

# MANAGING ROUNDUP READY® ALFALFA

**Roundup Ready® Alfalfa contains Roundup Ready® Technology, which incorporates genetic tolerance to Roundup® brand agricultural herbicides. This breakthrough technology allows growers to improve weed control and alfalfa production.**

When planting Roundup Ready Alfalfa and applying Roundup agricultural herbicides, producers can expect:

1. Broad-spectrum weed control for better stand establishment
2. Flexible application timing
3. Excellent crop safety at all growth stages
4. No carryover or crop rotation restrictions
5. Minimal waiting of only five days before grazing or feeding

## Stand Establishment

There are three important factors that need to be considered in establishing a good alfalfa stand: 1) site selection, 2) seeding rates and 3) weed control programs.

### 1. Site Selection Soil Type

Deeper, heavier soils (with more clay) tend to retain more water, which results in better yield and a better water buffer during periods of drought throughout the growing season.

#### Soil drainage

Well-drained soil can help promote healthy and disease-free stands as well as promote better oxygen flow to the alfalfa root system. Additionally, well-drained soil can reduce crown injury during periods of freeze-thaw cycles.

#### Field slope

Avoid steeply sloped fields because newly seeded alfalfa stands can be prone to soil erosion. However, alfalfa can be planted on a steeply sloped field with a companion crop or in no-till seeding.

### 2. Seeding Rates

Use local recommended seeding rates that can be obtained from a local extension office. Most often, between 10 and 16 pounds of seed per acre is recommended. As a stewardship measure, all Roundup Ready Alfalfa seed has a purple colorant applied as part of the seed coating.

### 3. Weed Control

An initial application of glyphosate between emergence and the 4th trifoliolate growth stage is important to establish a thick and productive alfalfa stand.

It is important to understand that the trait purity for Roundup Ready Alfalfa is 90 percent or greater. This means that up to 10 percent of plants in a newly seeded crop will not contain the gene that provides tolerance to glyphosate herbicides and may die with the first application of glyphosate. This is a normal occurrence due to the complex genetic nature of alfalfa and the breeding practices required to integrate the Roundup Ready gene into the plant. The remaining plants will quickly grow to fill any gaps, resulting in a thick and productive stand.

For spring and fall solo-seeded alfalfa, an initial application of glyphosate between alfalfa emergence and 4th trifoliolate leaf growth is important to establish a thick and productive stand. Where a cover crop is spring-seeded with the alfalfa, glyphosate may be applied after removing the cover crop.

Where a grass is desired with the alfalfa, tall fescue, meadow fescue or orchard grass may be seeded after the first glyphosate application when conditions are sufficiently cool and moist for grass establishment.

In the vast majority of trials comparing Roundup Ready Alfalfa vs. conventional alfalfa (treated with glyphosate vs. conventional herbicides), there is a significant establishment-year advantage in both yield potential and quality. This is a result of improved weed control and crop safety through the Roundup Ready system. Most growers reported that establishment-year yield and forage quality benefits outweighed the cost of the Roundup Ready Alfalfa technology.

Typically, one or two applications per season of Roundup agricultural herbicide provide excellent weed control (Table 1). Therefore, not all three applications listed in Table 1 are required, but provide the grower the flexibility to manage weeds when needed. When Roundup PowerMAX® is used, apply the same use rates shown in Table 1.

**Table 1.** Recommended rate and time of application options for Roundup brand agricultural herbicides.

Time of Application	Roundup WeatherMAX® (oz/A)
Preplant – 5 days before first cutting	22-44
Total in-crop application per cutting after first cutting, applied up to 5 days before next cutting	22-44
Combined total ounces per year for all in-crop applications	132

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## Practices

Multiple modes of action are important in managing weeds in all crops, including alfalfa. Some herbicides may be tank mixed with Roundup agricultural herbicides; others may not. There are many herbicides approved for use in alfalfa, a few of which are listed in Table 2. Please contact your local agronomist or seed dealer to understand and implement an integrated weed management practice in your alfalfa stand.

## Harvest Decisions

Many factors come into play in making sound harvest-related decisions for alfalfa. Decisions regarding harvest should focus primarily on the forage quality desired. Key decisions regarding the harvest schedule include the number of cuts per season, the stage of alfalfa maturity, the interval between cuts and the cutting height. Harvest activities should always focus on the most effective ways to retain the higher-value leaves.

## Quality and Yield Factors

For producers who seek higher-quality alfalfa, such as dairy operations, the optimum time for harvest may be just before flowering. For cow and calf producers, maximum protein and forage yields are often the goal. Harvest is recommended when both forage yield and desired quality are optimal when the alfalfa

is about 32 inches in height, but must be prior to 10 percent bloom as dictated by the stewardship requirements for growing Roundup Ready Alfalfa. Growers should cut alfalfa at shorter intervals early during the season and longer intervals near the end of the season. Late-fall cuttings in northern states can increase injury and winterkill losses, but they will also decrease the number of overwintering insects.

## Stand Life

Growers should consider the life of the established stand. Determining how long to keep an alfalfa stand is based on yield, quality and profitability. Alfalfa yield will decline with advancing age due to environmental stresses, wheel traffic, diseases and other factors.

## Timing of Rotations

Growers who consider shorter rotations may see greater profits with higher yields, higher forage quality, reduced pesticide use, greater nitrogen credits and increased corn yield potential of 10 percent when rotated after alfalfa.

## Stand Take Out

When it is time to take out a stand of Roundup Ready Alfalfa, there are multiple options available. Please contact your local agronomist or seed dealer to discuss options.

Table 2. Additional weed management options in Roundup Ready® Alfalfa.

Practice	Product	Notes
Additional modes of action — POST	4 oz. Pursuit®	Use on 1–3 inch weeds, 2nd trifoliolate alfalfa
Additional modes of action — POST	4 oz. Raptor®	Use on 1–3 inch weeds, 2nd trifoliolate alfalfa
Additional modes of action — POST	1–1.5 pt. Buctril®	Use on small weeds, 4th trifoliolate alfalfa
Volunteer Roundup Ready Corn 2/ grass control — POST	9–32 oz. Select Max®	For volunteer Roundup Ready Corn 2 control or additional MOA* for grass control
Suppressing perennial grasses; controlling annual grasses; removing small grain cover crop — POST	Poast Plus	Use on 4–8 inch weeds anytime after alfalfa emergence
Suppressing perennial grasses; controlling annual grasses — POST	Select 2EC	Use on 2–6 inch annual or 4–8 inch perennial weeds anytime after alfalfa emergence

\*MOA = Modes of Action

Always read and follow all herbicide label directions.



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