

Weed Management in Cotton Under the Roundup Ready® System

Cooperative Extension Service
College of Agriculture and
Home Economics



Guide A-224

Richard D. Lee, Extension Weed Specialist
Shane T. Ball, Extension Agronomy Specialist

This publication is scheduled to be updated and reissued 7/03.

Weed management in cotton has taken a new twist with the introduction of transgenic cotton. Some cotton plants have been genetically altered to make them tolerant to a particular herbicide.

One cotton-herbicide system is built around Roundup Ultra® (glyphosate)—the Roundup Ready System®. Research has demonstrated that this system is an effective tool for managing perennial weeds, particularly bermudagrass (*Cynodon dactylon*), Johnsongrass (*Sorghum halepense*), silverleaf nightshade (*Solanum elaeagnifolium*), yellow and purple nutsedge (*Cyperus esculentus* and *C. rotundus*), weeds common to many New Mexico cotton fields.

Under this system, Roundup Ultra® can be applied at different growth stages.

Over-the-Top

- Broadcast applications can be made from cotton emergence through the 4-leaf stage (4 nodes) of growth. Apply before the 5th leaf is the size of a quarter.
- Sequential applications can be made for the management of perennial weeds. The second application should be made after 2 nodes of incremental growth and a minimum of 10 days following initial application.
- Application rates should not exceed 2 pint/acre (32 fl oz/acre).

Post-directed

- Two (2) directed applications can be made from 5th-leaf through layby.
- Application rates should not exceed 2 pint/acre (32 fl oz/acre).

- If sequential applications are made, allow a minimum of 10 days between applications (2 nodes of incremental growth).

Preharvest

- Broadcast application may be made for preharvest after 20% of the bolls have cracked.
- Allow a minimum of 7 days between application and harvest.
- Apply 2–4 pint/acre (32–64 fl oz/acre).

For the Roundup Ready System to perform its best, follow these guidelines:

- Identify weeds in the early seedling stage.
- Make applications to actively growing weeds. Stressed weeds won't absorb the herbicide as effectively as non-stressed weeds.
- Total spray solution for ground applications needs to be near 10 gallons per acre.
- Flat fan nozzle tips are recommended.
- Add 17 lb of sprayable-grade ammonium sulfate per 100 gallons of total spray solution.
- When using Roundup Ultra® there is no need to add any additional surfactant.
- Application made to leaves covered with dust result in reduced activity, so cultivation is restricted at application time.

New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U.S. Department of Agriculture cooperating.