

Project Title: Roundup Ready Alfalfa Tolerance to Roundup Formulations and Tank-mix Partners

Project Leader: Bob Stougaard

Project Personnel: Qingwu Xue

Objective: To evaluate postemergence applications of Roundup Weather Max and Original Max formulations for weed control and crop injury in Roundup Ready alfalfa.

Results:

This study was conducted to evaluate Roundup Weather Max and Roundup Original Max applied alone and as tank-mixed applications with other herbicides for weed control and crop injury in an established Roundup Ready alfalfa. Roundup ready alfalfa (cv. DKA41-18RR) was planted on May 9, 2006. The experiment consisted of 15 treatments that included Roundup Weather Max and Roundup Original Max applied alone or in combination with Raptor, Pursuit, Poast Plus and Prism. The herbicides were applied on July 6, 2007 using a backpack sprayer with Teejet XR11002 nozzles in 20 GPA. Treatments were applied after the first cutting, when 30 percent regrowth had occurred and the plants were about 6-10" tall.

Weed populations were minimal, which prevented an assessment of herbicide efficacy. However, the alfalfa stand was uniform, thereby allowing for an evaluation of crop tolerance by the herbicide treatments. All treatments demonstrated excellent crop tolerance. Visual injury symptoms were minimal to nonexistent. In addition, alfalfa yields failed to show any difference among the treatments.

Summary:

These results demonstrate that either formulation of Roundup can be applied postemergence to Roundup Ready alfalfa without fear of crop injury.

Table 1. Effects of Roundup Weather Max, Roundup Original Max, and other herbicides on crop injury and yield in Roundup Ready alfalfa during 2007.

Treatment	Conc	Type	Rate lb ai/ac	Chlorosis (%)		Necrosis (%)		Stunt (%)		Hay	Weed
				7/13/07	7/20/07	7/13/07	7/20/07	7/13/07	7/20/07	ton/ac	7/23/07
Untreated				0	0	0	0	0	0	1.25	0
Roundup W.Max	4.5	SL	1.5	0	0	0	0	0	0	1.22	0
Roundup O. Max	4.5	SL	1.5	0	0.7	0	0	0	0	1.18	0
Roundup W.Max Raptor	4.5 1	SL SL	1.5 0.047	0	2.0	0	0	1.7	0	1.20	0
Roundup O. Max Raptor	4.5 1	SL SL	1.5 0.047	0	0	0	0	0	0	1.11	0
Roundup W.Max Pursuit	4.5 2	SL EC	1.5 0.094	0	0.7	0	0	0	0	1.20	0
Roundup O. Max Pursuit	4.5 2	SL EC	1.5 0.094	0	0.7	0	0	0	0	1.26	0
Roundup W.Max Poast Plus	4.5 1	SL EC	1.5 1.5	0	0.3	1.7	0.7	0	0	1.24	0
Roundup O. Max Poast Plus	4.5 1	SL EC	1.5 1.5	0	1.0	2.3	0	0	0	1.17	0

Table 1 (continued)

Treatment	Conc	Type	Rate lb ai/ac	Chlorosis (%)		Necrosis (%)		Stunt (%)		Hay	Weed
				7/13/07	7/20/07	7/13/07	7/20/07	7/13/07	7/20/07	ton/ac	7/23/07
Roundup W.Max Prism	4.5 0.94	SL EC	1.5 0.25	0	1.3	0	0	0	0	1.18	0
Roundup O. Max Prism	4.5 0.94	SL EC	1.5 0.25	0	1.0	0	0	0	0	1.25	0
Raptor	1	SL	0.047	0	2.3	0	0	1.7	0	1.21	0
Pursuit	2	EC	0.094	0	2.3	0	0	0	0	1.15	0
Poast Plus	1	EC	1.5	0	0.7	1.3	0.7	0	0	1.20	0
Prism	0.94	EC	0.25	0	1.7	0	0	0	0	1.15	0
LSD (P=.05)				0	2.35	1.64	0.68	1.70	0	0.23	0
CV				0	143.89	276.30	457.09	457.09	0	11.53	0
Treatment F				0	0.97	1.80	1.00	1.00	0	0.28	0
Treatment Prob(F)				1	0.50	0.09	0.48	0.48	1	0.99	1

Roundup W.Max: Roundup Weather Max; Roundup O.Max: Roundup Original Max.