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Result Demonstration Report

2011 Herbicide Comparison Study for Controlling Carolina Horse Nettle

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Summary:

Herbicides have been proven to be an effective method for broadleaf weed control in forage systems for many years. Producers face many choices when selecting various products to be used in forage system for adequate control of weeds.

Objective:

The objective of this result demonstration was to compare the herbicide effectiveness on Carolina Horse Nettle control in warm season forage grasses.

Materials and Methods:

Materials used for this experiment were as follows; GrazonNext, Surmount, Grazon P+D, Milestone, Chaparrel, Weedmaster plus Metsulfuron Methyl, and a control were used in each replication. The trial was a completely randomized block design replicated three times. Rate for the herbicides are listed in Table I. The plots were 15 feet wide by 15 feet long. Plots were treated with a 12-foot tractor mounted boom sprayer calibrated for applying 20 gallons of spray solution per acre.

Table I. Herbicide, Rates, and Surfactant Used In Study

Plot	Herbicide	Rate per Acre	Surfactant per Acre
1	Chaparral	2.5 oz	1 pint
2	Control	----------	----------
3	Surmount	1.5 pints	1 pint
4	Weed Master plus Metsulfuron Methyl	3 pts/acre plus 0.2 oz metsulfuron methyl	1 pint
5	Grazon P+D	1 qt	1 pint
6	GrazonNext	1 qt	1 pint
7	Milestone	5 oz	1 pint
8	Grazon P+D	1 qt	1 pint
9	Control	----------	----------
10	Weed Master plus Metsulfuron Methyl	3 pts/acre plus 0.2 oz metsulfuron methyl	1 pint
11	Surmount	1.5 pints	1 pint
12	Milestone	5 oz	1 pint
13	GrazonNext	1 qt	1 pint
14	Chaparral	2.5 oz	1 pint
15	Milestone	5 oz	1 pint
16	Control	----------	----------
17	Weed Master plus Metsulfuron Methyl	3 pts/acre plus 0.2 oz metsulfuron methyl	1 pint
18	Chaparral	2.5 oz	1 pint
19	Surmount	1.5 pts	1 pint
20	Grazon P+D	1 qt	1 pint
21	GrazoNext	1 qt	1 pint

Results and Discussion:

On June 17, 2011 the herbicide trials were sprayed on the replicated plots. Weekly observations were taken for a total of five (5) weeks after treatment. The replicated plots were then averaged to get a final percent control for each herbicide treatment (Table II). Results are as follows, Chaparral (plots 1, 14, 18) had an average 95% control, Control (plots 2, 9, 16), Surmount (3, 11, 19) had a 92% control, Weedmaster plus Metsulfuron Methyl (4, 10, 17) had a 88% control, Grazon P+D (plots 5, 8, 20) had a 75% control, GrazonNext (plots 6, 13, 21) had a 78% control, and Milestone (plots 7, 12, 15) had a 70% control. Table III is the total cost per acre of each herbicide treatment. The first year (2009) of this applied research project was a very wet year. The second and third year (2010 and 2011) were extremely dry with 2011 being in extreme drought conditions. The 2011 plots had no measurable rainfall during the trial. Table IV compares the three-year average of the replicated plots and the percent control of each herbicide treatment.

Table II. 2011 Average Percent Control of Three Replications of Chemicals

Plots	Chemical	Average Percent Control
1, 14, 18	Chaparral	95
2, 9, 16	Control	0
3, 11, 19	Surmount	92
4, 10, 17	Weedmaster + Metsulfuron Methyl	88
5, 8, 20	Grazon P+D	75
6, 13, 21	GrazonNext	78
7, 12, 15	Milestone	70

Table III. 2011 Carolina Horse Nettle Control Demonstration Cost/Acre

Chemical (s) and Rates* per Acre	Cost ($) Per Acre *
Milestone (5 ounces/acre)	$13.98
Chaparrel (2.5 ounces/acre)	$13.16
~Surmount (1.5pints/acre)	$11.67
Weedmaster (3 pints/acre) plus Metsulfuron Methyl (0.2 oz)	$11.32
~GrazonNext (1 quart/acre)	$8.63
~Grazon P+D (1 quart/acre)	$8.50

~ Restricted Use Product

***** Costs from Red River Specialties August 2011 for Herbicide Only

GrazonNext--$86.25 per 2.5 = $86.25 / 10 = $8.63

Surmount--$155.62 per 2.5 = $155.62 / 20 = 7.78 x 1.5 = $11.67

Grazon P+D--$85 per 2.5 = $85 / 10 = $8.50

Milestone--$89.50 per Qt = $89.50 / 32 = $2.80 x 5 = $13.98

Chaparrel--$105.31 per 1.25 lbs. = $105.31 / 20 = $5.27 x 2.5 = $13.16

Weedmaster ----$58.75 per 2.5 = $58.75 / 20 = $2.94 x 3 = $8.82 and plus 0.2 oz Metsulfuron Methyl $12.50/ oz. x 0.2 = $2.50. $8.82 + $2.50 = $11.32

Table IV. Three year average percent control for 2009, 2010, and 2011.

Herbicide	2009	2010	2011	3 year average
Chaparrel	99	99.7	95	98
Surmount	98	99.7	92	96.6
Milestone	89	99	70	86
GrazonNext	70	91.6	78	80
Grazon P+D	81	88.3	75	81
Weedmaster + Metsulfuron Methyl	15	33.3	88	45.4
**Pastora + 2,4-D		43.3		

** used only in 2010

Conclusion:

This is the third year of a three-year multi-county research trial. Some level of weed control was achieved with all treatments (herbicides). Herbicides have proven to be an effective way of controlling Carolina Horse Nettle in forage systems. Remember when using herbicides to read the label for information regarding any haying and/or grazing restrictions, usage rates, safety precautions and other important information.

Acknowledgments:

A special thanks to Mr. Phil Sadler and Grant Sadler for their assistance and allowing the result demonstration to be conducted on their property and to Mr. Darren Rozzell (Red River Specialties) and Mr. Brant Mettler (Dow Agrosciences), for donating the herbicides that were used in the result demonstration/applied research project.

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