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The Progressive Farmer.

CLARENCE H. POE, Editor and Manager.
B. W. KILGORE, }
C. W. BURKETT, } Agricultural Editors

A LITTLE LETTER TO THE SAMPLE COPY READER.

My Dear Sir:—If this number of The Progressive Farmer has come to you marked "Sample Copy," it is because we are sending copies this week to a considerable number of progressive North Carolina farmers not now on our subscription list, and you are one of these. We mailed you one other copy some time ago and you doubtless know something of our paper—that it is a North Carolina farm paper, especially adapted to North Carolina climate, crops, soils and conditions, and therefore a paper that no progressive North Carolina farmer can afford to be without.

All of the men on The Progressive Farmer staff were raised on the farm, have had practical experience in farm work, and most of the staff are running North Carolina farms now. Quite probably you have seen our Prof. B. W. Kilgore at some Farmers' Institute. He has managed the State test and experimental farms for years, and nobody in the South knows more about soils and fertilizers than he. And our Dr. C. W. Burkett, Agriculturist of the North Carolina Experiment Station,—well, it's worth a year in an agricultural college just to go over Dr. Burkett's A. & M. College farm in summer and see the improved methods of cultivation, rotation, ditching, seed selection, fertilizing, etc., etc., that bring about the big crops he gets every year.

But these are only a few features. Scores of the most progressive and successful farmers and stockmen in this and adjoining States write regularly for our columns, while our literary, household and news features make The Progressive Farmer a paper that you and your family simply can't afford to be without.

And this sample copy is sent you just because we believe that when you learn of our remarkable subscription offer, you will no longer try to do without our paper. This is the offer—and it is the most liberal The Progressive Farmer management has ever made:

In clubs of three or more, The Progressive Farmer will be sent to new subscribers from now till January 1, 1905—nearly nine months—for only 50 cents. And when any man tries to get a club of three but fails, the paper will be sent to one or two names at the same rate. This offer is good till May 10, 1904.

Nor is this all. Fifty cents for the rest of the year is attractive enough—but we add to that our standing offer to refund your money if you are not satisfied. And all we ask is that you ask two of your neighbors to share this 50-cent offer with you; if you fail to get them, send on your own half dollar, and The Progressive Farmer will be a regular visitor to your home from now till January 1, 1905. Hoping that we shall hear from you promptly, I am,

CLARENCE H. POE,
Editor and Manager.

LOSS IN FERTILIZERS ON KEEPING.

The question is frequently asked as to whether or not the fertilizer materials, acid phosphate, kainit, muriate of potash, sulphate of potash, cottonseed meal, blood, fish scrap, nitrate of soda, etc., or the mixed made fertilizers from these, lose any of their fertilizing properties by standing or keeping over from one season to another. There are only two ways in which loss could occur, namely:

(1) By rotting or decay of the materials and the change into gases which would enable them to evaporate and pass off in the air, and,

(2) By being dissolved in water from rain or other sources and washed away.

Neither acid phosphate nor any of the materials supplying potash evaporate, though a great many think they may be lost from the fertilizer sacks in this way or from the soil after they are applied to the land. The only danger, then, of loss of phosphoric acid or potash from any of the materials supplying them, is from exposure to rain, which would dissolve them and carry them away or where the materials or the sacks containing them are left in damp places the water from the soil will come in contact with them and dissolve some in this way.

Sulphate of ammonia, which furnishes nitrogen, does not evaporate, neither does nitrate of soda, when unmixed with other fertilizer materials. These are very soluble in water, however, and there is great danger in loss from exposure to rain.

When cotton-seed meal, dried blood, fish scrap, tankage, and similar materials are kept thoroughly dry, there is practically no loss from keeping them, long periods, even for a number of years. When they are moist, however, or become so on exposure, decomposition sets in slowly and there is loss of the nitrogen, or ammonia, in them. As long as cotton-seed meal retains its bright color there is no loss from standing and even after it becomes quite dark there has not been very much loss, but this change in color indicates slow decomposition and consequent slight loss. After this has been going on for sometime the loss may be considerable. The same applies to the other materials. These last materials are but slightly soluble in water and there is but slight loss in them from solution, though becoming wet on exposure of course hastens their decomposition and increases loss.

When these materials are mixed, either by the manufacturers or at home to make complete fertilizers for various crops, with few exceptions there is little or no loss on standing, provided the fertilizers are kept in dry, protected places and are not exposed to rain. Where the materials are dry and in nice condition fertilizers may be kept one or more years in this way without deterioration. With acid phosphate, either alone, or in mixed fertilizers, there is usually some change on long standing, especially where there is iron or alumina in considerable quantity in the original phosphate rock from which the acid phosphate was made. The iron and alumina makes some of the phosphoric which was soluble and available again insoluble and of less value

to plants. Where cinder, which is the refuse from which the manufacture of sulphuric acid at the fertilizer plants, is mixed with acid phosphate or fertilizers, as is sometimes the case in late years, some of the phosphoric acid is rendered insoluble by it, when the fertilizer stands for a considerable length of time. Where this is not done and where the phosphate rock does not contain originally very much iron and alumina, the acid phosphate or mixed fertilizer from it will keep one or more seasons without material change in value.

There may be, and frequently is, considerable loss from nitrate of soda, due to its decomposition by acid phosphate, when mixed with this material alone or along in mixed fertilizers. In high grade trucking goods, where a large amount of the nitrogen, or ammonia, comes from nitrate of soda, there may be a loss of several per cent of nitrogen, or ammonia, from decomposition in this way in the course of a few months. The dryer and more protected the material is kept, the less will be the loss, and if allowed to become damp either from exposure to rain or from being put in damp place, or even from exposure to the air, in moist climate, the decomposition will be materially hastened.

Outside of the cases enumerated above, there is very little change or loss in fertilizers or fertilizer materials from standing reasonable lengths of time, and observation of the precautions given will decrease losses where the conditions are favorable for them.

After the fertilizer materials or fertilizers have been applied to the soil the conditions are, of course, different; even then the phosphoric acid and potash can only get away by washing with the surface soil into drains, or else leach through the soil into them. The nitrogen, or ammonia, in the materials supplying them may be lost in the same way, and in addition, by decomposition and evaporation in the air.

B. W. KILGORE.

CULTIVATORS AND FARM TOOLS.

A Warren County reader of The Progressive Farmer writes as follows:

"Do you know of a cultivator that can be run astride the cotton and corn now while the plants are small—one that will scrape off both sides of the cotton at once and then 'side up' the same way, while the team goes on one side? Maybe Dr. Burkett might know."

I do not know of a cultivator that plows one row at the time, both sides, and that permits the team to walk on one side of the row. There are a number of cultivators that do just what our correspondent wishes, but the team straddles the row, so to speak. We are using just such a cultivator for the cultivation of our corn, and find it, of course, thoroughly satisfactory. I might say that throughout the corn regions the whole of the corn area is cultivated by a two-horse corn cultivator driven by one man and two horses. Can we not answer the labor question to a good extent from the standpoint of farm machinery? Two horses to plow, two to plant, two to cultivate, and only one man to drive. Not only do we save the labor of one man, but the work by improved machinery is so much more effectively done. Whether there is a cultivator like the correspondent desires, I do not know. I rather think there is not. In fact, I think there is an advantage by the cultivator straddling the row, cultivating on both sides of that row, and the two animals that draw the plow on the two sides of the row. This is the plan on which all of our two-horse cultivators are built, and it seems to me the most effective plan.

C. W. BURKETT.