Miscellaneous Series #253

COLORADO AGRICULTURAL EXPERIMENT STATION
Colorado A & M College
Fort Collins

Report of POTATO FERTILIZER TRIALS in 1944 in Mesa County in cooperation with the Mesa County Research Committee

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Misc. Series Paper No. 253, Colo. Agr. Exp. Sta.

The potato fertilizer trials conducted in Mesa County from 1942 to 1944 have had under consideration three potato varieties, two locations--the heavy Valley soil and the lighter bench soil and numerous fertilizer combinations and combinations of the minor elements copper, iron, boron, and manganese.

In 1942 on the White Rose variety, an increase of 40 sacks on a 243-sack crop was realized by the use of fertilizer. This is an increase of 16½ percent over the non-fertilized potatoes. The use of 225 lbs. per acre of sulfur gave an increase of 25 sacks per acre on the White Rose variety. On the Triumph variety, an increase of 47 sacks per acre was realized by the application of 25 pounds per acre each of copper and iron sulfates.

In 1943 the best fertilizers gave an increased yield of 31 sacks per acre, or a 17 percent increase, on the Valley soil and 22 sacks per acre, or a 9 percent increase, on the bench soil. All the 1943 trials were on the Cobbler variety. The use of some of the minor elements gave increases of about 20 sacks per acre.

In 1944 it was possible to harvest only three replications of the trial plots on bench soil, and it was not possible to take records on the trials on the Valley soil, so no valid results are available this season.

The best results to date have been obtained with a complete fertilizer applied at the rate of 200 pounds per acre. The best balance seems to be in the ratio of two parts nitrogen, two parts phosphate, and one part potash. With a 10-18-5 analysis, or even a 10-20-0 analysis, applied at the rate of 200 pounds per acre at planting time, the grower may expect about a 15 percent increase in the crop and usually improved quality in the tubers. The cost of the fertilizer would be about $5.00 per acre.

The cover crop trials which Glen Yeager and Robert Gardner have under way at the present time may point out a method for obtaining better results from the fertilizers applied to the land.

(4158-44)