

Research Note

PERFORMANCE OF GULF S-6797 AND HERCULES 22234 AS PREEMERGENCE HERBICIDES ON OKRA¹

The evaluation of three registered herbicides for okra (quimbombó), *Abelmoschus esculentus* (L.) Moench,² has resulted in the recommendation of Trifluralin (Treflan)³ at 1 lb or 1 qt AI/acre (2.34 l or 1.12 kg AI/ha) as a preemerge herbicide⁴. Dymid 80W (diphenamid) and Vegadex (CDEC) are also registered for use on okra and were included in the same trial with Trifluralin. Crop yields and weed control of the diphenamid and CDEC treatments were inferior to that of Trifluralin.

Nine new unregistered herbicides (AN-5677, Bay Kue 2236, Benthiocarb, Bifenox EC & WP, H-22234, Metribuzin, S-6044 and S-6797) were previously screened at three concentrations on okra var. Dwarf Long Green Pod⁵. As a result of this screening, two candidate preemergent herbicides (H-22234 and S-6797) were selected for further evaluation.

An experiment using a balanced incomplete block design, paired plots, four treatments, and six replications was established using Dwarf Long Green Pod as the test plant. Herbicides were surface applied at recommended rates and irrigated immediately. All cultural practices for okra culture were conducted as required, with the exception of cultivation, which was omitted to avoid disturbing the herbicidal activity of materials being tested.

Percent weed control at 52 days after treatment is shown in table 1. The broadleaf weed population was composed of: *Trianthema portulacastrum*, horse purslane (verdolaga de hoja ancha); *Amaranthus dubius*, pigweed (bledo); *Cleome speciosa*, spider flower (jazmín del río); *Phyllanthus niruri*, niruri (quinino del pobre); and *Portulaca oleracea*, common purslane (verdolaga). The grass weed population was composed of: *Echinochloa colonum*, junglerice (arrocillo); *Eleusine indica*, goose-

¹ Manuscript submitted to the Editorial Board June 25, 1975.

² Terrell, E. E., and Winters, H. F., Changes in scientific names for certain crop plants, Hort. Sci., 9 (4): 324-5, 1974.

³ Trade names are used in this publication solely for the purpose of providing specific information. Mention of a trade name does not constitute a guarantee or warranty of equipment or materials by the Agricultural Experiment Station of the University of Puerto Rico or an endorsement over other equipment or materials not mentioned.

⁴ Jackson, G. C., Almodóvar, L. A., Sierra, C., and Mangual, G., Herbicide field work in Puerto Rico, 1970-1972. (Summary only), Proc. Carib. Food Crops Soc., 10:115, 1972.

⁵ —, and Sierra, C., Primary screening of new unregistered preemerge vegetable herbicides, Proc. Carib. Food Crops Soc., 11 (in press), 1973.

TABLE 1.—*Effect of four preemerge herbicides on weed control and yield of okra, Fortuna Substation, Juana Díaz, P. R.*

Herbicide	Rate	Weed Control at 52 Days		Yield at 68 to 90 days
		Broadleaf	Grasses	
	<i>KgAi/ha</i>	%	%	<i>Cwt/ha</i>
Gulf S-6797	4.5	98	98	130.2 a ¹
Trifluralin	1.1	50	90	123.3 a
Hercules 22234	3.2	75	98	117.1 a
Diphenamid	5.6	40	75	87.7 b

¹ Yields followed by a common letter in the column are not significantly different at the 5% level.

grass (pata de gallina); and *Sorghum verticilliflorum*, Johnsongrass (yerba Johnson).

Six harvests of pods were made between 68 and 90 days after seeding. Pod yields are presented in table 1.

The unregistered herbicide Gulf S-6797 gave best control of broadleaf and grass weeds. This herbicide and Hercules 22234 gave better weed control than Trifluralin or diphenamid. Pod yields with diphenamid were significantly lower than with the former three herbicides.

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