

sodium or magnesium may be used to some advantage on potash poor soils, and that a decided preference should be given to sodium nitrate as compared with other nitrogenous fertilizer materials.

From a theoretical point of view, both land plaster and lime might be expected to liberate some of the relatively insoluble forms of potash found in the soil, and considerable experimental evidence has been secured at a number of stations in support of this view. These materials would of course be expected to be more effective on the heavier types of soil which have good reserve supplies and less effective on those soils with a low content of potash. Unfortunately, the soils most in need of available potash belong as a rule to the latter class. On the other hand, many soils which are only slightly deficient in potash can be appreciably helped by this indirect means.

In connection with the use of the materials just mentioned, attention may be called to the well established principle that an abundant supply of all the elements of plant food, save one, enables the crop to get along with the minimum supply of the one that is deficient. More liberal applications therefore of both acid phosphate and nitrate of soda seem warranted at this time, from the point of view either of potash conservation or of the high price of crops.

How Diversified Farming Helps

THE writer wishes to call attention now to what he considers the most important means of securing an adequate potash supply for practical farm purposes, viz., diversified farming. Time will not be taken to go into this subject in detail, but diversification naturally results in the keeping of more livestock. The potash from the crops fed can, by keeping the manure under cover, be returned to the land with little loss. In this connection it is of interest to note that experimental results, such as those recently gotten at the Mississippi Station, show that manure can be used instead of kainit to reduce injury from cotton rust. Diversified farming should include a judicious rotation of crops at least some of which may be pastured off. Suppose, for example, a soy bean or a cowpea crop be grown and hogged off. Nearly all of the potash of the crop would be left on the land. Suppose that either a crimson clover or a bur clover crop follow for green manure purposes, would not a cotton crop immediately following be in a fair way to get not only the nitrogen but also the potash needed?

Farmers near towns and cities could probably make much better use of the manure from livery stables and the like than they are doing at the present time. At 30 cents per pound for potash, 15 cents for nitrogen and 5 cents for phosphoric acid, these three elements make the plant food value of a ton of average manure \$3.70. This means that where potash is much needed a longer haul is justified than in the past.

The practice of composting may be revived as recently suggested by the director of the New Jersey Station, Dr. Lipman, who has been experimenting with a compost of soil, rock phosphate, sulphur and a small amount of manure with the prime object of getting available phosphoric acid at a moderate cost. Other materials could, of course, be added and so increase the manure output.

Wherever obtainable along the coast, sea weeds might be used more extensively than formerly. The dry sea weed of the Atlantic coast contains from 1 to 3 per cent of nitrogen, .3 to .8 per cent of phosphoric acid and 2 to 5 per cent of potash. At least one fertilizer concern, Swift & Company, has established a plant on the Pacific coast for the utilization of kelp, which is not burned, but when dried and ground is used in fertilizer mixtures.

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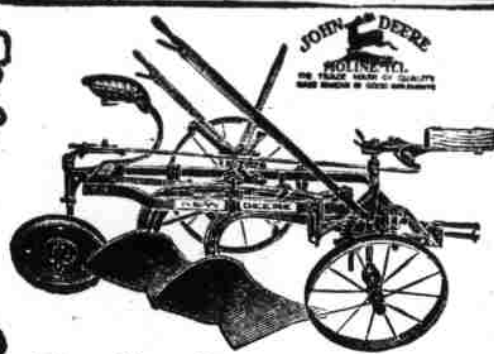
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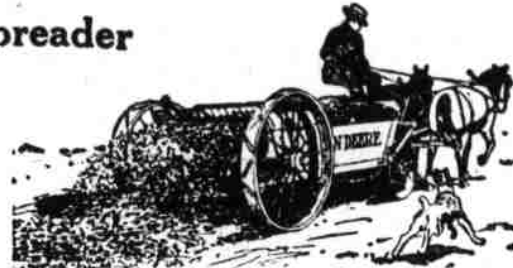
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The Spreader with the Beater on the Axle

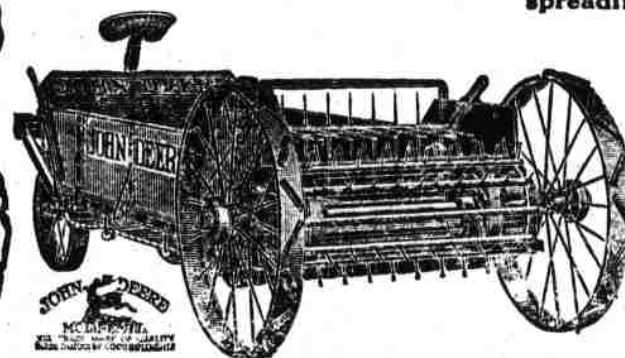
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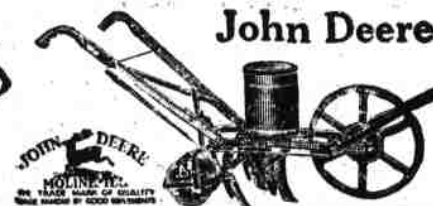
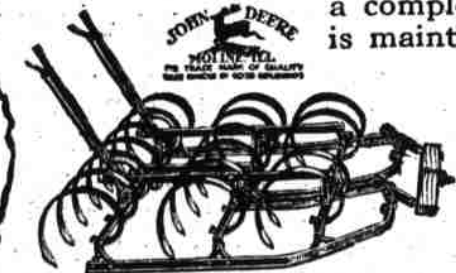
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John Deere OBLIQUE SELECTION, HORIZONTAL CELL DELIVERY SEED PLATE for corn—an accurate drop.

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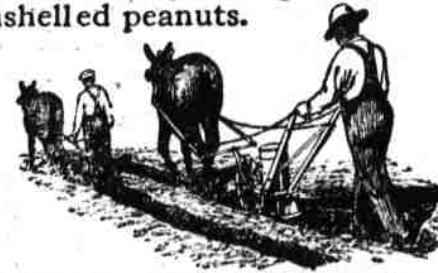
Special shaped shovel with reversible points opens furrow and pulverizes the soil without throwing it up on the face of the shovel. Soil falls behind and covers the seed.

Adjustable press wheel can be furnished. No lever used on this press wheel.

Depth of planting can be regulated with the foot while planter is in motion.

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