MANAGING ROUNDUP READY® ALFALFA

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

When planting Roundup Ready Alfalfa and applying glyphosate, 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. Improved ROI potential across Roundup Ready alfalfa acres

Managing Roundup Ready Alfalfa

Stand Establishment

It is important to establish a highly productive stand from the start. This means selecting a variety suited for your area, as well as appropriate seedbed prep. Planning should begin the year prior to establishment, and any necessary changes made before seeding begins.

Managing weeds

An initial application of glyphosate between emergence and the 4th trifoliate growth stage is important to establish a thick and productive alfalfa stand. Where a cover crop is seeded with the alfalfa, glyphosate may be applied after removing the cover crop.

It is important to understand that the trait purity for Roundup Ready Alfalfa is 90 percent or greater, meaning you can expect a small percentage of germinated plants to be susceptible to glyphosate application. 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. Where a grass is desired with the alfalfa, tall fescue, meadow fescue or orchard grass may be seeded after glyphosate application when conditions are appropriate for grass establishment.

In 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 report 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 glyphosate provide excellent weed control. Therefore, application of glyphosate is generally not required more than twice a season, but the flexibility of added applications when necessary can improve grower ability to manage weed infestations if needed. Spraying when weeds are small, usually less than 4”, will also help to ensure improved control.

Take care when spraying in the spring if frosts are still occurring in your area; research has found that spraying glyphosate immediately before or after a frost has occurred can lead to injury to the first cut of alfalfa. To avoid any issues, spray after the risk of frost has passed, or when alfalfa is less than 2” tall

Scout your fields continuously and monitor for weed pressure throughout the growing season. When it is determined that spraying is necessary, ensure that the maximum labelled rate of the herbicide is applied based on the weed type and weed size- decreasing the rate of herbicide can increase risk of developing herbicide resistance. This is mainly due to the potential for weeds to “escape” control.

Read all labels to ensure that the product is approved for use in Roundup Ready Alfalfa, as well as for the weeds you are looking to remove. Follow all labeled rate and timing instructions as well. Additionally, always remember to clean machinery when moving between fields to prevent the spread of weed seeds, which can easily spread from field to field.

Altering modes of action and using herbicides with residual activity prior to seeding can help in controlling weeds in-crop. In-season applications of glyphosate in mixture with other modes of action will help to achieve a more complete control of weed populations. Some herbicides may be tank mixed with glyphosate; others may not. There are many herbicides approved for use in alfalfa, contact your local agronomist or seed dealer to understand and implement an integrated weed management practice in your alfalfa stand.

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Another important weed management method to incorporate on-farm is utilization of harvest to prevent weed seed set. If weeds have gotten too mature or past optimal time for spraying, harvesting before weed seeds mature, if timed with appropriate alfalfa maturity, can be useful in decreasing the soil weed seedbank.

Stand Life

Growers should consider the life of the established stand when making spraying and harvest decisions. If the stand is near the end of its production cycle, additional harvests can be made late in the season for hay production as well as weed control. If a younger stand, make sure to allow adequate time between last harvest and first killing frost, where appropriate, to ensure adequate energy storage. Also be aware that older stands have a higher likelihood of increased weed pressure due to decreased plant vigor, so extra care and scouting may be necessary to ensure appropriate spray and harvest timing.

Timing of Rotations

Always have a plan in place for your cropping rotations. Knowing what other crops will be grown in the field is critical to developing an appropriate weed control strategy. Pay attention to all plant-back and harvest restrictions outlined on the herbicide label. Rotating crops with different growth cycles (i.e. warm season annuals or cool-season grasses) can help to improve overall weed control.

Stand Take Out

When it is time to take out a stand of Roundup Ready Alfalfa, there are multiple options available. If utilizing chemicals for stand termination, ensure to follow all best management guidelines such as applying at the right timing or weed growth stage for adequate control. Research has shown that plant growth is as important as chemical mode of action used. Plants that are between 4-8” in height are ideal for chemical termination. Temperature should also be considered, applying chemicals prior to a killing frost, with optimal temperatures above 50°F when possible. Combinations of 2,4-D, dicamba, and glyphosate are common to not only terminate the glyphosate-resistant alfalfa, but also any weeds that may be present in the field at time of removal.

Timing of application is also important, with many choosing to kill in the fall versus the spring. This allows for easier plant-back, in the case of certain chemical and crop choices, compared to spring kill. Crops like corn can often be planted sooner in the spring compared to terminating the alfalfa in the spring. It also can help to avoid potential impacts on neighboring fields and allows for more time for the alfalfa residue to decompose.

Also consider other methods of termination, including tillage, in addition to chemical methods to achieve successful termination. Please contact your local agronomist or seed dealer to discuss options, and always refer to herbicide labels for plant back intervals when planning your next crop.

Herbicide Resistant Weeds

Herbicide resistance is an important issue in weed management. In many weed populations, there are individual plants that are naturally more tolerant to certain herbicide modes of action. Therefore, any repeated use of a single herbicide by itself will promote survival of these biotypes. Utilizing other modes of action or control methods, such as harvesting, will help to ensure these plants do not survive and reproduce. Additionally, the perennial nature of alfalfa and its requirement for multiple harvests per season in most areas, naturally makes this a great weed control option.

Continually monitor your weed populations, and if you notice the presence of glyphosate-resistant weeds, take action before the number of plants grow. Depending on the weed and number of resistant plants, this may mean utilizing different modes of action, harvesting, tillage, or a combination of control methods.

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