

Soils, Crops and Fertilizers

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Inquiries of Progressive Farmer readers cheerfully answered.

A BROADER FIELD OF AGRICULTURAL WORK.

For twelve years I have been connected with the agricultural work of the State in the Department of Agriculture and the Experiment Station. In that time I have obtained a considerable amount of information regarding the agriculture of the State, the needs of the different sections, and the adaptability of the various soils to different crops, together with the fertilizer applications and culture methods which will give best results. A large correspondence has developed with the farmers of the State on various farm matters. Our work of investigation and experimentation in the laboratory and on the Test Farms of the Department of Agriculture in the different parts of the State and at the Experiment Station is enabling us to answer more definitely and thoroughly than ever before the various questions which come to us regarding crops, soils, fertilizers, etc. This correspondence is growing rapidly in numbers and importance.

About all that we can expect to do in the columns of *The Progressive Farmer* is to give greater publicity to the more important and widely applicable matters about which we write individuals by putting results in shape for the general reader. We shall be glad to have such inquiries as are of general interest to a considerable number of persons or to a section, and in answering these and in presenting such other materials as will help to a better and more productive agriculture, we shall be following our former chosen line of work and aiding, we hope, in developing our agricultural interests.

It is with these ideas in view—the reaching of and giving to a larger number of persons interested in farming the work that is done for them in this State and elsewhere—that I have undertaken to conduct a department in this paper.

ON THE USE OF LIME IN CROP GROWING.

The following inquiry comes from a Nash County reader of *The Progressive Farmer*:

"Please tell me through your paper what kind of lime is the best for sand, rock or shell lime? How much should be applied to the acre and what does it cost a ton?"

The quality of lime will depend on the purity of the materials from which it is made. Some limestone from which rock lime is made is composed almost entirely of carbonate of lime, and in this case the rock lime would be of very high quality. Some limestones, however, contain impurities and the lime from these would, of course, be of greater or less value, according to the impurities. Shell lime from good clean shells is almost if not as good as rock lime, though sometimes the shells contain considerable sand and dirt, which reduces the grade of the lime. The actual lime from shells and from rock lime is of equal value. Shell lime can be had for from \$5.00 to \$7.00 per ton, according to quality and quantity.

In the eastern part of the State there are considerable areas of black soils which contain large amounts of vegetable matter. They are generally known locally as "pocosins" and are, as a rule, quite productive when first cleared, but often after a few years cultivation get in such a condition that they will not grow a crop of any kind. To all outward appearances these are rich and valuable lands. They have been formed by the accumulation of large amounts of vegetable matter in the low basins. The decomposition of this vegetable matter produces acid or sour soils. A considerable number of analyses of these soils show them

EFFECT OF FERTILIZERS AND LIME ON BLACK OR "POCOSIN" SOIL.



NOTHING.

LIME.



ACID PHOSPHATE.

ACID PHOSPHATE, KAINIT.

to be comparatively rich in ammonia-furnishing materials, but deficient in potash and phosphoric acid, and as stated above, are sour. Lime will correct the sourness. There are other sandy soils as the pocosin soils, but yet are composed of a great deal of vegetable matter, and also benefited by the lime. On a great many of these soils sorrel grows quite extensively. This is evidence of sourness, and such lands, as a general rule, are in need of lime.

On the Edgewcombe Test Farm of the Department of Agriculture, some experiments were made in 1901 (January Bulletin, 1902), to test the effect of lime and other fertilizer constituents of the black soils, which had been long in cultivation, but which had not produced a crop to amount to anything for a number of years. Twenty-four-inch tiling were put in the ground and filled with this black soil. The two cuts, made from photographs taken of the cotton on September 7th, show the effect of the different applications. The effect of lime is seen to have been quite marked; potash as kainit was beneficial and acid phosphate did some good. In addition to these experiments we have recommended farmers to try acid phosphate, lime and kainit on considerable areas and a considerable number of them have reported good results. Soils containing large amounts of vegetable matter will frequently require as much as one ton per acre of lime to counteract the sourness, but an application of 500 to 1,000 pounds will give temporary relief and last for two or three years, possibly longer, depending on the amount of vegetable matter in them.

I would therefore recommend the application of 500 to 1,000 pounds of lime per acre, broadcast, in the fall, winter, or early spring, the sooner the better, as it requires some time for the lime to get well into the soil and correct the sourness. This treatment may then be repeated when the crops show the need of further lime. After the application of lime it is well, at planting time, to apply on pocosin soils in the drill, for corn one to two hundred pounds per acre, and for cotton two to four hundred pounds per acre of the following mixture:

Acid Phosphate200 pounds.
Kainit100 pounds.

Results of Georgia Experiment Station's Variety Test of Cotton.

"Press Bulletin," No. 44, from the Georgia Experiment Station, has just been received at *The Progressive Farmer* office. The Director says that this 4-page folder is merely preliminary to the regular Cotton Bulletin, which will appear later in January, and will not be sent out to the general mail list, but only to newspapers and to those making special request for the same.

From the bulletin we find that of the 21 varieties tested the following ten occupied the first half of the list, in the order in which they appear, the position of each variety being determined by the total market value per acre of its product of lint and seed, on the basis of 12 cents per pound for lint and 70 cents per 100 pounds of seed. The "honor" list is as follows:

(1) Cook's Improved (value of lint and seed per acre), \$78.17; (2) Prize, \$67.24; (3) Moss's Improved, \$66.92; (4) Texas Burr, \$65.26; (5) Bancroft's Herlong, \$64.32; (6) Greer's Improved, \$64.27; (7) Culpepper's Improved, \$63.14; (8) Layton's Improved, \$62.76; (9) Schley, \$62.71; (10) Peterkin's Improved, \$66.55, and so on.

In the order of earliness the first 6 are as follows: (1) Greer's Improved; (2) Cook's Improved; (3) Texas Bur; (4) Pullnot; (5) Prize; (6) Shines Improved, etc. Very full details of the peculiarities of the 21 varieties are given.

A copy of this Bulletin No. 44 will be sent free to any *Progressive Farmer* reader requesting the same. Address "Georgia Experiment Station, Experiment, Ga."

No slight pain has come to us in the work of this editorial office at learning anew how many people there are who are the slaves of the adjective. We beg our readers, in their speech, and, more particularly, in such contributions as they may offer for these columns, to break this bondage at any cost. This Part of Speech is only a secondary affair, anyhow, and has not right to tramp his noisy way through all our sentences, masquerading not as a Part but as the Whole.—*Nashville Christian Advocate.*