

## It's Herbicide Decision Time

by Don Rhoads

This is the time of year many growers are making decisions for their 2012 herbicide programs. It's a good time to reflect on successes and failures of the previous year and use that information for sound decisions for 2012.

The predominant problem weed in the Midwest today is Common Waterhemp, followed by Marestalk (Horseweed) and Giant Ragweed. Many soybean fields across the Midwest this summer had Waterhemp and Marestalk showing above the soybean canopy. If those fields were owned by grumpy landlords, the tenants might have been getting an ear full. Some of those fields might have simply had poor weed control from whatever herbicide program used. Other fields, however, could be showing the first signs of weed resistance. Several growers stated that their initial glyphosate application was unsatisfactory, so another application was made with little or no improvement in weed control. These situations definitely point to glyphosate weed resistance.

**Waterhemp is a prolific seed producer, having the ability to produce one and a half times the number of seeds than any other pigweed species.** Most Waterhemp plants produce around 250,000 seeds, but some can produce up to 1 million seeds. Waterhemp seeds germinate over wide ranges of soil temperatures, resulting in late emergence into the summer. Some of these late emergent weeds escape earlier applications of post applied herbicides. Waterhemp seed can also remain viable in the soil for up to four years.

**Waterhemp is dioecious**, which means that male and female flowers occur on separate plants. Male plants produce pollen which is dispersed by wind to fertilize female plants to produce seed. The huge concern is if pollen comes from a resistant plant, the resistant trait can be transferred to another field and fertilize previously susceptible female plants. The female plant will then produce seed, some of which will be susceptible. The exact distance Waterhemp pollen can travel is unknown, but scientists believe pollen grains can travel up to a half mile from their parent male plant.

**Most of the documented cases of Waterhemp resistance have developed in fields with continued use of glyphosate for several years with no other alternative herbicides. One of the easiest management tools to lower the risks of weed resistance is to use other herbicide modes of action along with the glyphosate program.**

Atrazine, one of the most important herbicides ever developed, has a long list of resistant weeds. In spite of weed resistance issues, atrazine still plays an important role in today's weed-fighting agricultural systems. It is in many tank-mix combinations, and continues to be an integral part of many prepackaged products. In the future, glyphosate may play a similar role. In the future, Glyphosate will not be a stand alone product like it has been in the past, but will remain an important component in weed control strategies. Herbicide management today and into the future will not be as easy as pouring in a jug of glyphosate into the sprayer and assuming all weeds will be killed. We will need to reeducate ourselves about herbicide modes of action, weeds controlled and timing of applications.

### Recommendations for controlling glyphosate resistant Waterhemp

**In corn, most preplant and preemergence herbicides provide good control or suppression of Waterhemp**, especially when mixed with atrazine. A postemergence treatment is usually required, especially if rainfall generates later germinating seeds. Postemergence herbicides for Waterhemp control include atrazine, 2,4-D, dicamba, Status®, Callisto®, Laudis®, Capreno®, Corvus®, Impact®, and glyphosate (glyphosate-resistant corn) if the Waterhemp population is not resistant to glyphosate. Ignite® tank mixed with atrazine (Liberty Link® corn) is effective on small Waterhemp 2 - 3 inches tall.

**In soybeans it's always recommended to start with clean fields at planting**, either with tillage or chemical burndown. 2,4-D amine can be used with glyphosate for burndown, but must be applied at least 2 weeks before planting to minimize the potential soybean injury. A full rate of a preplant or premerge herbicide will help control early season flushes of weeds, including any glyphosate-resistant waterhemp. Products such as Authority®, Valor®, Valor® XLT, Dual, Warrant™, Int, and even Prowl® have good activity on small seeded broadleaves such as Waterhemp. Preemergence herbicides can greatly reduce Waterhemp populations. A postemergence treatment is usually necessary to control late-emerging plants. Blazer®, Cobra®, Flexstar®, Reflex® and Ignite® (Liberty Link soybeans) are all good choices for post applications, but should be applied before weeds reach 4 inches in height. If the remaining Waterhemp population is not glyphosate resistant, glyphosate can be used to clean up any remaining weeds.