



## **Result Demonstration Report**

### **2021 DuraCor Herbicide Comparing Rates, Surfactant & Ammonium Sulfate Water Conditioner Study for Controlling General Broadleaf Weeds in Warm-Season Forage Systems**

**Rains County Commissioners Court & Texas A&M AgriLife Extension Service-Rains County Office**  
Cooperator

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#### **Summary**

Herbicides have been proven to be an effective method for controlling weeds in warm season forage systems. Corteva has a new to the market herbicide called DuraCor. This product is a mixture of aminopyralid and a new technology called Rinskor. Bitter Sneezeweed, Woolly Croton, Blackberry, Horsemint, False Ragweed, Black-eyed susan, and Carolina Horse Nettle were the primary weeds inhabiting the test plots. Producers face many choices when selecting various products to be used in forage systems for adequate weed control. We compared herbicide efficacy on rates and using different surfactants and carriers.

#### **Objective**

The objective of this result demonstration was to compare DuraCor herbicide efficacy on weed control in warm-season forage systems at different rates and using different surfactants and carriers.

#### **Materials and Methods**

Materials and rates of herbicides used for this experiment are shown in Table 1. The trial was a strip trial that was not replicated. Plots were treated on June 16, 2021 using a tractor and sprayer calibrated at 19 gallons per acre rate. Plot size was 12 x 50 feet with a 5 feet buffer between plots.

Time: 1:30 a.m.- 4 p.m.

Air Temperature: 95°

Soil Temperature: 88°

Relative Humidity: 58%

Wind: South Southeast at 2 mph

Cloud Cover: 5%

**Table I. Herbicide & Rates Used in Study**

Plot	Herbicide Treatment	Application Rate/Acre
1	DuraCor	12 oz with NIS
2	DuraCor	16 oz with NIS
3	DuraCor	20 oz with NIS
4	DuraCor	16 oz with 1% Volume/Volume MSO
5	DuraCor	20 oz with 1% Volume/Volume MSO
6	DuraCor	16 oz with 0.5% Volume/Volume AMS Water Conditioner
7	DuraCor	16 oz + 0.3 oz MSM with NIS
8	DuraCor	16 oz + 8 oz Remedy with NIS
9	DuraCor	16 oz + 8 oz 2-4D with NIS
10	Grazon Next HL	1.2 pints + NIS

\* NIS= Nonionic Surfactant, AMS= Ammonium Sulfate, MSO= Methylated Seed Oil

Trade names of commercial products used in this report is included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service and the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

## **Results and Discussion**

Strip trial with 10 different treatments and sprayer was calibrated at 16 gallons per acre solution treated on June 16, 2021 using a boom sprayer. Plot size was 12 x 50 foot with a 5 feet buffer between plots. Plot ratings were evaluated at approximately 30, 60, and 90 days after treatment (DAT). The results are in Table II. Table III shows the cost of each individual treatment for one-acre rate of tank mix.

**Table II. Percent Control for 30, 60, & 90 Days after Treatment (DAT)**

Plot	Herbicide	Application Rate/Acre	30DAT % Control	60DAT % Control	90DAT % Control
1	DuraCor	12 oz with NIS	80	85	100
2	DuraCor	16 oz with NIS	90	95	100
3	DuraCor	20 oz with NIS	92	97	100
4	DuraCor	16 oz with 1% Volume/Volume MSO	95	100	100
5	DuraCor	20 oz with 1% Volume/Volume MSO	97	100	100
6	DuraCor	16 oz with 0.5% V/V AMS Water Conditioner	90	95	100
7	DuraCor	16 oz + 0.3 oz MSM with NIS	99	100	100
8	DuraCor	16 oz + 8 oz Remedy with NIS	95	100	100
9	DuraCor	16 oz + 8 oz 2-4D with NIS	93	97	100
10	Grazon Next HL	1.2 pints	95	98	100

**Table III. 2021 Herbicide Comparison Study for Controlling Broadleaf Weeds in Warm-Season Forage Systems Cost/Acre**

<u>Herbicide (s)</u>	<u>Application Rates</u>	<u>Cost (\$/Acre)</u>
DuraCor	12 oz with NIS	\$10.03
DuraCor	16 oz with NIS	\$13.19
DuraCor	20 oz with NIS	\$16.34
DuraCor	16 oz with 1% Volume/Volume MSO	\$15.91
DuraCor	20 oz with 1% Volume/Volume MSO	\$19.06
DuraCor	16 oz with 0.5% V/V AMS Water Conditioner	\$13.45
DuraCor	16 oz + 0.3 oz MSM with NIS	\$13.57
DuraCor	16 oz + 8 oz Remedy with NIS	\$17.85
DuraCor	16 oz + 8 oz 2-4D with NIS	\$14.23
Grazon Next HL	1.2 pints with NIS	\$8.56

\* Costs are the average retail prices from Rozell Sprayers & Manufacturing and Red River Specialties (Sept. 23, 2021) for herbicide, surfactants, and AMS water conditioner.

**DuraCor** = \$101 per gallon = \$101/128 oz = \$0.789/oz x 12 ounces per acre= \$9.47 per acre

**GrazonNext HL** = \$102.50 per 2 gal=\$102.50/256 oz oz = \$0.400/oz x 20 oz per acre= \$8.00 per acre

**DuraCor** = \$101 per gallon = \$101/128 oz = \$0.789/oz x 16 ounces per acre= \$12.63 per acre

**DuraCor** = \$101 per gallon = \$101/128 oz = \$0.789/oz x 20 oz per acre= \$15.78 per acre

**Remedy Ultra** = \$74.50/gal = \$74.50/128 oz = \$0.582/oz x 8 oz per acre = \$4.66/acre

**2,4-D**= \$40.63 per 2.5 gallons= \$40.63/320 oz= \$0.13 per oz x 8 oz per acre rate= \$1.04 per acre

**Metsulfuraon Methyl (MSM)**= \$70.70 per 16 oz= \$70.70/16= \$4.40 per oz/16 oz in a lb= \$0.28 per tenth x 0.3= \$0.90

**Methylated Seed Oil (MSO)**= \$50.83 per 2.5 gallons= \$50.83/320= \$0.16 per oz= 1.28 oz x 16 gallons/acre=20.48 oz x \$0.16=\$3.28 per acre

**Ammonium Sulfate (AMS)**=\$26.57 per 2.5 gallons= \$26.57/320 oz=\$0.08 per oz x .64 oz x 16 gallons/acre= \$0.82 per acre

**Non-Ionic Surfactant (NIS)**= \$36.25 per 2.5 gallons=\$36.25/320 oz= \$0.11 per ounce. 1 qt/100 gallons of water = 0.32/gallon x 16 gallons/acre= 5.12 oz x \$0.11=\$0.56 per acre

### Conclusions

This is the first year of a three-year multi-county result demonstration comparing DuraCor herbicide at different rates, comparing surfactants and carriers, and using a standard herbicide for weed control efficacy comparison. Very positive results have occurred. These result demonstration plots demonstrated that proper weed control early in the season coupled with adequate rainfall will produce more forage. Adequate forage growth is also a mechanism for weed control due to keeping the ground covered with a dense forage.

### Acknowledgements

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