

Soil Sampling vs. Checkbook Method for Determining Fertility

Kansas Agricultural Research Association



The Problem

- **Rotations and double cropping often don't allow enough time for soil samples to be taken and results analyzed before the next crop is planted.**

Project Objective

- **Can I predict the fertility of the grid sample points by using the checkbook method?**

Methodology

- **There are 4 years of yields for each grid sample point.**
 - **Multiply the yield X removal rate for each year.**
 - **Subtract this from what was applied.**
 - **Equals end fertility.**
- **Compare this to the soil sample results for each grid point.**

Expected Outcome

- **I expect the phosphate to be predictable.**

Summary of Results

Sample ID	July 98 Sample Bray P1	Checkbook Balance	April 03 Sample Bray P1	%Checkbook to Last Sample
<u>1</u>	37.40	69.85	63.80	109%
<u>2</u>	50.60	73.44	52.80	139%
<u>3</u>	59.40	84.87	136.40	62%
<u>4</u>	46.20	77.38	74.80	103%
<u>5</u>	44.00	73.09	52.80	138%
<u>6</u>	30.80	58.71	66.00	89%
<u>7</u>	37.40	72.97	70.40	104%
<u>25</u>	11.00	97.59	28.50	342%
<u>25a</u>	11.00	96.23	28.60	336%

Conclusion

- **Soil Phosphate levels are not directly related to crop removal.**