

**A LITTLE BIT COUNTRY
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NDSU Weed Publication Available

The cost of controlling weeds in field crops varies with each crop; however, weed control expenses represent a substantial amount of the total direct (cash) cost, regardless of the crop. For example, weed control in small grains is likely near 20 percent compared to approximately 25 percent for pulse crops.

During recent pesticide certification meetings held for private applicators, each participant received a copy of the new 2010 North Dakota Weed Control Guide. This publication is updated annually. It reflects the availability of new products cleared for use in North Dakota based on federal and state labels, research at North Dakota Agriculture Experiment Stations and information from the North Dakota Department of Agriculture.

For me, the Weed Guide is an astounding publication packed with a vast amount of information which is compiled by Dr. Rich Zollinger, NDSU Extension Weed Science Specialist, with the help of many co-workers.

The publication includes herbicide recommendations for approximately 30 crops from alfalfa to wheat. Additionally, there are sections devoted to conservation reserve program (CRP) land, grasses, shelterbelts, chemical fallow and total weed control.

Special weed problems also are recognized in the publication. These include bindweed, foxtail, knapweed, milkweed, pigweed, loosestrife, quackgrass, ragweed, leafy spurge, thistle, wild buckwheat, wild oat, and wormwood, all which can be found in this area.

One of the weeds given special attention in this year's publication is lambsquarters, an annual which reproduces by seed only. It is becoming more prevalent in North Dakota. Zollinger sites three

reasons: 1) reliance on post emergence herbicides to control weeds, 2) a shift in germination pattern to later emergence, and 3) the increase in low and high level resistant biotypes. He tells us that glyphosate no longer controls every lambsquarters plant in a population when applied in a single application at the normal rate of 0.75 lb AE per acre, especially when plants are under stress.

Lambsquarters produce 70,000-500,000 seeds per plant. Seeds can remain viable for several years and a majority of the seeds emerge beyond the second growing season. According to Zollinger, lambsquarters is primarily self pollinated and is genetically diverse. It emerges early in the spring and continues to emerge.

Small plants can easily be controlled with most tillage passes. Larger plants can escape if tillage is not aggressive. Larger and injured plants from tillage are more difficult to control with post emergence herbicides.

Zollinger feels the most effective system of chemical control for lambsquarters includes pre followed by post herbicide applications. Corn and small grains have the largest portfolio of herbicides to control lambsquarters. All other crops have very few post herbicides to effectively control lambsquarters and timely applications to small weeds are necessary for maximum activity.

Zollinger suggests the following recipe to maximize glyphosate activity. Apply a minimum of 1.125 lb AE per acre of glyphosate plus 0.25 percent v/v of nonionic surfactant (NIS) plus at least 4 pounds of ammonium sulfate per 100 gallons of spray solution. Apply the glyphosate during consistently warm temperatures and not during large temperature extremes. The application should be made to lambsquarters that are less than 3 to 4 inches in height. Scouting the field two weeks later is advised since new growth is possible. A second post application 21 to 24 days after the first application is often necessary.

The North Dakota Weed Guide is available free of charge by calling this office 701-577-4595.