

## What Have We Learned about Roundup Ready® Alfalfa?

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For the first time in the history of alfalfa management, one is now able to establish alfalfa without weed competition or the use of a traditional companion cereal crop. Oats are actually a competitive specie to alfalfa – even though cereals are referred to as “companion” crops, understanding the amount of competition they impose on alfalfa is important. Failed or thinned stands due to weeds/oats are one of the largest costs in raising alfalfa. Seed is only a part of the establishment cost; more costly is the loss of production from these acres. Roundup Ready Alfalfa is a tool that actually helps reduce forage production costs, provides a more reliable method to alfalfa establishment and eliminates a serious alfalfa establishment risk – WEEDS.

**Costs to Establishing Alfalfa.** With traditional methods, costs often associated with the establishment year include potential loss of forage yield/quality and more importantly, the potential loss of stand density and future yield potential. Since alfalfa has never been established without weed/oat competition or injury from current herbicide programs, growers have been essentially taking what is left over from stand injury and competition. This is even clearer in very dry establishment conditions like those experienced this year in parts of Wisconsin and Central Minnesota. In many of our ANSWER plot demonstrations we used oats as a traditional cover crop and direct seeded alfalfa in side-by-side comparisons – differences in stand density, alfalfa height and yield potential were dramatic. One of the clear values of Roundup Ready Alfalfa is that significant soil moisture can be saved for the alfalfa seedling, not for the weeds/oats. We also observed how drought tolerant alfalfa seedlings are when they are not growing with weed/oat competition. The long term value of Roundup Ready Alfalfa technology is thicker, denser alfalfa stands that can reach greater yield potential in a wide range of growing conditions – and, more feed is going for milk cows not just for heifers and dry cows.

**Management Flexibility with Roundup Ready Alfalfa.** Everyone has experienced how effective Roundup is at killing weeds. A paradigm shift with Roundup Ready Alfalfa is the ability to seed alfalfa when wanted, not when weed problems dictate. Each farm or field has different weed concerns (i.e. waterhemp, chickweed, white clover, sheperds purse). In the Midwest, most growers seed alfalfa early to match with the oats and beat the weeds (March/April). Alfalfa tags along with oats because that is the way it has always been done. Growers now have the option to think about what is best for the alfalfa! When is the best time to plant alfalfa? What is the best seedbed preparation? What is the best soil temperature? What is the best seeding equipment? Traditionally, growers have not always been able to treat the alfalfa for optimum stand establishment. Roundup Ready Alfalfa now allows removal of another variable in stand establishment – weeds. Alfalfa stand loss due to cold soils can be as significant as it is in other crops, however, with Roundup Ready Alfalfa it is not necessary to seed into cold seed beds to beat weeds.

**Fall vs. Spring Seeding.** Many growers are reluctant to change current seeding practices due to weed concerns. Winter annuals, including volunteer winter wheat, can be a serious weed concern during fall establishment. It has been observed that Roundup is extremely effective at controlling all of the weeds in Roundup Ready Alfalfa without risk of crop injury going into the fall/winter period. Weed competition in fall seedings thins the alfalfa stand, leads to smaller/weaker plants going into winter and lowers yield potential in the following years. Roundup Ready Alfalfa has demonstrated it makes late summer seeding of alfalfa a great option.

**On Farm Observations.** It has also been observed that using Roundup on Roundup Ready Alfalfa gets rid of the weeds/oats, leaving ONLY alfalfa! Evaluating alfalfa stands 30-40 days after planting is an eye opening experience for many. Traditionally, oats and weeds were green so it was hard to tell where the alfalfa seedlings were – this is no longer a mystery. Roundup Ready Alfalfa will help growers make better decisions regarding seedbed preparation, equipment, seeding date and more.

Planting Roundup Ready Alfalfa and conventional alfalfa side-by-side may be a great way to test this technology. Two fields were recently compared using Roundup Ready vs. conventional alfalfa. The line was so apparent the difference could be seen from the road. Even with a competitive herbicide application, the conventional alfalfa stand had serious weed trouble. After walking the field with the grower, he said, “I wish all the field was seeded to Roundup Ready Alfalfa.” The Roundup Ready Alfalfa side had no weeds, no crop injury and taller, thicker alfalfa.

In the two or three cuttings of Roundup Ready Alfalfa so far, yields have been outstanding. All indications are that Roundup Ready Alfalfa is everything and more compared to previous alfalfa varieties – high yield, high quality, persistence, and by the way, it is Roundup ready.

**When to Spray.** Spray early, spray often (be sure to follow the label). An excellent time to plan to spray is 30 days after seeding. Don't wait too long – many growers are missing the opportunity to spray early. Weeds may not appear very competitive at this stage, but they are. Alfalfa is not very competitive in the first 30-40 days of growth. Roundup Ready Alfalfa now gives the alfalfa seedlings the advantage over the weeds. The growth pattern of alfalfa leads to a slower establishment than the weed competition. Weeds can become very competitive to seedling alfalfa very quickly. Use the technology to its fullest – it has been observed how competitive even seedling weeds can be to alfalfa. Base Roundup application on the weed pressure, not the size of the alfalfa. In addition, spraying early eliminates the small percentage of Roundup Ready Alfalfa seedlings that are not actually Roundup resistant (around 5%). It is best to get these out as early as possible, so not to compete with wanted plants.

**Seed Cost.** Even though there is only about 12 months of observation of Roundup Ready Alfalfa on the farm, it is apparent that it is changing the way growers think about raising this crop. We have heard many growers comment on the technology cost of Roundup Ready Alfalfa seed, but we have also heard many say they have paid for the technology fee in the first cutting alone and if you spread the cost of the technology over the 20-25 tons of alfalfa harvested during the life of the stand, the cost of the technology is really an excellent value! One ton of weed free high quality hay is all it takes. Roundup can be sprayed at any time, any cutting, and mixed with insecticides or possible micro-nutrient packages. The cost of the technology, if amortized over the life of the stand, is less than \$2.50/ton of weed free pure alfalfa.

**What's Been Learned?** Roundup Ready Alfalfa is a great tool! It helps alfalfa growers produce higher yielding, higher quality weed free forage. For the first time, weed free alfalfa is a reality from start to finish, crop after crop. Crop safety, ease of use and nearly unlimited application options make Roundup Ready Alfalfa a clear choice for anyone who wants to improve and simplify alfalfa weed control, harvesting more weed free tons from every alfalfa acre.