Evaluation of The Utility of Dairy Manure In A Soybean-Wheat Rotation In Northeast Texas. (A08-spargo120211-Poster)

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Abstract:

Animal manure generated by confined animal feeding operations in northeast Texas is routinely applied to nearby pastureland where excess nutrients may accumulate and contaminate waterways. Field and greenhouse studies were established to demonstrate the effects of selected dairy (Bos taurus) manure applications on the growth and yield of soybean (Glycine max L. Merr.) and wheat (Triticum aestivum L.) to increase the options for utilizing such manures. Field treatments included dairy manure applied in the fall/spring before planting; NPK fertilizer applied fall/spring; cereal rye (Secale cereale L.) used as a cover crop; and a control. A rotation of soybean (May 2001) and winter wheat (Oct 2001) followed. Wheat yields were 1814 kg/ha for plots receiving the NPK fertilizer treatment or the manure treatment compared to 1680 kg/ha for the control plots. Results suggest that manure applications provide a fertility advantage for wheat planted 12-18 months after application. Greenhouse treatments included two rates of dairy manure; NPK fertilizer; and a control. Soybean was planted and grown to R-7. Harvest index (seed wt./total biomass), as significantly increased by manure treatments.

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