

PREEMERGENT VS POSTEMERGENT APPLICATIONS FOR HERBACEOUS WEED CONTROL IN SLASH PINE PLANTATIONS USING SLUFOMETURON, HEXAZINONE, IMAZAPYR, AND METSULFURON. A.W. Ezell and J.L. Yeiser. Mississippi State University, Starkville, and Stephen F. Austin State University, Nacogdoches, TX.

ABSTRACT

A total of 13 herbicide treatments (Table 1) were applied to recently established slash pine plantations in Alabama and Louisiana. Six treatments were applied early (March) and seven were applied late (May). All treatments were replicated four times, and four replications of an untreated check were also evaluated. Total spray volume was 10 gpa for all applications. Pine heights and groundline diameters (GLD) were measured in March and December, 2001. Competition control was evaluated ocularly at 30-day intervals April-October, 2001.

At the Alabama site, early applications generally controlled competition better than the same treatments applied late. The 13 oz/A Oustar applied early provided superior control, but the Arsenal/Escort mix performed well also. In Louisiana, neither early nor late treatments could be separated statistically. Generally, the early treatments performed as well as or better than late applications, but notable exceptions (13 oz Oustar) existed. Overall, season-long control was evident in many of the treatments.

In tree heights, little separation of means could be accomplished at the Alabama site (only 2 of 13 treatments differed significantly), and heights in most plots averaged 2.5-2.8 feet tall (Table 2). In Louisiana, tree heights were generally less (1.9-2.3 feet) but more separation of treatments was evident statistically. The Oustar (Trts 2 and 8) and Velpar (Trts. 3 and 9) treatments had the tallest trees.

In groundline diameter (GLD), none of the treatments could be statistically separated in Alabama (Table 3). The Oustar (Trts 2 and 8) and Oust XP (Trts 7 and 13) resulted in the largest GLD. In Louisiana, treatments could be separated more easily. Generally, the Oustar treatments (2 and 8) had the largest GLD, but early applications of Velpar and Arsenal/Escort and Oust XP also had good growth.

Overall, early treatments provided better competition control, and to a lesser extent, better height and GLD growth during the first year for slash pine in this study. While a number of treatments performed well, first-year responses indicate that 13 oz/a. of Oustar applied early may be a preferred treatment for slash pine.

Table 1: List of Treatments in 2001 DuPont Slash Pine Study

Treatment No.	Herbicide and Rate/Acre
Early(March)	
1	Untreated
2	13 oz. Oustar
3	32 oz. Velpar L (AL) or 10.7 oz. Velpar DF (LA)
4	4 oz. Arsenal AC
5	4 oz. Arsenal AC +1 oz. Escort
6	32 oz. Velpar L + 4 oz. Arsenal AC
7	2 oz. Oust XP
Late(May)	
8	13. oz. Oustar
9	32 oz. Velpar L (AL) or 10.7 oz. Velpar DF (LA)
10	4 oz. Arsenal AC
11	4 oz. Arsenal AC +1 oz. Escort
12	32 oz. Velpar L + 4 oz. Arsenal AC
13	2 oz. Oust XP
14	2 oz. Oust XP + 0.5 oz. Escort + 12 oz. Eagle

Table 2: First-year average heights of trees by treatment in 2001 DuPont Slash Pine study – AL and LA (avg. all reps)

Tree Heights		
Treatment No.	AL	LA
Early	Feet	
1	2.56ab ¹	2.07cd
2	2.65ab	2.35a
3	2.79a	2.40a
4	2.34ab	2.00cd
5	2.47ab	2.03cd
6	2.20b	1.91d
7	2.72ab	2.32ab
Late		
8	2.45ab	2.38a
9	2.57ab	2.24abc
10	2.23b	2.03cd
11	2.59ab	1.92d
12	2.58ab	2.24abc
13	2.79a	2.17abc
14	2.53ab	2.15abcd

¹ Values in a column followed by the same letter do not differ at $\alpha = 0.05$

Table 3: First-year average groundline diameter of trees by treatment in 2001 DuPont slash pine study – AL and LA (avg. all reps)

Groundline Diameter		
Treatment No.	AL	LA
Early	inches	
1	0.68b ¹	0.51e
2	0.96a	0.91a
3	0.95a	0.82ab
4	0.83ab	0.65cd
5	0.89a	0.88ab
6	0.83ab	0.80b
7	0.94a	0.86ab
Late		
8	0.94a	0.84ab
9	0.82ab	0.67cd
10	0.83ab	0.58de
11	0.92a	0.68c
12	0.87a	0.69c
13	1.00a	0.64cd
14	0.85ab	0.70c

¹ Values in a column followed by the same letter do not differ at $\alpha = 0.05$