

More Talk About Fertilizers

NEED FOR POTASH ON SOUTH CAROLINA SOILS

On Coastal Plain Soils Pays Well, Especially on Cotton, but Is Not Needed On the Red Clay Lands

IN STUDYING the plant food requirements for crops and soils at the three South Carolina Experiment Stations, some interesting results have been noted with reference to the use of potash.

At the Coast Station forty pounds of muriate of potash showed an increase of 2.9 bushels of corn per acre when used in a complete fertilizer, as compared with similar soil receiving an equivalent amount of phosphoric acid and nitrogen. Under the same conditions the increase for oats was only three bushels per acre, and the peavines following the oat crop, but unfertilized, showed a gain of 350 pounds of peavine hay. In this same comparison the cotton yields showed an increase of 270 pounds per acre. The increased value of the corn at \$1 per bushel would be \$2.90, the increased value for the oats at 60 cents per bushel and the hay at \$16 per ton would be \$4.60; while the increased value of the cotton at five cents per pound for seed cotton would amount to \$13.50 per acre. The yield for corn is the average of three years' results, for cotton two years' results, and for oats and cowpea hay one year results are used.

At the Pee Dee Station, where only one year's results are available, the use of 83½ pounds of muriate in the fertilizer actually indicates a slight decrease in yield for corn where the comparison is made with a fertilizer carrying the same amounts of phosphorus and nitrogen, but no potash. This may be accounted for by the fact that potash has a tendency to lengthen the growing season of the plant, and, in this way the critical period may have been extended into a drouth. The plot receiving the complete fertilizer to oats showed an increase of 8 bushels per acre of grain and 365 pounds of cowpea hay

over the plot receiving phosphorus and nitrogen. In this series of comparisons the cotton showed an increase of 320 pounds of seed cotton per acre where the potash was used in the complete fertilizer as compared with a fertilizer consisting of the same amounts of phosphorus and nitrogen. Applying the same values to these increases, we find a loss for corn of \$3.20 per acre, a gain for oats and hay of \$7.80, and a gain for cotton of \$16 per acre.

At Clemson the cotton yield where the complete fertilizer was used was identical with the yield of the plot receiving only phosphorus and nitrogen as an average of three years' results. This is on red clay soil of the Piedmont region; while the other two Stations are on sandy soils of the coastal plains region.

These results indicate that it is wisdom to carefully conserve all sources of potash and apply the material to the cotton lands in the coastal plains section of the South.

The materials on the farm that carry potash are: animal manures; crop residues; waste organic materials, as pine needles, oak leaves, marsh grass, swamp muck, and in some cases seaweed may be close enough to warrant gathering and applying; and wood ashes, especially from hardwood trees.

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When to Use Rock Phosphate

DUE to the war demands for sulphuric acid, the price of phosphoric acid has advanced. As a consequence the dealers in fertilizers have been pushing rock phosphate on the market, which, of course, has not been treated with acid.

Although the South is the largest producer of rock phosphate, it remains a fact that farmers of the South are comparatively ignorant of the use of ground rock phosphate as a fertilizer. The danger, therefore, is that the Southern farmer will be disappointed when he undertakes to meet his phosphorus requirements with the rock instead of the acid. He may not know that the ground rock is far from being as readily available for plant food as the acid.

It yet remains for many Southern farmers to learn that ground phosphate rock will give very poor results on most of the soils of the Southern states unless it is applied in connection with barnyard manure or is turned under with the green manuring crop. Phosphate rock requires intimate association with humus or organic matter to become an active fertilizing agent. Since humus is the one great shortage of Southern soils, there is the greatest need of seeing that the ground rock is not applied until this shortage is supplied, at least to some degree. And even when applied where the soil has a good humus content, it should be realized that the same results are not to be expected as those obtained from the more readily available acid with which the farmer is familiar.

In this connection, it may be added that fertilizer dealers are also preparing to put on the market, and have, in fact, already begun to do so—forms of potash to supplant German potash now available in this country. These also are of a lower form than the hitherto regular supply. In both cases, conditions may warrant the purchase and use of these forms of fertilizer which to some extent are temporary expedients, if not temporary necessities.

