep track of fields with waterhemp for next year's herbicide program, and when possible, leave infested fields until the end of harvest so you don't carry the seed directly into the next field. Finally, clean out your combine as best you can to reduce the seed load for next year.

Plan Your Chemical Program

Effective waterhemp control starts with a pre AND post-emerge chemical program. Trying to control water hemp after it has emerged and is more than a few inches in height is extremely difficult to do. The best method of control is a two pass system with a residual on both passes. The first pass should be pre-emerge residual and a burndown if needed. The second pass should be a residual with a post-emerge herbicide applied around 30 days later whether you see waterhemp in your fields or not. This is because waterhemp seeds can germinate from early May well into July, after the residual of your first pass has worn off. The second pass of residual helps hold new seed from germinating until the end of waterhemp germination. Another piece of effective waterhemp control is pairing your chemical program with herbicide tolerant seed besides RoundUp. An example is using Liberty tolerant beans or corn or the new Xtend (dicamba tolerant) soybeans. Dicamba is a broadleaf herbicide that does a good job controlling waterhemp and it has some residual unlike Liberty herbicide. Be aware if dicamba drifts into non-Xtend beans or broadleaf crops. It can cause major damage to the crop. Don't use dicamba not labeled for Xtend beans. It is illegal and can cause more drift damage. Also, AMS based adjuvants should not be used with the new dicamba herbicides. Be sure to follow label instructions on buffer zones.Despite these concerns, dicamba is probably still the best option when it comes to controlling waterhemp in your soybean fields.

Evaluate Your Tillage & Cover Crop Methods

With tillage there is no guarantee that one method will solve a waterhemp problem in your fields. Deep tillage will only work as a short-term solution as it buries the seed out of the germination zone. However, seed viability is increased and repeated deep tillage will work the seed back up.

Vertical tillage works best with a burndown chemical pass before you till. Post tillage burndown slows the uptake of chemical through the already damaged roots, reducing control. Overall, vertical tillage has not really been shown to be a more effective tillage method than no-till on waterhemp.

No-till fields will have more seed in the germination zone of the soil, but with no-till more seeds tend to be consumed by mice and birds. Also, the seed viability is not as long as in a deep tillage system. If you do a no-till system, you will need an aggressive chemical program to combat the sheer number of seeds that germinate.

The use of cover crops has been shown to help reduce pressure from waterhemp and other weeds. Established winter cover crops can help hold back weed emergence early in the spring. Also, with cover crops often a chemical pass is done to kill off cover crops, which will help control weeds that did emerge. Similarly, hay crops can reduce seedload of waterhemp through repeated cuttings.

Going forward, it is important to realize that the physiological features of this plant probably make it unrealistic to get 100% percent control. But, using appropriate tools and stacking modes of action will prevent more resistance in the future and make it possible to get good control and preserve crop yields in the long term. Make sure to create a plan with your agronomist for controlling this destructive weed.

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