

ROUNDUP READY ALFALFA: RESULTS AFTER ONE YEAR ON THE MARKET

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Roundup Ready alfalfa has now been on the market for over a year with close to 30 varieties available or soon to be available across the U.S. This technology provides many new options for alfalfa producers in Kentucky. Several people have asked us which variety is highest yielding and unfortunately we have not been able to provide a good answer. The technology is so new (just approved fall 2005) that few of these varieties have been entered into University yield trials. Companies do have some private data, but they often don't compare to the varieties you are familiar with. So what do you do? Since it will be 1-2 years before University yield comparisons are readily available, it is important that you purchase seed from knowledgeable dealers who have earned your respect.

What We Do Know

Even though we are not able to make specific variety recommendations at this time we do know that the technology works. In other words, Roundup can be sprayed on these varieties at any stage of growth with no detrimental effects. The label allows for 5.3 quarts/acre of Roundup WeatherMAX to be applied during the establishment year (including pre-plant burndown) and 4.1 quarts/acre to be applied per year in crop. In demo trials in Kentucky we have not seen any crop damage from Roundup, and we have seen excellent weed control.

Additionally, Monsanto and the major breeding company developing RR varieties have insisted that this trait only be put into high yielding, disease resistant varieties. From what we have seen in the field and from preliminary tests in other states this statement is true. We do believe that there is variation in variety adaptation to specific regions and standard variety tests for yield are important. The University of Kentucky will wait until we have yield tests in the ground (starting spring 2007) before we release any information on variety performance or even potential variety performance.

Taking the Stand Out

I am often asked how do you kill a Roundup Ready stand when it's time to take the stand out of production. Fortunately, a tank mixture of 2,4-D and dicamba are usually adequate to kill alfalfa. In fact, this mixture often works better on non-RR alfalfa

that only using Roundup. Other broadleaf herbicides are also available for stand takeout.

Soil Conditions Are Important: Well Drained, High pH, and High Fertility

Although we are confident that the technology works, RR alfalfa is still alfalfa, and the standard limitations still hold. Alfalfa should only be planted on well drained soils that have a pH of 6.4 to 6.8 and med-high to high soil fertility. In other words, make sure before planting that the field has been limed and fertilized to soil test recommendations. When pH must be raised over 0.5 points (say from 5.9 to 6.4), then apply the lime a number of months ahead of planting. We recommend applications 6 months or more before planting alfalfa to insure that the lime has had time to react with the soil and actually raise the pH.

It may seem obvious that RR alfalfa should be planted into good soil conditions, but we know of producers who are considering planting RR alfalfa into their most weedy pastures or hay fields. Commonly, these are the fields that have not been managed over time and may take some work. In short, follow all standard recommendations for establishing alfalfa and then decide to use RR varieties if they provide an aid in establishment and management of the stand.

Current and Planned Research

In University of Wisconsin research trials Roundup Ready alfalfa has shown significant yield improvements in the establishment year when compared to conventional varieties using standard post-emergent herbicides. The study attributed the yield increase to less herbicide injury using Roundup vs. conventional herbicides.

California research also showed more herbicide injury using conventional herbicide systems. But that damage was generally less than 20% at most locations and the alfalfa recovered from this injury by first harvest (Hay and Forage Grower, November 2006).

The University of Kentucky is participating in regional demonstration and research trials with RR alfalfa. One of the key questions is how to maintain a mixed stand of grass and alfalfa with RR varieties for grazing and hay production. Obviously Roundup will kill grasses, but some of our research will focus on using Roundup to clean up a field during the first year and then different methods and timing for interseeding orchardgrass into the stand 6 months, 1 year, 1 ½ years after establishment. We are also looking at different application rates of Roundup to fescue in hopes of finding the rate that will kill weeds, but only suppress the tall fescue. Fescue/alfalfa makes a good pasture mixture, but often the fescue out competes alfalfa in the stand.

Listed below are a few of the Roundup Ready Varieties currently available. Varieties with a fall dormancy rating of 4 are well suited for Kentucky conditions. With fall dormancy of 3 crop growth slows late summer and the last hay cutting is reduced. With fall dormancies above 5 late season growth continues and the plants do not adequately prepare for winter. Fall dormancy 4 provides a good combination of seasonal long forage production and enough dormancy for good winter survival.

Roundup Ready Alfalfa Varieties Currently Available	
FALL DORMANCY 3	
Alfagraze 300 RR	America's Alfalfa
Maxi Pro 3.10RR Graze N Hay 3.10RR	Croplan Genetics
DKA34-17RR	Dekalb
FALL DORMANCY 4	
425RR	Allied Seed and Southern States Cooperative
Ameristand 405T RR	America's Alfalfa
RRALF-4R100's	American Seeds Inc.
Consistency 4.10RR Mountaineer 4.10RR	Croplan Genetics
RR405	Crow's
V-45RR	Dairyland Seed
DKA41-18RR	Dekalb
RRALF 4R100 RRALF 4R200	Eureka Seeds
RRALF 4R100	Fontanelle Hybrids
Garst 6443RR	Garst
RRALF 4R100	Gold Country Seed
GH709RR	Golden Harvest Seeds
FS 425 RR	Growmark FS
YieldMaster RR	Jung Seed Genetics and Legend Seeds
9100RR	LG Seeds
RR405	Midwest Seed Genetics
4G418	Mycogen
V45RR	NC+
Liberator	Syngenta NK Brand
54R01	Pioneer
PGI 447RR	Producers Choice
PH 9100	Producers Hybrids
ClearGold	Renk
RRALF 4R100	Stone Seeds
RRALF 4R100	Trelay
WL 355RR WL 350RR/LH	WL Research
FALL DORMANCY 6	
Alfagraze 600 RR	America's Alfalfa
Transition 6.10RR	Croplan Genetics
RRALF 6R100	Eureka Seeds
FALL DORMANCY 7	
Ameristand 815T RR	America's Alfalfa
FALL DORMANCY 8	
Ameristand 855T RR	America's Alfalfa
Desert Sun 8.10RR	Croplan Genetics
DKA84-10RR	Dekalb/Monsanto
RRALFPH 8R100	Eureka Seeds
Revolution	Syngenta NK Brand
WL 550RR	WL Research
FALL DORMANCY 9	
Pinal 9	Syngenta NK Brand
WL 660RR	WL Research