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Timely Farm Suggestions

By TAIT BUTLER

Different Fertilizers Compared

A READER has a 3-8-3 fertilizer offered him at \$46.50 per ton and a 2-8-2 at \$37.60. The first is composed of materials as follows:

300 lbs. cottonseed meal.
100 lbs. nitrate of soda.
100 lbs. fish scrap.
100 lbs. animal tankage.
Acid phosphate.
Muriate of potash.

The second, or 2-8-2 mixture, is of the following materials:

200 pounds cottonseed meal.
100 pounds nitrate of soda.
100 pounds tankage.
Acid phosphate.
Muriate of potash.

"What are their values as fertilizers for cotton and corn? Which is cheaper?"

This reader lives in the Southeastern Coastal Plain region, and his sandy soil probably requires the potash these fertilizers contain.

Allowing 25 cents a pound for nitrogen, 10 cents a pound for phosphoric acid and 15 cents a pound for potash, the plant foods in a ton of 3-8-3 fertilizer are worth \$40 and in a 2-8-2 fertilizer \$32.

This is a higher price for nitrogen than it costs in nitrate of soda, but nitrogen cannot be bought for even this price in the materials which supply the nitrogen in these mixtures. If we had allowed 35 cents a pound for the nitrogen in these mixtures, then the plant foods in a ton of the 3-8-3 would have had a value of \$46 and those in the 2-8-2 mixture a total value of \$36.

It is apparent from the foregoing that these two mixtures are priced on very nearly the same values for plant foods, but since the higher grade 3-8-3 is probably a better balanced fertilizer, especially for cotton, and the freight and handling charges will be less per pound of plant food, we would advise our reader to use the higher grade fertilizer. This will be a good fertilizer for cotton, but for corn the potash in it may or may not be profitable, depending on how deficient the soil is in potash.

This reader says: "Would it be better to buy either one of the ready mixed fertilizers or buy the ingredients and mix them? I have been mixing at home, but meal has advanced until it is rather high for fertilizer. It costs \$78 per ton and nitrate of soda \$65 delivered."

If our reader is to use cottonseed meal at \$78 a ton to supply his nitrogen, little will be gained by mixing his own fertilizer unless he gets his acid phosphate and potash materials very cheap. Allowing 10 cents a pound for the phosphoric acid and 15 cents a pound for the potash in cottonseed meal, then at \$78 a ton the nitrogen costs 59½ cents per pound in 7 per cent meal (5.76 per cent nitrogen) and 55¼ cents a pound in 7½ per cent meal (6.18 per cent nitrogen).

With 15 per cent nitrate of soda at \$65 a ton, a pound of nitrogen costs only 21¼ cents. Our answer is, therefore, if our reader makes the mistake of buying cottonseed meal to supply his nitrogen at a cost of from 55¼ to 59½ cents a pound when he can buy it in nitrate of soda at 21¼ cents a pound, he might as well buy the ready-mixed goods,

in which such high-priced nitrogen-supplying materials are used; but if he will buy his nitrogen in such materials as nitrate of soda or sulphate of ammonia, then he will find it profitable to mix his own fertilizers instead of buying ready-mixed goods in which the high-priced nitrogen-supplying materials are so largely used to supply the nitrogen.

A pound of nitrogen in nitrate of soda is worth as much to the crops as a pound of nitrogen in any of these high-priced nitrogen-supplying materials.

Fertilizing Value of Raw Bone Meal

A READER asks: "What is the availability of the phosphoric acid in raw bone meal, analyzing 18.3-4? Will 1600 pounds of this with 400 pounds of nitrate of soda be a good fertilizer for cotton and corn?"

Raw bone meal gives up its phosphoric acid less readily than cooked or steamed bone meal, because the steaming removes the fat or oil which makes the decay of the raw bone less rapid. The fat is objectionable for another reason, namely, that it makes the raw bone more difficult to grind fine. The finer the bone meal is ground the more rapid the decay and the more quickly the phosphoric acid becomes available.

Van Slyke says: "Under favorable conditions it is believed that from one-third to one-half of the phosphate in bone becomes available for crops during the first growing season after its application. The balance becomes available in the course of two or three years."

So much depends on the condition of the bone meal and of the soil that considerable variations in the availability of bone meal are sure to occur.

A mixture of 1600 pounds of bone meal containing 18.3 per cent of phosphoric acid and 4 per cent of nitrogen and 400 pounds of 15 per cent nitrate of soda will give a fertilizer containing 6.2 per cent of nitrogen and 14.64 per cent of phosphoric acid.

This should make a good fertilizer for cotton and corn on land which does not require a potash fertilizer. But this inquiry comes from South Carolina, where potash is often needed, especially for cotton and on the more sandy types of soil.

Some Commercial Fertilizer Prices and Relative Values

A SOUTH Carolina reader sends us the following quotations on fertilizer materials, with the request that we tell him which are the cheapest. We give them exactly as they were given to him, as an example of bad business methods and to show how prices ought not to be quoted. To say the least, our reader may well be excused for not knowing what is meant by some of the items. The quotations follow:

Nitrate of soda: \$3.02½ per 100 pounds ex. vessel Savannah and Charleston.

