

Management Guide for Common Lambsquarters

Monsanto is committed to providing the information and product recommendations necessary to minimize the risk of developing weed resistance. The information below is targeted at increasing awareness of important weeds and helping preserve glyphosate efficacy.

Common Lambsquarters Biology

- Common lambsquarters was likely introduced from Europe, and is well adapted to and widely dispersed throughout North American agriculture.
- Common lambsquarters is a summer annual weed that can produce as many as 150,400 seeds per plant when growing without a crop. Seeds can germinate in the soil for a number of seasons, thus increasing the occurrence of common lambsquarters as an economically important weed.
- Common lambsquarters is highly competitive in crops. Just over 75 lambsquarters per square yard can reduce soybean yield by 50 percent.¹
- Common lambsquarters can grow to more than 5 feet tall. The leaves and stems have an epicuticular wax and pubescence. As the leaves mature, the epicuticular wax changes and the hairs becomes more apparent.

Weed Environment

- ✓ Common lambsquarters is best controlled when it is small.
- ✓ Environmental conditions that reduce crop growth can have a significant impact on control of common lambsquarters with glyphosate.
- ✓ Common lambsquarters can be extremely difficult to control with postemergence herbicides. The wax on the leaf surface slows herbicide movement into the leaf and can affect subsequent control.
- ✓ This weed is found in cultivated crops in every state.
- ✓ No known cases of resistance to glyphosate herbicides have been confirmed.² Common lambsquarters has been confirmed resistant to many herbicide families (triazines, ALS inhibitors, etc.) and scattered/rare glyphosate-resistant populations are suspected. Some lambsquarters populations are being investigated for resistance to glyphosate.

¹ University of Wisconsin, 2000, <http://www.news.wisc.edu/3858.html>.

² Heap, I. The International Survey of Herbicide Resistant Weeds. Online. Internet. July 06, 2005. Available www.weedscience.com

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Treatment Recommendations¹

Scout fields and control weeds throughout the season. Proper application timing protects yields, ensures correct use rate for weed size and considers the impact of environmental conditions on performance.

Roundup Ready[®] Corn 2

- ✓ Start clean with a burndown herbicide or tillage. Early season weed control is critical in corn to maximize yield potential.
- ✓ Apply a preemergence residual herbicide such as Harness[®] Xtra, Degree Xtra[®], or other residual herbicides at the recommended rate.
- ✓ Or apply a preemergence residual herbicide at the recommended rate tank mixed with Roundup WeatherMAX[®] at a minimum of 22 oz/A in-crop before common lambsquarters exceed 4 inches in height.
- ✓ Follow both programs with a postemergence in-crop application of Roundup WeatherMAX at a minimum of 22 oz/A for additional common lambsquarters flushes before they exceed 4 inches in height.
- ✓ Tank mix other herbicides such as 2,4-D or dicamba (Clarity[®], Banvel[®] or Distinct[®]) with Roundup WeatherMAX if necessary for postemergence common lambsquarters control.

Roundup Ready Soybeans

- ✓ Scout fields before and after each burndown and in-crop application.
- ✓ Start clean with a burndown herbicide or tillage. Tank mix with 2,4-D to control existing weeds and tough-to-control broadleaf weeds such as emerged common lambsquarters.
- ✓ If you have dense stands of common lambsquarters, use one of many available residual herbicides applied preemergence such as pendimethalin (Prowl[®]), flumioxazin (Valor[®]) or alachlor (INTRRO[®]).
- ✓ In-crop, apply Roundup WeatherMAX at a minimum of 22 oz/A before common lambsquarters exceed 6 inches.
- ✓ If an additional flush of common lambsquarters occurs, observe maximum annual application rates.
- ✓ Roundup WeatherMAX may be tank mixed with other herbicides, including imazamox (Raptor[®]) or thifensulfuron (Harmony[®] GT) if additional postemergence common lambsquarters control is needed.

Minimize the Risk of Weed Resistance

- Start clean and control weeds early.
- Use Roundup Ready Technology as your foundation.
- Add other herbicides and cultural practices where appropriate as part of the Roundup Ready Cropping System.
- Use the right rate at the right time.
- Control weeds throughout the season and reduce the weed seed bank.

Report incidences of repeated non-performance of any Monsanto branded herbicide to your local Monsanto retailer or call 1-800-ROUNDUP.

This is not a product label. Always read and follow label directions for all products used in tank mixtures. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance. Monsanto has not tested all recommended tank mix product formulations for compatibility or performance.

¹This fact sheet is issued to clearly describe use recommendations permitted under FIFRA Section 2(ee) as not being inconsistent with product labeling, or is issued to highlight an approved use from the product labeling. It is a violation of federal law to use any registered pesticide product in a manner inconsistent with its labeling. Read and follow all precautions and use instructions contained within the labeling. The applicable labeling for all products must be in the possession of the user at the time of application. Some recommended pesticide products are not registered in all states. Check with the product manufacturer or your dealer for products registered in your state. The distribution, sale or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited.

These recommendations are for all states except Texas.

ALWAYS READ AND FOLLOW LABEL DIRECTIONS: Roundup Ready[®] crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup[®] agricultural herbicides. Roundup agricultural herbicides will kill crops that are not tolerant to glyphosate. Harness[®] brands, Degree Xtra[®] and INTRRO[®] are restricted use pesticides and are not registered in all states. The distribution, sale or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local Monsanto dealer or Monsanto representative for the product registration in your state. Harness[®], Degree Xtra[®], INTRRO[®], Roundup[®], Roundup Ready[®] and Roundup WeatherMAX[®] are registered trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners.