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TIMELY FARM SUGGESTIONS

By TAIT BUTLER.

A N ARKANSAS farmer writes: "Some people advise me to put lime on leaves to rot them. What do you think about it?" We would not put lime with these leaves. If it causes them to rot faster, it will cause a greater loss of nitrogen, and this is the most important plant food in the leaves. It would be better to mix acid phosphate or ground phosphate rock with the leaves. This will balance the plant foods better, and will not cause a loss of nitrogen. Use, say 200 to 250 pounds of acid phosphate to a ton of leaves.

W HICH will pay better," asks a farmer "to drill my manure with a manure drill, or broadcast the manure?" If only a small amount of stable manure is available, it may pay better the first year to put it in the drill under the crop, provided it is fine, or well rotted. But as a general rule, stable manure should be put on broadcast. Its effects last for several years, and all the soil should be made to feed the crop. To feed the soil in this way, putting it in the drill, with materials as low in plant foods as stable manure, is too expensive and, moreover, we must give our land manure or humus-forming materials of some sort in larger doses.

A TEXAS reader writes: "A number of the farmers here complain that millet hay affects injuriously a horse's kidneys. Is there anything to this, and if so, what is the cause?" It is rare that the feeding of millet hay affects a horse injuriously in the manner stated; but such results have occasionally followed the feeding of millet exclusively for considerable periods of time. Millet makes a good hay, and when used as only a part of the rough forage ration, it is probably not likely to cause any trouble. As far as we know, the cause of the trouble, or the exact substance which occasionally produces the injurious effects has not been determined. As a matter of safety, millet hay should probably not be made the only rough forage, and the feeding of it should not be continued for long periods.

T HE supply of potassium is usually quite large, except in some sandy soils of the Southeastern States. Even in many soils where the crops respond to applications of soluble potash, there is ample potassium if it were only available for the use of the plants. The business of the farmer, as regards the supply of potash for his crops, is generally a matter of making that in the soil available, rather than the adding of additional supplies. Of course, until he has succeeded in doing this, if application of potash to his crops pays, he should continue to use fertilizers containing soluble potash. The potassium in the soil is made available by the application of lime and stable manures or decaying vegetable or organic matter. In a system of farming which involves the growing of large quantities of rough forage and the feeding of this on the farm, the supply of potash is not likely to become a serious problem, but if the rough forage is sold from the farm, the depletion of the supply is considerable.

The Better Way to Get Humus.

A YOUNG Arkansas farmer wants to know if it "will pay to gather leaves, cover them with dirt, and haul them on the land next spring, that he intends to cultivate."

Oak leaves (presumably air dry) contain, according to Van Slyke, 16 pounds of nitrogen, seven pounds phosphoric acid, and three pounds of potash in one ton. These amounts of plant foods are worth, at present prices, around \$3.25. It will take a lot of dry leaves to weigh a ton, and this farmer can better judge as to whether he can afford to do this work. There is one other value to the leaves, however, which he should not overlook, and that is their humus-forming value. This is a value which must be added to their real plant food value, and for most Southern lands, is of great importance.

If no other work is pressing, and the leaves can be gathered and put on the lands cheaply, it may pay. In fact, it may pay anyway, if no better way of supplying plant foods and humus is practiced; but it will pay this young farmer better to grow crimson clover during the winter or

cowpeas or soy beans during the summer, and plow them under to improve his land. About once in two or three years such a legume crop should be plowed under and the other years it should be fed and the manure put on the land.

Time to Begin Practicing Co-operation.

A READER says that the farmers of his section "would co-operate in marketing butter, eggs, chickens, canned vegetables and similar products if they knew how."

That is the point. We have had several years' discussion thru the press, and at farmers' meetings, about the importance of co-operating, and the wonderful results that will follow this co-operation, and it certainly does appear to one who has observed the trend of this discussion that the time has come for less agitation and generalities, and a little more definite instruction. We know what we ought to do, and what the benefits will be from co-operative marketing; but now some one should show the farmers how they can co-operate.

It is doubtful, if left to themselves, if the farmers, as a whole, will make much progress in co-operative activities; or if they make such progress, it will be too slow.

The need is for organizers who actually know how to show the farmers how they can co-operate. It seems to me the agricultural colleges and Departments of Agriculture, thru their extension work, must supply this need. Why not each State develop a Department of Farm Marketing? The difficulties in the way of economically marketing farm products are peculiarly great, and these, with the importance of the matter, should justify something being done that will bring forth results. We have probably preached long enough, and some teaching is now in order.

It is always easier to tell how a thing should be done than to do it. There are scores to tell why and how the farmers should co-operate in marketing farm products, but what we want is someone who will actually do the thing, and in that way show the farmers how they may do it. No more important line of work can be done by the extension departments of our agricultural institutes, and they should lose no time in putting men to work who can and will actually get farmers to co-operate in marketing their products.

Don't Expect Definite Answers to Every Question.

T HE man who answers an agricultural question in a few words and with positive statements, gives the most pleasing answer to the average question; but he does not usually give the most accurate and the safest answer. Frequently an agricultural question may be answered in a few words and the answer be correct for one set of conditions or one locality and be entirely wrong for another locality. Or an answer may be literally correct and still be misleading, unless fully explained. Moreover, an answer to a question, which does not make clear the reasons for such answer, will usually do no good except to guide the course of the one who asks the question in that single case. It is useless for other people and other conditions. There are also many questions asked the answer to which is not known by even the best informed, but for which the less well-informed may promptly offer a positive solution. Beware of the authority that can solve problems and is positive and definite with his statements in all cases. These men usually need to "unlearn" a whole lot. There are too many variations in nature and too many unknown quantities to enable anyone to reduce his answers to agricultural questions down to mathematical brevity and accuracy. The agricultural writer or teacher who says "I don't know," is apt to be unpopular and lose respect with the masses, but if one be informed sufficiently and is fair, he must often frankly admit that he doesn't know. Such a man is usually a safe guide in agricultural matters, for he must needs know a great deal in order to know when he doesn't know. For instance, the man who states that livestock will take 10 per cent of the fertilizing value out of

feeds; that is, that 90 per cent of the original fertilizer value of a feed will pass thru the animal and be found in the droppings, may or may not be correct; but the one who takes the time or space to state that animals take only about 8 to 25 per cent of the fertilizer value out of feeds, and that the larger amount may be taken out by a young growing animal and the smaller amount by a mature fattening animal, gives the safest, most accurate and best information, even if he be not so brief and positive in his statement.

A Question of the Unanswerable Sort.

A READER asks: "How much and what kind of fertilizer ought to be used on thin sandy cent acid phosphate at \$16 a ton, or a under in the spring?"

We are not told what the crop is to be, nor what crops have grown on the land recently—just simply that it is thin, sandy land, and a crop of rye is to be turned under. No one can give intelligent advice with this small amount of information, but probably, if fertilizers generally pay on this land, a fertilizer containing at least nitrogen and phosphoric acid should be used. For corn, probably equal parts of cottonseed meal and 6 per cent acid phosphate, using 200 to 400 pounds to the acre, may prove satisfactory; but for cotton, a mixture of one part of cottonseed meal to two parts of acid phosphate and an application of 400 to 500 pounds per acre would probably be better. Or simply an application of acid phosphate, 200 to 300 pounds per acre, might be made before planting the crops, and then about two applications of nitrate of soda made as a side dressing while the crops are growing. If two such applications are made, one quite early and the second about the time the cotton begins blooming, and when the corn is shoulder high, from fifty to seventy-five pounds of nitrate of soda per acre may be used each application.

A Problem in Fertilizers.

A READER wants to know which is cheaper, cottonseed meal at \$30 a ton and 16 per cent acid phosphate at \$16 a ton, or a mixed fertilizer containing 8 per cent of phosphoric acid, 25 per cent of nitrogen and 2 per cent of potash, at \$23 a ton.

We cannot answer this question better than to make a mixture out of the cottonseed meal and acid phosphate, having as nearly as possible the same amounts of plant foods as the mixed fertilizer, and see which costs the most.

770 pounds of cottonseed meal (6.5 per cent nitrogen, 2.5 per cent phosphoric acid, and 1.5 per cent potash) and 880 pounds of 16 per cent acid phosphate will contain:

50 pounds nitrogen,
160 pounds phosphoric acid,
11 1/2 pounds potash.

One ton of 8-2 1/2-2 fertilizer will contain:

50 pounds nitrogen,
160 pounds phosphoric acid,
40 pounds potash.

Since our reader lives in Mississippi, he can safely disregard the deficiency in potash in his mixture of cottonseed meal and acid phosphate, for this potash will probably be of little or no value to him; but if he lived in the Southeastern States, he would need to add 28 1/2 pounds of potash, at a cost of from \$1.20 to \$1.40.

Now what is the difference in the cost of these two fertilizers?

770 lbs cottonseed meal at \$30 a ton.. \$11.55
880 lbs acid phosphate, at \$16 a ton.. 7.04

Total

Or if he adds
60 lbs muriate of potash, at \$40 a ton 1.20

Total

One ton of 8-2 1/2-2 fertilizer..... \$23.00

Difference

In this case the ready-mixed goods cost \$3.21 more than the home-mixed goods, but it is only fair to add to the cost of the home-made mixture the cost of mixing, which may be about 50 cents, leaving a final difference of \$2.71. For our reader who asks this question, the difference would be \$3.91, since he does not need the potash in the ready-mixed fertilizer; moreover, he will only have to haul and handle 1,650 pounds instead of 2,000 pounds.