

WEED CONTROL AND PEANUT RESPONSE TO DICLOSULAM. J.R. Karnei, P.A. Dotray, J.W. Keeling, and T.A. Baughman. Texas Tech University and Texas Agricultural Experiment Station, Lubbock, and Texas Cooperative Extension Service, Vernon.

ABSTRACT

Field studies were conducted in West Texas at six locations in 2000 and 2001 to evaluate weed control and peanut (*Arachis hypogaea*) response to diclosulam applied preplant incorporated (PPI) and preemergence (PRE). All plots received a PPI treatment of ethalfluralin at 0.75 lb ai/A or pendimethalin at 0.50 to 0.75 lb ai/A for Palmer amaranth (*Amaranthus palmeri*) control. Diclosulam was applied PPI and PRE at 0.016 (2/3x), 0.024 (1x), and 0.048 (2x) lb ai/A. Other treatments included imazapic postemergence (POST) at 0.063 lb ai/A, flumioxazin PRE at 0.094 lb ai/A, and a non-treated check.

Weed control studies were conducted in Brownfield in 2000 and Lamesa in 2001. Diclosulam at 0.024 lb controlled purple nutsedge (*Cyperus rotundus*) 60 to 70% in 2000 and 50 to 60% (late-season) in 2001. Ivyleaf morningglory (*Ipomoea hederacea*) was controlled 60 to 70% when diclosulam was applied PPI or PRE at 0.024 lb in 2000. In 2001, diclosulam applied PPI or PRE controlled Ivyleaf morningglory > 85% early-season, and at 124 days after planting (DAP), diclosulam at 0.024 lb provided 80% (PRE) and 40% (PPI) control. Control of both weed species with diclosulam increased as rate increased for both PPI and PRE applications.

Peanut tolerance trials were conducted in Lamesa in 2000 and 2001 and in Seminole in 2001. All plots were kept weed-free throughout the season. Soil pH ranged from 7.6 to 8.2 and organic matter was less than 0.5% at all locations. At 14 DAP, diclosulam at 0.024 lb injured peanut 28 to 30% (PPI) and 17 to 27% (PRE) in both years. Diclosulam at 0.048 lb injured peanut 40 to 50% regardless of application. Diclosulam at 0.024 lb applied PPI or PRE injured peanut less than 8% late-season. In 2000 and 2001, plots treated with diclosulam at 0.048 lb PPI produced the lowest yields. Plots treated with diclosulam at 0.024 lb PPI yielded less than plots treated with diclosulam at 0.024 lb PRE in both years. Peanut grade was not affected by any treatment when compared to the non-treated check. At Seminole, injury was less than injury observed at Lamesa early-season, and less than 10% injury was observed late-season. No differences were observed in yield or grade at Seminole.