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Asphalt saturated Wool Felt
Trinidad Lake Asphalt
Asphalt saturated Wool Felt

WHY WE SHOULD MIX FERTILIZERS AT HOME.

We Can Save the Buying of Potash, Which Our Soils Do Not Need, and Can Mix the Fertilizers to Suit Individual Crops and Soils—We Should Quit Buying Nitrogen.

THAT COMMERCIAL fertilizers, rightly used, pay on most of our Southern soils, no careful observer will deny. But that the average farmer gets the best results and the maximum returns from his investment in such fertilizers, is very doubtful. It is in the abuse, rather than in the use, of commercial fertilizers that 90 per cent of our farmers err.

It has been commonly held that our soils are deficient in three essential elements of plant food, viz: nitrogen, phosphoric acid and potash; but the almost universal result of experiment station tests throughout the Gulf States has been to eliminate potash as one of the needed elements. This considerably simplifies the problem of soil fertility, leaving as it does only nitrogen and phosphoric acid to be supplied. Theoretically, every farmer, through the medium of cow-peas, soy beans, peanuts, and clovers, by returning his cottonseed or their equivalent in meal or stable manure to the land, and by keeping more live stock, should keep his land abundantly supplied with nitrogen. Much "store bought" nitrogen at a quarter of a dollar a pound soon figures heav-

ily on the wrong side of the ledger.

Fortunately more and more of our farmers are beginning to realize these facts, and there is no question but that more nitrogen-gathering crops are being grown every year. This is the real fertilizer problem of the South—the nitrogen supply. When every farmer has solved this problem on his own farm, the rest—the supply of phosphoric acid—will be cheap and easy.

But for the immediate use of those soils that have not been enriched by leguminous crops or manures, some nitrogen is absolutely necessary if profitable crops are to be grown. This brings us to the question of mixing at home such ingredients as will best meet our soil and crop requirements.

Practically every ton of factory-mixed commercial fertilizer contains from \$1.50 to \$2.00 worth of potash. This is worthless on our soils, but when we buy this mixture we pay for it, pay freight on it, and perhaps haul it over several miles of bad roads. To eliminate this potash bill; to mix at a labor cost of from 50 to 75 cents per ton, the same or equally as valuable constituents as those the factories charge perhaps two or three times as much for mixing; and to proportion the elements in such a way as to meet the requirements of different soils and different crops, are some of the things we accomplish by mixing our fertilizers at home.

High-grade meal, containing 6.18 per cent or more of nitrogen and high-grade acid phosphate containing 16 per cent or more of available phosphoric acid, should be used. To thoroughly mix these, only a tight wagon bed or a large dry goods box and a spade and a hoe are necessary. Actual experience proves that this can be done for a cost not exceeding 75 cents per ton, including the re-sacking. The proportions of meal and acid must always be determined by the soil and the crop to be grown, remembering that nitrogen tends to promote stalk growth in any crop, while phosphoric acid promotes fruitfulness and hastens maturity. On the same class of soil, corn or any grass crop will always require a larger proportion of meal than cotton. On average thin Mississippi soil

about two parts acid to one of meal will be about right for cotton; while for corn on the same land about the reverse, that is, two of meal to one of acid, will not be far wrong. But the previous crop growth, the nature of the soil, and the crop to be fertilized must always be taken into consideration. Right here is one of the strongest arguments in favor of the home-mixed fertilizers; for it is manifestly impossible for a fertilizer manufacturer to diagnose, except in a general way, the needs of a soil without having seen it.

In the light of our present knowledge we can safely say that we have no need for potash in our fertilizers. It is also certain that every farmer should run his own nitrogen factory. When this is done and we have quit buying potash, the fertilizer problem will be simple, indeed. But, if while we are working on this problem we have still some nitrogen to buy, let us buy it unmixed and add to it such a proportion of high-grade acid phosphate as will meet the needs of the soil and crops in question.

B. L. MOSS,

Cottonseed as a Fertilizer.

Please advise me as to the best method to apply cottonseed as fertilizer. I wish to use on buckshot land for corn. How to apply and quantity per acre.

A. F. G.

Bolivar Co., Miss.

Editorial Answer.—Unless your farm is located a long distance from a market for cottonseed, so that the expense of hauling would be large, it would seem that at present prices of seed and meal, it would pay best to sell the seed and buy meal. In some sections seed are selling nearly as high as meal, whereas for fertilizer purposes a ton of meal is worth two tons of seed. A ton of cottonseed contains about 60 pounds of nitrogen, 24 pounds of potash and 26 pounds of phosphoric acid. At 20 cents a pound for nitrogen, and 5 cents a pound for potash and phosphoric acid each, a ton of seed is worth for fertilizer about \$14.50.

Cottonseed do not form a properly balanced fertilizer for most soils. The per cent of nitrogen is too high for the amount of phosphoric acid they contain. It is possible that the land in question does not need phosphoric acid, but the strong probability is that it does.

It is generally recommended to apply to corn on average land about equal quantities of cottonseed meal and 16 per cent acid phosphate. If 400 pounds of such a mixture should be used per acre, then it will require 413 pounds of cottonseed and 200 pounds of 16 per cent acid phosphate to give an equal amount of nitrogen and phosphoric acid. This answers the question as to the quantity of cottonseed that should be used. On average land probably 400 pounds to the acre is as much as should be used; but, of course, in some cases more may be found profitable.

When cottonseed are used for fertilizer many prefer to compost them so as to kill their germination. In such case, for every ton of cottonseed used there should be mixed about 1,000 pounds of 16 per cent acid phosphate, and for every ton of stable manure about 250 pounds additional acid phosphate should be mixed with it. Others, again, prefer to kill the seed by wetting them down in heaps and allowing them to heat sufficiently to kill germination.

When seed and acid phosphate are used instead of meal and acid phosphate, they may be applied in the drill and bedded on in the usual way.

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