Brush Control with Aminocyclopyrachlor (MAT28)

Introduction

Utility and other non-crop vegetation managers rely on herbicides as an effective tool to control undesirable woody vegetation. One of the challenges is to control a wide range of species while minimizing damage to desirable vegetation, such as grass cover. Aminocyclopyrachlor (DPX-MAT28) is a synthetic auxin active ingredient developed by DuPont for the noncrop and invasive plant market. New products labeled in 2010 include Streamline with aminocyclopyrachlor and metsulfuron methyl while Viewpoint contains these active ingredients plus imazapyr. Different rates of these products were evaluated and compared with existing products for brush control (Table 1).

Materials and Methods

The trial was established on the Princeton research station in Caldwell County in an "old" field that had mixed brush and trees. The dominant species was Winged Elm (*Ulmus alata*) which ranged in height from 4 to 6 ft with an average of 5 ft. The 11 treatments were arranged in a randomized complete block design with three reps and 10 ft x 60 ft plots. Treatments 1 to 9 included methylated seed oil (MSO) at 1% v/v while treatment 10 included Activator 90 at 1% v/v (Table 1). Treatment 1 was lower than the label rates of 13 to 20 oz/acre for Viewpoint. The 4.76 oz/acre rate for Streamline (Trt. 5) is selective on most desirable grass species while Trt. 6 is close to the maximum label rate of 11.5 oz/acre. The high volume foliar herbicide treatments were applied with a compressed CO_2 powered hand gun at 100 gallons per acre on August 25, 2009. Visual percent control was assessed 21 (9/15/2009) and 338 (7/29/2010) days after treatment (DAT). Data were analyzed using ARM software and treatment means were compared using Fisher's Protected LSD at $p = 0.05$.

Results

All herbicide treatments except those only containing MAT28 had 87 to 90% control 21 DAT (Table 1). However, 338 DAT only the Streamline and Viewpoint treatments still had 90 to 93% control while the other treatments had lower control ratings (30 to 40%). The MAT28 alone as well as the triclopyr + imazapyr and aminopyralid + imazapyr combinations showed reduced control 338 DAT.

Table 1. Treatments and Results for Brush Control Trial

Trt. No.	Product Name	Rate	Rate Unit	Visual Percent Control			
				21 DAT		338 DAT	
1	Viewpoint MSO	8.25 1	OZ/A % V/V	90	*a*	90	*a*
2	Viewpoint MSO	12.5 1	OZ/A % V/V	90	*a*	93	*a*
3	Viewpoint MSO	16.5 1	OZ/A % V/V	90	*a*	93	*a*
4	Viewpoint MSO	19.84 1	OZ/A % V/V	87	*a*	93	*a*
5	Streamline MSO	4.76 1	OZ/A % V/V	90	*a*	93	*a*
6	Streamline MSO	11.44 1	OZ/A % V/V	90	*a*	93	*a*
7	MAT 28 MSO	3.76 1	OZ/A % V/V	67	*c*	40	*b*
8	MAT 28 MSO	9.04 1	OZ/A % V/V	73	*b*	30	*b*
9	Garlon 4 Arsenal MSO	64 16 1	FL OZ/A FL OZ/A % V/V	90	*a*	37	*b*
10	Milestone VM Roundup WeatherMAX Arsenal Activator 90	3.3 1.6 6.4 1	FL OZ/A QT/A FL OZ/A % V/V	90	*a*	37	*b*
11	Nontreated Check			0	*d*	0	*c*

Means within a column followed by the same letter are not different according to Fisher's Protected LSD at P < 0.05.