

2020 Progress Report

Evaluating Novel Herbicide Tolerant Traits in MD Soybean Systems Ben Beale, University of Maryland Extension

Herbicide trials evaluating efficacy of various combinations of post emergent contact and systemic herbicide was established during the 2020 growing season. The selected site was part of a 52 acre field primarily with Sassafras soils with a heavy infestation of glyphosate and ALS resistant palmer amaranth the preceding crop year. A plot design consisting of both Enlist and Xtend soybean varieties was used to evaluate herbicide performance across an early and late treatment. The following 15 treatment protocols were utilized:

1. Control-No Postemergent Herbicide
2. 32 fl. oz. Glyphosate (Roundup Power Max)
3. 40 fl. oz. Sethoxydim (Poast) + 32 fl. oz. Crop Oil + 48 oz. AMS
4. 43 fl. oz. Glufosinate (Liberty) + 48 oz. AMS
5. 32 fl. oz. Glyphosate (Roundup Power Max) + 43 fl. oz. Glufosinate (Liberty) + 48 oz. AMS
6. 32 fl. oz. Glyphosate (Roundup Power Max) + 40 fl. oz. Sethoxydim (Poast) + 48 oz. AMS
7. 32 fl. oz. 2,4-D (Enlist One)
8. 32 fl. oz. Glyphosate (Roundup Power Max) + 32 fl. oz. 2,4-D (Enlist One)
9. 32 fl. oz. 2,4-D (Enlist One) + Sethoxydim (Poast) + 32 fl. oz. Crop Oil
10. 32 fl. oz. Glyphosate (Roundup Power Max) + 43 fl. oz. Glufosinate (Liberty) + 32 fl. oz. 2,4-D (Enlist One) + 48 oz. AMS
11. 43 fl. oz. Glufosinate (Liberty) + 32 fl. oz. 2,4-D (Enlist One) + 48 oz. AMS
12. 43 fl. oz. Glufosinate (Liberty) + 32 fl. oz. 2,4-D (Enlist One) + 40 fl. oz. Sethoxydim (Poast) + 48 oz. AMS + 32 fl. oz. Crop Oil
13. 22 fl. oz. Dicamba (Xtendimax) + 16 fl. oz. Drift Agent
14. 32 fl. oz. Glyphosate (Roundup Power Max) + 22 fl. oz. Dicamba (Xtendimax) + 16 fl. oz. Drift Agent
15. 32 fl. oz. Glyphosate (Roundup Power Max) + 40 fl. oz. Sethoxydim (Poast) + 16 fl. oz. Drift Agent

Data was collected throughout the season including emerged palmer amaranth, percent control of grasses and palmer amaranth 2 weeks and 6 weeks after treatment for both early and late treatments, and percent injury to soybean plants. Data is being analyzed now.