

**Lay-by Control of Purple Nutsedge in Cotton  
Bill Scott Farm - Stanfield**

Stanley Heathman, Extension Weed Specialist, Tucson  
Sam Stedman, Extension Cotton Specialist, Casa Grande  
Jon Chernicky, Weed Scientist, Casa Grande  
Charles Farr, Extension Agricultural Agent, Phoenix

This test was designed to test the efficacy and selectivity of butylate (Sutan +) at 3 application rates for control of purple nutsedge (*Cyperus rotundus*) as a lay-by application. Herbicides were applied July 10, 1985, to the furrow from seed row to seed row in 21 GPA water using a K5 flooding jet nozzle in every furrow.

Application of the herbicide was followed immediately by cultivation with sweeps. This destroyed the aboveground foliage of the nutsedge in the furrow and the sides of the bed as well as incorporating the herbicide into these areas. Irrigation in every furrow, followed application of herbicides in three days. The cotton, Delta Pine 90, was planted on 38 in. beds and was 20 in. tall at time of application.

The application and incorporation of herbicides was at lay-by time and no further cultivations followed treatment. The purple nutsedge infestation was uniform throughout the test area. There were 20 to 60 stems per sq. ft. The soil was a clay loam.

Plot size was 4 furrows wide, 100 ft. long, replicated 2 times. The untreated check were also cultivated at the same time as the herbicide application.

**Table 1. Percent Control of Purple Nutsedge at 5 Dates Following Treatment with 3 Rates of Butylate Applied July 10**

Treatment	lb/A	% Control				
		7/23	7/31	8/21	9/16	10/28
butylate	2.0	95	90	90	65	55
butylate	3.0	95	93	95	85	70
butylate	4.0	95	98	98	95	85
Untreated		0	0	0		

In this test:

1. On July 23 all herbicide treatments controlled nutsedge in the furrows and the sides of the bed where cultivation had removed the nutsedge at the time the herbicides were incorporated. Nutsedge in the seed row on top of the beds, which was not cultivated, was not effected. Normal regrowth occurred in the beds and furrows of the untreated checks.
2. By July 31, following 2 post treatment irrigations, the nutsedge in the seed rows were also controlled or severely stunted from all herbicide treatment. The lower rate of butylate stunted the nutsedge but did not kill the top growth. No nutsedge regrowth had occurred in the cultivated areas with any herbicide treatment.
3. On August 21, some normal regrowth had occurred in the seed rows with the 2 lowest application rates. No regrowth occurred in the furrows. Nutsedge in the untreated checks was headed out and 15 to 20 inches in height. The cotton was 36" tall.
4. On September 16 the 2.0 lb/A rate of butylate had broken and vigorous normal growth was occurring in the seed row. The 3.0 lb/A rate was beginning to break in the seed row. Only a few scattered nutsedge plants remained in the seed row of the 4.0 lb/A treatment, about 1 every 3 ft. of row, and these remained stunted.
5. The cotton was defoliated by October 28. Normal regrowth of nutsedge had occurred in all treatments. Control remained acceptable at the highest application rate only.
6. No symptoms of butylate uptake or injury was apparent on the cotton at any date or rate.