



The Effect of Break-Thru® T & O on Grass Growth Retardation by Primo®

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Objective: To determine if Break-Thru® T & O can improve the performance of the plant growth regulator Primo® (Trinexapac-ethyl).

Experimental: The trial was conducted on a fairway of the Southwind Country Club in Garden City, Kansas. The turf was 10 year old Pencilgrass on a fine sandy soil. Normal maintenance was mowing to one half inch on Mondays, Wednesdays and Fridays. The experimental design was a randomized complete block with four replications. Plots were five feet by twenty feet. Applications were made with a pull type spray buggy with an electric pump powered sprayer. When pulled at 2.5 mph it delivered 2 gal/1000 sq. ft. of spray in a 40 inch wide pattern. The grass was cut with a reel-type greens mower and clippings collected in a grass catcher.

Results:

Table 1: The Effect of Break-Thru® T & O on Grass Growth Retardation by Primo®

TREATMENTS	Dry Weight of Clippings		
	8 DAT	15 DAT	22 DAT
Untreated Control	100 a	100 a	100 ab
Break-Thru® 0.09% v/v	80 a	109 a	106 ab
Primo® 0.125 oz/1000 sq ft	79 a	110 a	142 bc
Primo® 0.250 oz/1000 sq ft	41 b	77 ab	145 bc
Primo® 0.125 oz + Break-Thru® 0.09%	29 b	56 b	85 a
Primo® 0.250 oz + Break-Thru® 0.09%	26 b	57 b	90 a

In columns means followed by same letter do not significantly differ by Duncan's test at 99% level.

All data % Control

Primo® alone at the low rate never produced significant (99% level) reduction in grass growth whereas with the addition of Break-Thru® it reduced growth over the whole length of the trial. Indeed, the low rate of Primo® plus Break-Thru® was always numerically better than twice the Primo® without Break-Thru®. At the high Primo® rate, the addition of Break-Thru® resulted in numerically lower grass production over the first two periods and significant reduction after 22 days when the grass had outgrown the retardation effect. Primo® reaches the growing point by foliar uptake so Break-Thru® must be enhancing uptake.

Conclusion:

Break-Thru® T & O can substantially enhance grass growth reduction by Primo®. It increases uptake by the leaves.