Nitrapo or nitrate of potash: Analysis about 17 per cent ammonia and 12 per cent to 17 per cent water soluble potash, in single bags ex. vessel on arrival at a price of \$3.10 per hun-

dred pounds for nitrate and \$1.60 per unit of potash per ton of 2,000 pounds.

Sulphate of ammonia: 100 tons in bulk at \$4.75 per hundred pounds c. a. f. Savannah, Charleston.

Seven per cent cottonseed meal: At interior points in Georgia and South Carolina, \$74 per ton, bagged.

German kainit: 12 per cent potash in bulk. \$30 per ton of 2,000 pounds 20 per cent K²O in bulk, \$50 per ton ex. vessel. In bags at \$4 per ton additional. Muriate of potash, 48 per cent to 51 per cent K²O, single bags, at \$125 per ton of 2,000 pounds basis 80 per cent, ex. vessel on arrival.

Acid phosphate: 16 per cent bagged, tagged, f. o. b. Savannah, \$23 per ton. Other quotations follow:

A ready mixed fertilizer 8-4-4, \$51.50 per ton. Soft phosphate, 32 per cent phosphoric acid, 68 per cent B. P. Lime, at \$18.50 a ton delivered.

Is it any wonder that our reader asked for help to determine which he should buy?

It is to be presumed that these quotations were made for the purpose of selling, but it would be difficult to conceive a manner of stating prices which would be more likely to prevent a sale being made. Why will those who sell fertilizers persist in such a confusion of terms and methods of quoting prices, instead of following the common sense method of stating the price per pound of plant food in the different materials, so that any one can understand what is meant?

We shall attempt to interpret these quotations in terms of prices per pound of plant foods, and then our reader will probably need no further help to decide which material he should buy.

Nitrogen from nitrate of soda (15 per cent nitrogen) at the price quoted will cost 20.17 cents per pound.

Nitrogen from sulphate of ammonia (20 per cent nitrogen) will cost 23.75 cents per pound.

Nitrogen from cottonseed meal (5.76 per cent nitrogen), allowing 8 cents a pound for the phosphoric acid and 12.5 cents a pound for the potash it also contains, will cost 57.29 cents a pound.

Nitrogen from "nitrapo" or nitrate of potash as quoted will cost 22.14 cents a pound.

Potash from nitrate of potash, will cost 8 cents a pound.

Potash from kainit, manure salts and muriate of potash, as quoted, will cost the same, 12½ cents a pound.

Phosphoric acid (available) in 16 per cent acid phosphate at \$23 a ton, will cost about 7.2 cents a pound.

Phosphoric acid in soft phosphate costs, at the price quoted, 2.9 cents a pound.

The plant foods in an 8-4-4 fertilizer, allowing 25 cents a pound for nitrogen, 10 cents a pound for phosphoric acid, and 15 cents a pound for potash, are worth \$48.

The following comment should probably be made on these quotations.

1. All these prices are at the port and the cost of delivery must be added.

2. Nitrogen is furnished cheaper per pound, in these quotations, in nitrate of soda.

3. Potash is furnished cheaper "nitrapo" or nitrate of potash with every 12 to 17 pounds of soluble potash obtained in

rial there is mixed with it 14 pounds of nitrogen, which must be bought with the potash. And while the potash is 4½ cents a pound cheaper than in the other potash materials the nitrogen is about 2 cents a pound higher. But in making a fertilizer in which it is desired to use both nitrogen and potash, this material will furnish these plant foods cheaper than by a mixture of any of the other materials quoted.

4. Since the price of 12½ cents a pound for potash in kainit and manure salts is for these materials in bulk and the same price for a pound of potash is asked for muriate of potash in bags, and the freight will be less on a pound of potash in muriate of potash than in kainit or manure salts, the muriate is the best source of potash of these three materials.

6. Phosphoric acid costs nearly three times as much per pound in acid phosphate as in soft phosphate rock, but all of that in acid phosphate, that is the 16 per cent, is available; while there is no guarantee stated as to the per cent of phosphoric acid available in the soft rock. The value of any phosphate material is dependent very largely on its solubility or availability.

7. As to the materials quoted for supplying nitrogen and potash, a pound of plant food in one material is sufficiently near the same value as from another material to make it pretty safe to take the material which supplies a pound of plant food for the least cost.

VETERINARY PROBLEMS

Grazing Frosted Lespedeza

A READER asks: "Is there any danger in cattle grazing frosted lespedeza? Last year I lost two steers on a good cornstalk pasture. They died suddenly. I want to pasture corn stalks again this year on the same farm. Is there anything that can be done to reduce chance of loss?"

There is no danger in grazing lespedeza that has been killed by frost. In fact, lespedeza is probably injured less than most pasture plants by frosts that kill it, for if there is sufficient growth to give enough feed, the cattle will do well on lespedeza late into the winter, or as long as it lasts.

The steers that died in the stalk field probably died from what is known as "corn stalk disease." While the disease has been observed for many years in cattle turned into corn stalk fields in the fall, little is known of its cure or prevention, except to keep the cattle out of the stalk fields.

Death, when it occurs, usually comes suddenly in cattle apparently in good health only a few hours before; but some cases may linger for a day or two.

The disease resembles or belongs to the disease or group of diseases known as "hemorrhagic septic" which affects horses, cattle, sheep, hogs, but only cattle seem to suffer from it in the stalk