

COTTON AND PALMER AMARANTH RESPONSE TO POSTEMERGENCE-DIRECTED APPLICATIONS WITH HUSKIE™**T. S. Morris****Texas Tech University, Texas A&M AgriLife Research
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Idalou, Texas****Abstract**

Huskie™, a premix combination of pyrasulfotole and bromoxynil, is registered for use in sorghum (*Sorghum bicolor* L. Moench), wheat (*Triticum aestivum* L.), and barley (*Hordeum vulgare* L.). This herbicide may be applied over a wide window postemergence for control of many weeds including Palmer amaranth (*Amaranthus palmeri* S. Wats.) and other *Amaranthus* species, kochia (*Kochia scoparia* L.), Russian thistle (*Salsola kali* L.), prickly lettuce (*Lactuca serriola* L.), and several ALS-resistant biotypes. The objective of this research was to evaluate cotton response and Palmer amaranth control when Huskie is applied with and without Caparol (prometryn) at different postemergence-directed (PDIR) application timings and heights of hooded sprayer treatments.

Field trials were conducted at two sites in 2013 in Lubbock County, Texas on a row-irrigated and a sub-surface drip field. The soil types were an Acuff loam. Plots, 4 rows by 30 feet on 40-inch centers, were replicated three times. Cotton was planted on May 14, 2013 and May 15, 2013 at Lubbock and New Deal locations, respectively. Postemergence-directed (PDIR) applications were made on July 11, July 29, and August 19 using a CO₂-pressurized 4-row Redball hooded sprayer equipped with TurboTee 110015 spray tips calibrated to deliver 10 gallons per acre (GPA) using water as the carrier. Applications were made at both locations using a standard PDIR sprayer setting, where the hoods run as close to the ground as possible. At the New Deal location, an additional PDIR setting was used where the hoods were raised 4-inches about the soil. Herbicide treatments included Huskie (13oz/A) alone or in combination with Caparol (24 oz/A). Ammonium sulfate was added to all treatments at 1 lb/A. Residual herbicides plus Roundup Powermax were applied to control Palmer amaranth until the test was initiated.

Palmer amaranth control and cotton injury were observed 4 days after treatment (DAT) following the early application timing. No differences were observed between the Huskie alone and Huskie + Caparol treatments at any PDIR timing and height of hooded sprayer application. At Lubbock, Palmer amaranth was controlled at least 93% following all treatments when evaluated at 7 DAT, but this control declined at 14 DAT. Effective control was observed following the mid and late PDIR treatments. Crop injury was observed with the early PDIR treatments but not from the mid or late PDIR treatments. At New Deal, cotton injury was observed following all PDIR timings and heights of PDIR sprayer applications. Cotton injury at 4 DAT was as great as 23% following the early, raised (4-inches) PDIR application. No other treatment caused greater than 10% injury. Huskie applied early PDIR caused 34% injury following the raised application when evaluated 7 DAT. No other treatment caused greater than 7% injury. Cotton lint yield ranged from 1377 to 1878 lbs/A and yields were not adversely affected by the standard PDIR treatment at any application timing. Cotton yield was reduced 22% following the early, raised PDIR application.