

Anthem Flex Use in Peanut (*Arachis hypogaea*)

Z.R. TREADWAY*, T.A. BAUGHMAN, R.W. PETERSON, J.L. DUDAK, Oklahoma State University-Institute for Agricultural Biosciences, Ardmore, OK 73401

Weed management is vital for the success of any crop. Producers must utilize herbicide programs to maintain a growing environment that lends itself to high yields. The use of Anthem Flex herbicide (pyroxasulfone + carfentrazone-ethyl) is an option available to peanut producers to control troublesome weeds. Trials were conducted to evaluate weed control in peanut with the use of Anthem Flex based herbicide programs.

Research was conducted across 6 years at the Oklahoma State University Caddo Research Station near Ft. Cobb, OK to evaluate the effectiveness of Anthem Flex when used as a PRE, early POST, or late POST in multiple herbicide programs. Peanuts were planted in 36-inch rows in May of each year. Visual injury and weed control were evaluated throughout the growing season. Visual injury was 10% or less across all years with applications of Anthem Flex PRE and POST. The exception was 2015 when peanut was planted late due to weather and injury occurred with all PRE treatments which included Valor and Anthem Flex. Control of Palmer amaranth (*Amaranthus palmeri*) was at least 99% 14 days after cracking with a preemergence treatment of Anthem Flex (2 fl oz/a) + Prowl H₂O (32 fl oz/A), except for 2020, when control was 94%. Texas Panicum (*Panicum texanum*) control was at least 88%, 14 days after cracking, with the same PRE application of Anthem Flex + Prowl H₂O, with the exception of 2017, when control was 84%. Palmer amaranth control was 87%, 14 days after treatment (DAT), with an early POST application of Anthem Flex (3 fl oz/A) + Gramoxone (16 fl oz/A) in 2019, but in 2020, an early POST application of Anthem Flex (3 fl oz/A) + Gramoxone (8 fl oz/A) + Storm (16 fl oz/A) only provided 55% control of Palmer amaranth 14 DAT. This low control was likely due to the size (2-14 inches) and population (2-10 per foot). Ivyleaf morningglory (*Ipomoea hederacea*) control was at least 99%, 14 DAT, with a late POST application of Anthem Flex (3 fl oz/A) + Cobra (12.5 fl oz/A) + 2,4-DB (18-20 fl oz/A). Yellow nutsedge control never exceeded 34%, 14 DAT, with the same treatment. These trials highlighted the effectiveness of Anthem Flex herbicide for use in peanut for specific weed species. They also proved the need for the use of an effective preemergence program to allow the crop to get a head start on troublesome weeds. Research will need to be continued to better understand the optimal timing of applications for Anthem Flex herbicide in peanut.