

Sampling Grid Size in Central Kansas

KARA Research Grant
2004-2005

Goessel Agricultural Science
Technology Class

Kansas Agricultural Research Association



Hypothesis

- Goessel, KS farmers should sample on 5 acre grids to minimize input costs while maximizing expected yields (maximizing profit).

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Methodology

- Collected soil samples on local 20 acre field
- Used 1, 2.5, 5, and 10 acre grids
- Pulled eight 6" cores within each cell

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Methodology

- Ran P, N, and pH tests on all 34 samples

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Phosphorous Results

- Levels on all samples were extremely high (70-115 lb/ac)
- Other than a minimal starter, no additional P would be added—no action taken
- No additional benefit from increased sampling

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Nitrogen Results

- Levels on all samples were in the 50 to 55 lb/ ac range
- Very low variability
- No additional benefit from increased sampling

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pH Results

Sample Size	1 acre	2.5 acre	5 acre	10 acre
Average pH	6.2	5.6	5.8	5.9

- Average pH had very low variability as did soil type and texture

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Conclusions

- Goessel soils, at least in this field, lack the variability needed to justify increased soil testing
- Electrical Conductivity testing in 03-04 also showed similar results

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