



# Mississippi Corn Promotion Board 2023 Progress Report

## Project

Title: Weed Management Programs in Mississippi Corn: Companies Herbicide Programs as Compared to The Standard Program

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## Project Summary (Issue/Response)



A field study was conducted in 2023 at the Delta Research and Extension Center, in Stoneville, Mississippi, to evaluate Companies (such as Syngenta, Corteva, AMVAC, etc.) Herbicide Programs as Compared to the Standard program for Weed Management in Mississippi Corn. Corn (Pioneer 1870YHR) was planted on beds with 40-inch row spacing at a seeding rate of 2.5 seeds ft<sup>-1</sup> on May 3, 2023 and emerged on May 9. Herbicide treatments were as follows: 1) Halex GT at 3.6 pt/a + AAtrex at 1.5 qt/a + COC at 1% v/v at V3-V4; 2) ImpactZ at 8 fl oz/a + AAtrex at 2 qt/a + Roundup PowerMax at 32 fl oz/a + MSO at 0.25% v/v at V3-V4; 3) Impact 1.25 oz/a + AAtrex at 1 qt/a + Dual II Magnum at 1.3 pt/a + NIS at 0.25% v/v + AMS at 0.25% v/v at V3-V4; 4) Impact Core 32 oz oz/a + AAtrex at 1.5 qt/a + Roundup PowerMax + NIS + AMS at V3-V4; 5) Sinate at 24 oz/a + AAtrex at 1 qt/a + Dual II Magnum + NIS + AMS at V3-V4; 6) Resicore XL 3 qt/a + AAtrex at 1 qt/a Preemergence (PRE); 7) Acuron at 1.5 qt/a PRE followed by (fb) Resicore XL at 1.5 qt/a + AAtrex at 1 qt/a + Durango DMA at 32 oz/a + NIS at V3-V4; 8) Acuron at 2.5 qt/a PRE; 9) Acuron at 1.5 qt/a PRE fb Roundup PowerMax3 at 25 oz/a + Acuron at 1.25 qt/a + AMS at V3-V4; 10) Zidua SC at 4.64 fl oz/a + Callisto at 5.8 oz/a + Stinger (clopyralid) at 0.31 pt/a + AAtrex at 1.25 pt/a PRE; 11) Acuron at 1.25 qt/a PRE fb Roundup PowerMax3 at 25 oz/a + Acuron at 1.25 qt/a + AMS at V4-V5; 12) Resicore at 1.25 qt/a + AAtrex at 0.624 pt/a PRE fb Resicore + AAtrex at 0.624 pt/a + Roundup PowerMax3 at 25 oz/a + AMS at V3-V4; 13) Surestart II at 1.25 pt/a + AAtrex at 0.624 pt/a PRE fb Resicore + AAtrex at 0.624 pt/a + Roundup PowerMax3 at 25 oz/a + AMS at V3-V4; 14) Dual II Magnum PRE fb + Roundup PowerMax at 32 fl oz/a + Tough at 8 oz/a + AMS at V3-V4; 15) Acuron at 1.25 qt/a PRE fb Halex GT + AAtrex at 1.5 qt/a + COC at V4-V5; 16) Acuron at 1.25 qt/a PRE fb Liberty at 32 oz/a + Dual II Magnum at V4-V5. A weedy (nontreated) check was included in the study.



## Project Results/Outcomes

There was no corn injury from any herbicide application programs. All herbicide application programs except treatment 14 (75%) provided 90 to 99% control of glyphosate-resistant Palmer amaranth by 11-weeks after emergence (WAE). Only treatments 3, 6, 9, and 10 provided 91 to 95% control of entireleaf morningglory. All treatments provided 91 to 100% control of hemp sesbania and prickly sida. Broadleaf signalgrass control was 90, 94, 94, 91, 89, 93, 94, 93, 88, 95, 89, 83, 85, 94, 90, and 91 from treatment 1 through 16 by 11 WAE, respectively. Yield was affected by Stalk lodging. Weed interference (weedy check) reduced corn yield 51% as compared to the treatment with the highest corn yield. Corn yield was 153, 160, 148, 157, 145, 152, 150, 177, and 147 bu/a from treatment 1, 2, 4, 7, 9, 11, 13, 14, and 16, respectively.

## Project Results

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These are photos of the nontreated check and treatment 1 [Halex GT (mesotrione + *S*-metolachlor + glyphosate) at 3.6 pt/a + AAtrex (atrazine) at 1.5 qt/a + COC at 1% v/v at V3-V4 corn stage.

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## Project Impacts/Benefits

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Weed interference (weedy check) reduced corn yield 51% as compared to the treatment with the highest corn yield. In general, the one-pass treatment of Halex GT at 3.6 pt/a + AAtrex at 1.5 qt/a + COC at 1% v/v at V3-V4 (standard treatment) was as good as any other treatment (either one-pass or two-pass) in terms of weed control and corn yield in this study.

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## Project Deliverables

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This study will be presented at Southern Weed Science Society (SWSS) Annual Meeting 2024.