ANALYSIS OF NET PRESENT VALUE OF LIME APPLICATION IN COTTON

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Abstract

Acidification of agricultural soils in central Oklahoma is problematic to crop production. To ameliorate acidic soils producers often rely on the use of lime. Lime application in typically large agricultural fields however can be cost prohibitive, especially in limited yield potential environments. To evaluate the profitability of lime application in cotton an analysis of net present value (NPV) was conducted based on data obtained from field experiments in central Oklahoma. Net present value was evaluated across a planning horizon of 5 years at 3 lint values, 2 lime application cost values, and 3 yield potential levels. Observations from this analysis suggest that positive NPV may not be achieved when strictly following agronomic recommendations for lime application. This is specifically true when considering low yield environments with a high investment cost for lime. For instance, under the lowest lint value and yield levels lime application resulted in a net loss until pH level dropped below 4.8 far below the recommended level for amelioration of 5.5, even though yield loss would be estimated at approximately 30%. Conclusions from this analysis strongly suggest that producers should consider all factors in making an amelioration decision including environment, application and material costs, and market conditions.

References

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