

## **Peanut Response to Diclosulam in Texas**

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Diclosulam (Strongarm®) is a Weed Science Society of America Group 2 herbicide that is used preplant incorporated, preplant surface, and preemergence through cracking. In some states, 24(c) labels allow early postemergence applications for suppression of tropical spiderwort (*Commelina benghalensis* L.). Weeds controlled by diclosulam include Palmer amaranth (*Amaranthus palmeri* S.Wats.), devil's-claw (*Proboscidea louisianica* P.Mill.), and morningglory (*Ipomoea* spp.) species. Strongarm® received Federal 3 label status over 15 years ago, but peanut stunt and yield loss was observed in the launch year in west Texas. The current label prohibits the use of diclosulam in New Mexico, Oklahoma, and Texas. A major factor involved in the initial injury was believed to be sensitivity in Flavor Runner 458, the common variety used during that time period. A peanut tolerance study was conducted in 2019 in Gaines County, TX and in south Texas near Yoakum under weed-free conditions. Diclosulam at 0.024 (0.45 oz Strongarm® = 1X) and 0.047 (2X) lb ai/A was applied preemergence (PRE) and at-crack (AC). Georgia 09B was planted at both locations. The soil type in Gaines County was an Arvana sandy loam (0.5% OM, pH 8.0) and the soil at Yoakum was a Tremona loamy fine sand (1% OM, pH 7.6). In Gaines County, when evaluated 30 days after planting (DAP), no difference in peanut stand was observed following any diclosulam treatment; however, peanut height and width were reduced following diclosulam applied PRE when compared to the non-treated control. At 60 DAP, all treatments caused peanut stunt except diclosulam at 0.024 lb/A applied AC. At 100 DAP, only the injury following diclosulam at 0.047 lb/A applied PRE was apparent. Peanut yield ranged from 5814 to 6414 lb/A and were not different from the non-treated control (5923 lb/A). At the Yoakum location, no peanut injury was noted with any diclosulam rate or application timing. Yield ranged from 2844 to 3292 lb/A, which was not different from the non-treated control (2971 lb/A). No difference in peanut grade (SMK, SS, SMK+SS, OK) was observed at either location. Although early season injury was observed in Gaines County, no adverse effects on yield and grade were noted when using modern peanut varieties in Texas.