During recent years there has been an increasing interest in the methods of supplying fertilizer materials to various crops. The earlier idea seemed to be that if the soil was low in a given fertility element it could be added by almost any method and satisfactory crops would result. This idea is giving way to the practice of fertilizing each crop by the method that will produce in it the most economical increases. In other words, we are coming more and more to the idea of "fertilizing the crop" rather than "fertilizing the soil." A considerable amount of work has already been done on methods of fertilizing cotton, potatoes, corn, and other crops.

In the past the experiments in the use of fertilizers on wheat in Kansas have had the fertilizer applied broadcast on the surface and worked into the soil by diskng and harrowing. The results have shown slight increases for fertilizer in many cases, but the increases have not been large enough to stimulate a widespread interest in the use of fertilizer materials. In the soil fertility work at Manhattan, small average increases have been obtained for the use of superphosphate, potash, and sodium nitrate. The increases have not been large enough, however, to warrant recommending the use of fertilizers very generally in the northeastern part of Kansas.

In the fall of 1926 a new set of tests was inaugurated in order to find if some other method of application might be used that would give higher increases on the wheat crop for the use of superphosphate or mixed fertilizer. The tests herein reported cover three seasons work on this problem. Part of the work is being continued and some additional new phases are being studied. The tests have been made in some of the less fertile areas on the agronomy farm at Manhattan.

PLAN OF EXPERIMENTS

The principal object in these tests was to determine the effect of broadcasting fertilizer over the whole surface and working it into the soil as compared with applying the fertilizer in restricted areas near the seed in the row. Three methods of row applications were used. In one the fertilizer was distributed in the row in direct contact with the seed, in another it was applied about three-fourths inch above the seed, and in a third about three-fourths inch below the seed.

1Contribution No. 189 from the Department of Agronomy, Kansas Agricultural Experiment Station, Manhattan, Kan. Received for publication December 4, 1929.
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