

CAPRENO, CORVUS, AND BALANCE FLEXX WEED CONTROL AND INJURY IN THE TEXAS PANHANDLE. J. Robinson* and B. Bean; Texas AgriLife Research, Bushland, TX

ABSTRACT

Corvus(Isoxaflutole @ 1.88 lb/gal + Thiencarbazon @ 0.75 lb/gal + Cyprosulfamide), Capreno(Tembotrione @ 2.88 lb/gal + Thiencarbazon @ 0.57 lb/gal + Isoxadifin), Laudis(Tembotrione @ 3.5 lb/gal + Isoxadifin), and Balance Flexx(Isoxaflutole @ 2 lb/gal + Cyprosulfamide) have recently been released by Bayer to provide more options for weed control in corn (*Zea mays*). Studies were initiated to compare the weed control and crop safety of these chemicals in the Texas Panhandle. Applications were made at Preemergence (PRE), Early postemergence (EPOST), and mid postemergence (MPOST). Corvus was applied at 2.42 oz ai/A with and without atrazine at 1 lb ai/A. Balance Flexx rates were 1.5 oz ai/A for split applications and 2.5 oz ai/A for single applications, some treatments also included atrazine at 1 lb ai/A. Capreno rates were 1.3 oz ai/A with glyphosate at 7.6 oz ai/A, and 1.3 oz ai/A with atrazine at 0.5 lb/A. Laudis was applied at 1.71 oz ai/A with atrazine at 0.5 lb ai/A. Applications were made with a tractor mounted CO₂ sprayer using 30 inch nozzle spacing applying 10 gal/A water. Plots were furrow irrigated during the season and maintained using common agronomic practices. Data was collected for weed control [Pigweed (*Amaranthus palmeri*), and Velvetleaf (*Abutilon theophrasti*)], crop injury, and yield. Weed control and crop injury were obtained by visual observation up to 8 weeks after application. Plots sprayed with Capreno MPOST showed the most injury (stunting) two weeks after application (27% for Capreno @ 1.3 oz ai/A). In contrast, Capreno treatments sprayed EPOST showed 2% stunting two weeks after treatment and 0% by four weeks. By the end of the season no stunting was visible in any treatment, and no reduction in yield was observed. Laudis applied EPOST had no injury. No significant injury was observed in Corvus or Balance Flexx treatments applied PRE or EPOST. Application timing and the addition of atrazine appeared to be the most important factors for weed control with Corvus and Balance Flexx. Corvus performed best when applied EPOST with atrazine (97% control for pigweed and 100% for velvetleaf at 68 days after treatment); while Corvus applied PRE without atrazine achieved 47% control of pigweed and 60% for velvetleaf at 88 days after treatment. Balance Flexx applied EPOST with atrazine had 100% control for both pigweed and velvetleaf at 68 days after treatment, but when applied PRE without atrazine control of only 23% for pigweed and 73% for velvetleaf was observed at 88 days after treatment. Capreno performed best when applied EPOST at 1.3 oz ai/A with atrazine (98% control for both pigweed and velvetleaf at 70 days after treatment). Good control was also achieved with Capreno applied MPOST at 1.3 oz ai/A with glyphosate and sprayable ammonium sulfate (80% for pigweed and 88% for velvetleaf at 56 days after treatment). Weed control for Laudis with atrazine EPOST at 70 days after treatment was 85% for pigweed and 100% for velvetleaf. Yields in Balance Flexx treatments did not significantly differ but were the lowest in the Balance Flexx with atrazine applied PRE (133 bu/A), and the highest with Balance Flexx plus Atrazine applied EPOST (175 bu/A). Corvus treatments also were not significantly different but ranged from a low of 150 bu/A with Corvus applied PRE and a high of 174 bu/A with Corvus applied EPOST. Capreno yields ranged from 189 bu/A for Capreno plus glyphosate applied MPOST to 200 bu/A for Capreno plus atrazine at EPOST, and were not significantly different. Laudis yielded 191 bu/A.