

PUBLICATIONS

2004

HERBICIDE EVALUATIONS ON ESTABLISHMENT OF TIFTON 85 BERMUDAGRASS

G. W. Evers, N. B. Melson, M. J. Parsons, and T. J. Butler

Background. Hybrid bermudagrass is used for hay and grazing; and is the main improved warm-season perennial grass in the eastern half of Texas and the southeastern United States. Because hybrid bermudagrasses produce very little seed, they are established vegetatively by planting springs (rhizomes, roots, stolons, and stems). Tifton 85 is replacing Coastal as the new bermudagrass standard because of its high yield and nutritive value. Warm-season annual weeds are a major problem in establishing clean bermudagrass stands quickly. At this time Weedmaster (2,4-D amine + Dicamba) and the low volatile ester form of 2,4-D are the only herbicides labeled for establishing sprigged bermudagrass. An herbicide study was conducted in 2002 on the Beverly and Ross Kinney farm 5 miles north of Overton. Herbicide treatments were applied 1, 14, and 29 days after planting (DAP) Tifton 85 bermudagrass on May 9. The area was irrigated with a sprinkler gun to maintain good soil moisture during the study. Plots were 6 x 15 ft arranged in a randomized complete block design with four replications. Some herbicides only were applied for preemergence weed control (1 DAP), some for pre- and postemergence weed control (14 and 29 DAP), and some just for postemergence weed control. Plots were visually scored (0= no injury, 5=dead) by two people 6 weeks after preemergence treatments, 5 weeks after 14 DAP treatments, and 3 weeks after 29 DAP treatments.

Research Findings. All herbicide treatments exhibited some injury on Tifton 85 bermudagrass but none eliminated Tifton 85 (Table 1). Preemergent (1 DAP) treatments were less phytotoxic than the postemergence treatments. Weedmaster and 2,4-D ester, which are labeled for newly sprigged bermudagrass, caused some stunting but were not different from the control treatment. The 2,4-D amine, Grazon P+D, Roundup, Redeem, Mandate at 2 and 3 pt/acre, and the 3 pt/acre rate of Prowl injury ratings were not different from the control. Plateau was the most phytotoxic herbicide. Damage increased as Plateau rate increased and was greatest when applied 14 DAP. Of the 14 DAP postemergence treatments, 2,4-D amine, Weedmaster, Grazon P+D at 1 pt/acre, and CGA362 at 0.2 oz/acre had injury scores of less than 2. Of the 29 DAP treatments, Weedmaster had the lowest injury rating and it was not different from the control. Other treatments with low injury ratings were 2,4-D amine and ester, Grazon P+D, Redeem at 1 pt/acre, CGA362 at 0.3 oz/acre, and Fuego.

Application. Weedmaster and 2,4-D ester are labeled for use on newly established bermudagrass anytime after sprigging. If applied prior to germination of crabgrass these

herbicides will suppress crabgrass for approximately 30 days and will cause little injury to bermudagrass. Once the bermudagrass sprigs reach a 6-in length, bermudagrass is considered to be established, and then the other herbicides labeled for pasture weed control can be used to control broadleaf weeds.

Table 1. Injury ratings to Tifton 85 bermudagrass 6 weeks after 1 DAP treatments, 5 weeks after 14 DAP treatments, and 3 weeks after 29 DAP treatments.

Herbicide	Rate/acre	Applied days after planting		
		1	14	29
		-----Injury rating†-----		
Control	--	0.0 g‡	0.0 g	0.0 k
Plateau	1 oz	2.3 a-c	3.3 a-c	2.3 c-g
Plateau	2 oz	3.3 a	4.0 ab	2.8 b-d
Plateau	3 oz		4.5 a	3.5 ab
2,4-D amine	4 pt	0.8 e-g	0.5 fg	1.3 hi
2,4-D ester	3 pt	0.8 e-g	2.3 c-e	1.7 f-i
Weedmaster	3 pt	0.5 gf	1.8 d-f	0.3 jk
Grazon P+D	1 pt	1.3 c-g	1.8 d-f	1.8 e-i
Grazon P+D	2 pt		2.7 b-d	1.5 g-i
Roundup	0.5 pt		3.3 a-c	3.8 a
Roundup	2 pt	0.3 g		
Cimmaron Max	0.25 oz Ally 1 pt Weedmaster	2.3 a-c	2.3 c-e	2.3 c-f
Redeem	1 pt		2.3 c-e	1.0 ij
Redeem	2 pt	1.0 d-g	2.8 b-d	2.3 c-g
Mandate	2 pt	1.3 c-g		
Mandate	3 pt	1.3 c-g		
Mandate	4 pt	3.3 a		
Prowl	3 pt	1.0 d-g		
Prowl	4 pt	1.5 c-f		
CGA362	0.2 oz		1.0 e-g	2.0 d-h
CGA362	0.3 oz		3.0 b-d	1.5 g-i
CGA362	0.4 oz	1.8 b-e	2.0 c-e	2.5 c-e
CGA362	0.5 oz	2.8 ab		
Fuego	0.59 oz amber 12.5 oz clarity	2.0 b-d	2.3 c-e	1.3 hi
LAF004	2 pt	2.3 a-c	2.8 b-d	2.0 d-h
EF1506	2 pt		2.0 c-e	3.0 a-c

†Injury rating 0 = no injury, 5 = dead.

‡Values in a column followed by the same letter are not significantly different at the 0.05 level, Fisher's Protected LSD.