

2017 Peanut Weed Science Report

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Peanut weed management trials were conducted at Caddo Research Station near Fort Cobb in 2017. Peanut were planted in early May. Cool temperatures slowed peanut growth early in the season and likely attributed to some of the herbicide injury observed. While peanut maturity was delayed along with harvest, peanut yield exceeded 5,000 pounds per acre in 2017.

Trial PFCS17-01 evaluated various weed management programs with Zidua (pyroxasulfone) in peanut. Peanut stand reduction and injury was 5 percent or less season long with all treatment combinations except for leaf burn from paraquat. This injury from paraquat was transient in nature and was not observed later in the season. Texas panicum, Palmer amaranth and ivyleaf morningglory control initially was at least 90 percent with Prowl H2O PRE. The addition of a chloroacetimide herbicide (Outlook, Warrant, Zidua) extended this control. While early season control was excellent, the addition of Cadre + 2,4-DB POST was needed to maintain season long control of Texas panicum and ivyleaf morningglory. Early season yellow nutsedge control was less than 85 percent with all treatments. The only treatments that controlled Palmer amaranth at least 95 percent and yellow nutsedge at least 90 percent late season were Prowl H2O PRE followed by Zidua SC + Gramoxone AC followed by Cadre + 2,4-DB alone or with Outlook POST.

Trial PFCS17-02 evaluated tolerance of peanut to various application timings of Anthem Flex. Anthem Flex at 2 or 4 fluid ounces per acre was applied PRE, At-Crack and POST to peanut. This was compared to a weed-free check or Dual Magnum at 1.33 pints PRE. This trial was maintained weed-free. Stand reduction was less than 5 percent season regardless of rate or application timing. Due to cool temperatures after planting visual peanut injury in the form of stunting was at 15 percent or greater with both rates of Anthem Flex and with Dual Magnum. This initial injury decreased during the season and was not observable at the end of the season. Initial injury was 6 percent with both rates of Anthem Flex At-Crack and decreased over time. Peanut injury was 5 percent or less with all POST applications of Anthem Flex. Plant stand counts, peanut yield and grade were not affected by any treatment.

Trial PFCS15-03 evaluated the effects of 2,4-DB + glyphosate on peanut. This trial was established to simulate drift and misapplication or tank-contamination. The trial was maintained weed free. Rates were applied from 1X, 1/2X, 1/4X, 1/8X and 1/16X. All of these rates were applied at 30, 60 and 90 days after planting. Peanut stand reduction season long was 5 percent or less with all rates and application timings. Significant visual peanut injury was observed with the 1/4X, 1/2X and 1X rates regardless of application timing. Peanut injury was

greater than 10 percent with both the 1/16 and 1/8X rate when applied 60 DAP. Peanut yields were reduced with the 1/4X, 1/2X and 1X rate regardless of application timing. The 1/8X rate reduced yields when applied at the 60 and 90 DAP timing. Peanut grade was not affected when applied 30 DAP. Grade was reduced with the 1X rate 60 DAP and the 1/2X and 1X rate 90 DAP. Care must be taken to minimize peanut to exposures of 2,4-DB + glyphosate.

Trial PFCS17-04 evaluated the potential for the use of fluridone preemergence in peanut. This trial was maintained weed-free. Stand reduction was 5 percent or less with all treatments. Initial injury was greater than 10 percent with all treatments including fluridone, Valor and Dual Magnum. Visual injury decreased throughout the season and was 1 percent less with all treatments at the end of the season. Plant stand counts, width, yield and grade were not affected by any treatments, similar to the weed-free check.

Trial PFCS17-05 evaluated Anthem Flex (pyroxasulfone + carfentrazone) for weed control in peanut. Peanut stand reduction was 5 percent or less and injury was less than 10 percent with PRE treatments. Injury was 8 to 10 percent with At-Crack applications mainly due to leaf burn from the addition of Gramoxone (paraquat) to all treatments. Injury was less than 5 percent with all

the treatments for the remainder of the season. Texas panicum (and Palmer amaranth control early season was at least 95 percent with all PRE and At-Crack treatments. By the end of the season Texas panicum control was at least 85 percent with all treatments that included Cadre POST. Late season Palmer amaranth control was at least 94 percent with all treatments that included Cobra + 2,4-DB POST. Initial ivyleaf morningglory control was at least 97 percent with all PRE treatments that included Valor PRE. Late season control was at least 85 percent with all treatments that included Cadre POST. Yellow nutsedge control was 60 percent or less early season with all treatments. Late season control was at least 75 percent with all treatments that included Cadre POST.

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