EFFECTS OF COVER CROPS ON CORN AND COTTON YIELDS IN TENNESSEE

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Objective

Complete a post-hoc review and brief statistical analysis of the data collected from Matthew Griggs' Adaptive Management project during the period from 2015-2017. Specifically, this analysis included a statistical analysis of: 1) corn yield data collected at end of the 2016 season; and 2) cotton yield data collected at the end of the 2017 season. Interpretation of trends noted from the soil sampling analysis conducted at various dates through the life of the project (not reported).

Methods

Finding out the differences in the treatment (Cool and Warm season cover, regular rotation and warm season cover). JMP Pro V.13, SAS Institute Inc. showed the visualization for the data. Corn and cotton yield data was analyzed as a randomized, complete block design and least significant differences were calculated in SAS. Yield data was analyzed with the proc GLM procedure and replication was considered random.

Results

2016 corn yield the only statistical difference ($p<0.05$) was between cool/warm season and regular rotation, while regular rotation was not statistically different from warm season cover. 2017 cotton yield there was not statistical differences between cool/ warm season, regular rotation and warm season cover.

Conclusion

Continuation of this project will likely provide data which supports the use of a cover crop. Alterations to the current approach should include less frequent, more intensive soil sampling and some measure of changes in the soil water holding capacity/ infiltration.