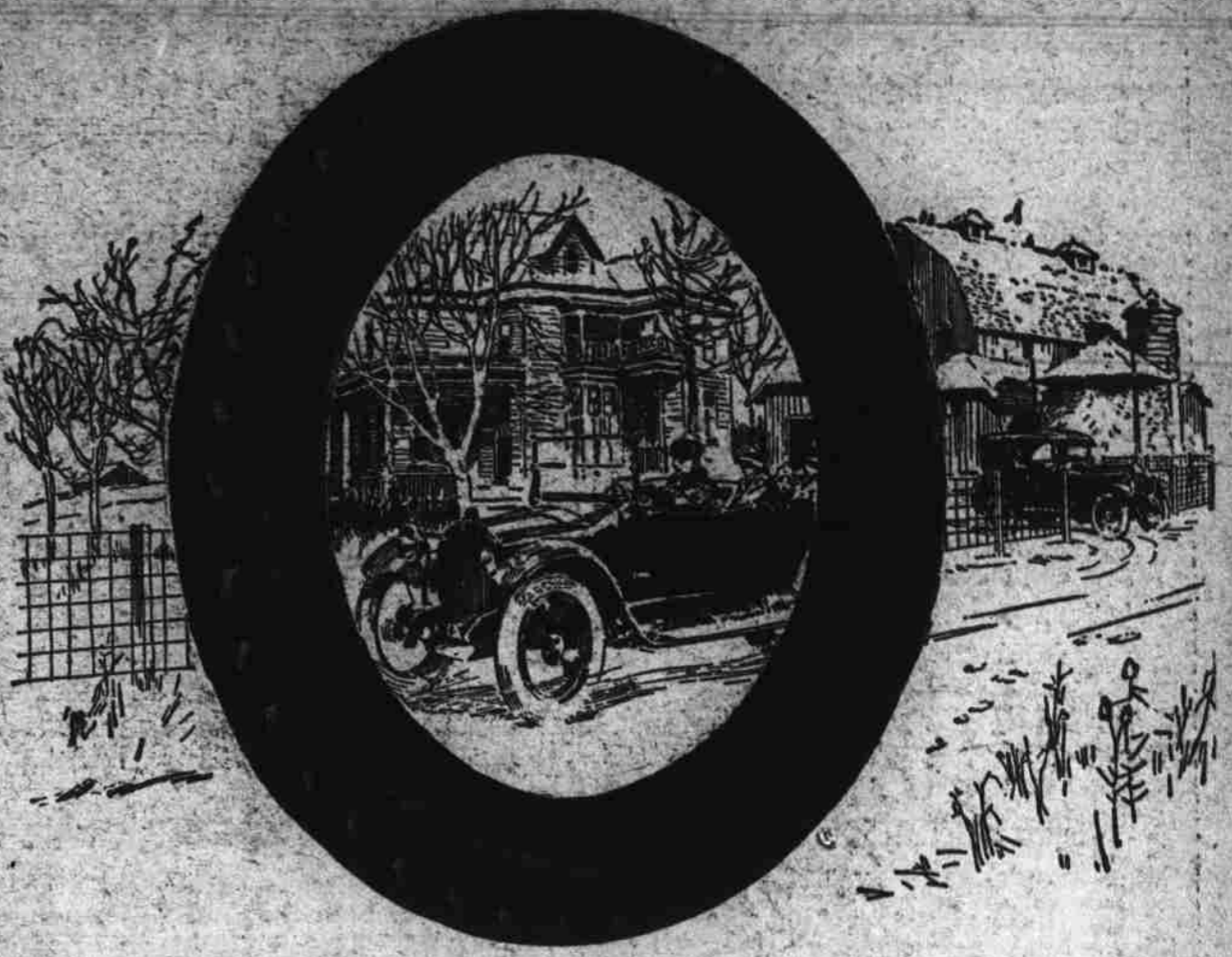
CHARLES A. WHITTLE,
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WHAT HE NEEDED

"Speaking of Christmas presents, why don't you give him the mitten?" the friend asked.

"It isn't a mitten he needs, it's a pair of socks; he's got cold feet."—Selected.

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PUZZLED

Hard, Sometimes, to Raise Children

Children's taste is oftentimes more accurate, in selecting the right kind of food to fit the body, than that of adults. Nature works more accurately through the children.

A Brooklyn lady says: "Our little boy had long been troubled with weak digestion. We could never persuade him to take more than one taste of any kind of cereal food. He was a weak little chap and we were puzzled to know what to feed him on."

"One lucky day we tried Grape-Nuts. Well, you never saw a child eat with such a relish, and it did me more good to see him. From that day on it seemed as though we could almost see him grow. He would eat Grape-Nuts for breakfast and supper, and I think he would have liked the food for dinner."

"The difference in his appearance is something wonderful."

"My husband had never fancied cereal foods of any kind, but he became very fond of Grape-Nuts and has been much improved in health since using it."

"We are now a healthy family and naturally believe in Grape-Nuts."

"A friend has two children who were formerly afflicted with rickets. I was satisfied that the disease was caused by lack of proper nourishment. The children showed it. So I urged her to use Grape-Nuts as an experiment and the result was almost magical."

"They continued the food and today both children are as well and strong as any in the city, and, of course, my friend is a firm believer in Grape-Nuts for she has the evidence before her eyes every day." Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.