

POTASSIUM IN OKLAHOMA SOILS:

And
Crop Response to Potash Fertilizer



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Do Oklahoma Soils Need Potash?

Station soils scientists analyzed 6,379 soil samples, representing every county in Oklahoma, to find areas where the potassium content might be low enough to reduce crop yields. They also analyzed samples representing 85 different soil types, and 28 pairs of samples from virgin soils and adjacent areas of cultivated land.

Eighteen percent of the samples were very low in exchangeable potassium, the form which can be absorbed by plant roots. Most of the "very low" samples came from eastern Oklahoma (see map, back cover.)

Cropping has not yet seriously reduced the potassium content of the cultivated soils studied which contained an adequate supply of this element in their virgin condition.

The soils scientists also compared the exchangeable potassium content of various soils with the results of potash fertilizer experiments on those soils. This gave an indication of the variation among crops in response to potash fertilizers. The results are summarized on pages 15 to 16.

Further research is needed to obtain a detailed picture of potash fertilizer needs throughout the State, but this preliminary report indicates where potassium deficiency is most likely to be found. It also presents some suggestions on how to use potash fertilizer where chemical tests of the soil show that it is needed.

THE COVER: K is the chemical abbreviation for potassium. The last figure in a fertilizer grade gives the percentage of potash present. (Potash is the oxide of potassium.) For potassium-deficient soils, a 5-10-5 or a 5-10-10 grade is frequently recommended.

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