

Result Demonstration Report

Pasture Weed Management Result Demonstrations

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Summary

Livestock and forage are important agricultural commodities in Fort Bend County with 50.5% of land in farms designated as pastureland (2012 National Agricultural Statistics Service (NASS) Agriculture Census). Beef cattle are the highest ranked livestock commodity within Fort Bend County. Beef cattle production is very important, accounting for approximately \$11 million of the local agriculture economy, annually, according to the 2012 NASS Agriculture Census. With beef prices remaining strong compared to several years ago and producers trying to increase herd size, it is important that they properly manage for weeds and other factors to efficiently and economically maximize forage output.

Objective

The objective of these research plots was to evaluate available herbicides applied to a pasture system and measure control of prairie indigo, wooly croton, and ironweed at one location and green flatsedge at another location, to provide unbiased data that local producers could reference when selecting herbicides for management of these weeds. Control of prairie indigo and green flatsedge will continue to be evaluated for a period of one year following application.

Materials and Methods

In Needville, four herbicides - Cimarron Max (metsulfuron + 2,4 -D + dicamba), GrazonNext HL (aminopyralid + 2,4-D), Milestone (aminopyralid), and Chaparral (aminopyralid + metsulfuron methyl) - were applied on June 9, 2015. The plots were rated for percent of control on July 8 (29 days after treatment, DAT) and October 20 (135 DAT). In Fairchilds, three herbicides - Cimarron Max, GrazonNext HL, and 2,4-D - were applied on October 28, 2015. The plots were rated for green flatsedge damage on November 23 (26 DAT). All applications were made using a CO₂ sprayer with a final spray volume of 14 gallons per acre. A non-ionic surfactant was added to all treatments at a concentration of 0.25% v/v. The plots were arranged in a randomized complete block design measuring 10 feet by 30 feet. An analysis of variance (ANOVA) was performed and means were separated using Fisher's protected LSD.

Results and Discussion

At the Needville location, all herbicides provided effective control of wooly croton at 29 days, but were less effective long term (see Table 1). For ironweed, Cimarron Max at rate III offered the best control at 29 and 135 DAT, although it was not significantly better than GrazonNext HL at 29 or 135 DAT, or Chaparral at 135 DAT. For prairie indigo, Cimarron Max and GrazonNext HL were most effective at 29

DAT; 135 DAT control was not evaluated as prairie indigo had already gone into dormancy. At the Fairchilds Location, all products showed equal effects on treated plots (Table 2).

Table 1. Percent control of selected weeds at 30 and 135 Days After Treatment (DAT)

Treatment	Rate (per acre)	Prairie Indigo 29 DAT	Ironweed 29 DAT	Wooly Croton 29 DAT	Ironweed 135 DAT	Wooly Croton 135 DAT
Chaparral	2.0 ounces	56.7 bc	53.3 b	100 a	80.0 ab	65.0 a
Milestone	4.0 oz	43.3 c	43.3 b	100 a	38.3 bc	78.3 a
GrazonNext HL	24 oz	80.0 ab	73.3 ab	100 a	76.7 ab	66.7 a
Cimarron Max	0.5 oz. A, 24 oz. B	100.0 a	90.0 a	100 a	96.7 a	41.7 ab
Non-Treated		0 d	0 c	0 c	0 c	0 b
LSD (P = 0.05)		26.4	32.9	0.0	48.8	42.9
Standard Deviation		14.0	17.5	0.0	25.9	22.8
CV		25.0	33.6	0.0	44.4	45.2
Treatment Probability (F)		0.0002	0.0021	<0.0001	0.011	.0189

Within a sampling date for each weed species, treatment means followed by a common letter are not significantly different.

Table 2. Percent Damage Green Flatsedge at 26 Days After Treatment (DAT)

Treatment	Rate (per acre)	% Infestation at Treatment	% damage of Green Flatsedge at 26 DAT
GrazonNext HL	24 oz.	46.7	81.6 a
Cimarron Max	0.5 oz. A, 24 oz. B	36.7	83.3 a
2,4-D	24 oz.	46.7	83.3 a
Non-Treated		53.3	0 b
LSD (P = 0.05)		25.0	9.0
Standard Deviation		12.6	4.5
CV		27.5	7.2
Treatment Probability (F)		0.4963	<0.0001

Within a sampling date for each weed species, treatment means followed by a common letter are not significantly different.

Conclusions

Control of wooly croton at 29 DAT is very good with all products, but decreases at 135 DAT. For ironweed, Cimarron Max at rate III resulted in the greatest control 135 DAT, although it was not significantly better than GrazonNext HL, or Chaparral. Reported results for prairie indigo and green flatsedge are preliminary; both plots will be maintained for a period of one year to evaluate long-term control. When considering control options, producers should consider levels of infestation, cost of control measures, and potential increase in usable forage and, subsequently, the increase in number of livestock or expected weight gain.

Acknowledgements

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