

Alfalfa Herbicide Trial, Greenlee County 1989

L. J. Clark, E. S. Heathman, E. DeRosa and R. E. Cluff

ABSTRACT

Replicated herbicide experiments were carried out on alfalfa fields in Graham and Greenlee counties in the winter of 1989. Five herbicides were tested; tanzy mustard and foxtail barley were the main target weed species. Velpar L applied on at a rate of 4 pints per acre in 20 gallons of water provided the best control with 99% control of the broad-leaved weeds and 86% of the grassy weeds just prior to the first cutting. Better control of foxtail barley probably would have been achieved by several of the herbicides if they had been applied earlier, before the weeds germinated and/or if the materials had been incorporated by an adequate irrigation or rainfall.

INTRODUCTION

Broad-leaved winter weeds are an economic concern to the alfalfa growers in Greenlee and Graham counties. Therefore, a herbicide demonstration was placed on an alfalfa field in Greenlee county in 1988. The herbicides had a profound effect on the weeds and the appearance of the field, so replicated test plots were established in both counties during the dormant season of 1988-89. Herbicides were selected to reduce the most troublesome annual broad-leaved and grassy weeds.

METHODS AND MATERIALS

Five herbicides were selected for the test: two granular formulations were applied using a Valmar airflo granular applicator; the other three herbicides were applied using a spray rig at a rate of 20 gallons of water per acre. The herbicides were applied to 15 foot strips that ran the length of the field (approximately 1280 feet) with check strips between each treatment. Two replications were applied.

Treatments:

1. Treflan TR-10, 10% granules, 20 pounds per acre
2. Eptam, 10% granules, 30 pounds per acre
3. Lexone DF, 80% dispersible granules, 3/4 pounds per acre
4. Karmex DF, 80% dispersible granules, 2 pounds per acre
5. Velpar L, 2 lbs/gallon liquid, 4 pints per acre

The herbicides were applied to fields in Graham and Greenlee counties on the 20th of January, 1989. At the time of the application, alfalfa in both locations was dormant; a few wild oat plants were seen in Greenlee county, but no other weeds were observed.

RESULTS AND DISCUSSION

No injury to the alfalfa foliage was observed at either site, compared with some slight burning and stunting in 1988. In 1988 the application was made in late February after the alfalfa had started to produce foliage.

The site on the Rex Barney farm in Graham county had few weeds; therefore, it was not possible to evaluate the weed control. In Greenlee county, the test strips were placed on a field of Baron alfalfa in its fourth year, owned by Mike Brown. This field developed an ample crop of weeds for evaluation (Table 1).

Table 1. Herbicide evaluations on alfalfa on the Mike Brown farm in Greenlee county, April 21st and June 16th, 1989.

Treatment	Grasses	Percent Control	
		Broadleaves	Foxtail*
Velpar	86	99	90
Treflan TR-10	43	20	0
Eptam	84	0	79
Karmex	35	93	0
Lexone	55	33	78

* Evaluation of the foxtail barley control followed the second cutting of alfalfa on June 16th. Evaluation of the grassy and broadleaved weeds was before the first cutting on April 21st.

The literature suggests that at the 4 pint (1 pound) rate of Velpar will control several of the mustard species and give partial control of foxtail barley. It lived up to those expectations with good controls.

On established alfalfa, Treflan TR-10 can be activated for control of barnyardgrass, crabgrass, foxtail, junglerice, sandbur and cupgrass if incorporated mechanically, or by rainfall or irrigation; it must be applied prior to weed germination. From our lack of success in controlling foxtail barley, it would appear that it had germinated before the 20th of January, when the TR-10 was applied and watered in.

For best results, Eptam should be applied before the weeds are established. It is useful to control some broad-leaved weeds (but not mustard) and most annual grasses. Our results corroborated this with no control of mustard and moderately good control of the grassy weeds, including foxtail barley. Since Eptam gave superior control of the grassy weeds as compared to Treflan TR-10, the results would suggest that Eptam can control weeds after germination.

Karmex should only be applied to alfalfa stands established one year or longer; it is expected to prevent germination of many broad-leaved weeds and some grasses (including mustard and foxtail). We observed very good control of the broad-leaved weeds, but poor to no control of the grasses. Lack of foxtail control is probably for the same reason as with the TR-10; the foxtail had already germinated before the herbicides were applied. Overall control could perhaps be improved by watering it in, as was done with the Treflan and Eptam granules.

According to the label, Lexone will control many germinating broad-leaved and grassy weeds, including mustard and foxtail; it also gives partial control of emerged mustard and foxtail. The lack of better control with this material probably relates to the dryness of the year and the fact that this treatment was not irrigated either.

ACKNOWLEDGEMENTS

Use of the Valmar airflo granular applicator was provided by the Elanco Products Company.