The After Effects of Commercial Fertilizers.

Editor of The Progressive Farmer:

It is a common belief among a great many farmers that commercial fertilizers exhaust themselves the first year; that they act simply as a stimulant, and that their after-effects tend rather to make the soil poorer instead of richer. This belief is strengthened by observations of some who noticed a gradual falling off of yields, although they had used fertilizers each each on the same land, in small quantities. We must acknowledge facts, it is true; but did it ever occur to you that there might be some other cause responsible for this diminution in yield, beside the fertilizers? The fact is, that this same commercial fertilizer has gotten many of our farmers into very bad habits. They have come to depend too much upon the guano to make their crops and pay too little attention to the mechanical or physical condition of the soil. Land, which it would otherwise have been necessary to turn out long ago for nature to rebuild or else be subjected to some systematic renovating process, is stimulated (you see, I use the word) into one more effort each year to produce a crop. And so the game goes on with the farmer sure to lose out in the end.

But, is it the fault of the fertilizer? Have you ever done anything to that land to make it produce besides scratch it about four inches deep with a scooter plow, and apply a mere smell—about 200 pounds of guano per acre? The analysis on the stack shows us that this 200 pounds of fertilizer contains about 24 pounds or 28 pounds of plant food, worth from $1.60 to $2.00, while a crop of cotton, to produce 300 pounds of lint per acre, must draw from the soil about 106 pounds of plant food, worth $10.86. When we remember, however, that over half of this plant food is nitrogen, and that this nitrogen represents over three-fourths of the total value of the plant food removed, and furthermore, when we know that this nitrogen or ammonia may be obtained from the air by growing leguminous crops, we begin to see that some method of farming which will include its capture, must be adopted.

Now from my own experience, I know that the effect of commercial fertilizer will continue for a good many years; especially the elements phosphoric acid and potash. Nitrogen leaches away largely, except where it has been converted into organic matter.

To secure lasting effects from commercial fertilizers they should be applied to the whole surface of the land, not a little driblet under the row and the same crop planted which will convert them into structural growth, using their help to capture carbon and nitrogen from the air. When we do this we begin to get ahead, even on a commercial fertlizer basis, and without the aid of stable manure. It is necessary, however, to get vegetable matter from somewhere, for no soil can be made permanently fertile without it.

Where the soil contains little organic matter the exhaustion of the nitrogen by leaching and the partial uselessness of the other elements in consequence, has led many people to the opinion that all fertilizers will really do the second year when applied in liberal quantities. I will refer to some experiments along this line conducted by Mr. C. P. Hudson, of Ard, Arkansas.

In 1901 Mr. Hudson fertilized a piece of land for corn, using 600 pounds of acid phosphate, 120 pounds muriate of potash and 200 pounds of nitrate of soda per acre. The yield was twenty bushels per acre. His corn, on similar adjoining, where no fertilizer was used, produced only eight and one-half bushels per acre. This showed an increase of eleven and one-half bushels per acre on the fertilized land.

In 1902, the same land was again planted in corn. The yield was better this season; his unfertilized corn producing twelve bushels per acre. On the land which was fertilized the previous year, nothing was applied except nitrate of soda, at the same rate as before. The yield this year, however, was twenty-nine bushels per acre, showing an increase of seventeen bushels to the acre over the unfertilized plot.

The fertilizer in this instance was applied at the rate of 920 pounds per acre the first year. The crops failed to utilize it all the first season and the unused phosphoric acid and potash was there ready to be taken up by the next year's crop.

To make commercial fertlizer a blessing to the farmer, however, it should be used to improve the soil, and not simply to make the crop. While these fertlizers are valuable and can be made to pay as a direct application to any crop in the drill, their greatest value in general farming is to assist in growing those leguminous crops, like cow-peas, which build up the soil on a permanent foundation.

F. J. MERRIAM.

Fulton Co., Ga.

Clinton Democrat: Mr. P. F. Stevens wears the belt as the champion cabbage raiser. We saw one from his crop at the retail store of Mr. R. B. Southerland that weighed 22 pounds. ——The aggregate amount of strawberries shipped from Clinton alone this season is in round numbers 1,200 crates; and at an average of $2.50 per crate would reach $30,000.

The American Telegraph and Telephone Company is experimenting this summer, through the Bureau of Forestry, with methods of lengthening the lasting powers of cedar and chestnut poles. The Bureau has sent several men to Wilmington, N. C., to study the loss of weight by cedar poles under proper methods of seasoning and the increased length of service of the poles which seasoning and preserving bring about. Similar work is being carried on near Harrisburg, Pa., with chestnut poles.

What to Do with the Strawberry Fields after Fruiting.

Editor of The Progressive Farmer:

The most successful strawberry growers plow up their fields as soon as the berries are all gathered and sow them in cowpears, thus putting the land in perfect tilth to reset in strawberries the following fall, winter or sprin, as may be most convenient. But the vast majority of growers gather two and sometimes three crops of berries from the same field.

How to do this successfully is the object of this article. Bar off with a turning plow the strawberry rows, leaving unplowed a strip about a foot wide containing the plants. On this strip chop out the plants, leaving them about eighteen inches apart. Always leave young (one year old) plants instead of old ones when possible. In this chopping out also kill all weeds and grass. A week or ten days later sow cotton seed meal at the rate of 800 to 1,000 pounds an acre in the furrow left on each side of the row. Then split out the middles, throwing the earth closely around the plants but not on them, or they will be smothered.

Whenever practicable, though with a large acreage it is not usually practicable, it pays to burn off the field or bed before barring off. To do this mow the foliage of the plants as closely as possible. Then loosen up the straw used as a mulch and on a dry breezy day, after the mowed foliage has got dry, set fire to the field along the border to windward. If there is a fair quantity of foliage or mulch the field will burn quickly over, leaving the soil as clean as a floor. Weeds, seed and any insect pest that may chance to be present will meet their judgment day; to a novice the strawberry plants will seem to have done so too. But seeming will be all.

In a week, or earlier if it rains, in the fire-blackened, Sahara-like field a magic transformation will take place. Every strawberry plant will have put forth leaves of the most vivid and beautiful growth. The rows can then be barred off, chopped out, fertilized and treated as above directed.

Subsequent cultivation should be the same as for young fields—shallow plowing with a small tooth cultivator and shallow hand hoeing frequent enough to kill all grass and weeds before they come and to keep the crust on the soil broken. This is all important as in a dry time it greatly lessens evaporation and minimizes the effect of drought.

O. W. BLACKNALL.

Vance Co., N. C.

The Cotton Boll Weevil in Texas.

The cotton boll-weevil is the curse of Texas. The writer was in Texas in April and told, it is thought for the first time, of what the aggregate loss was last year to that State, the best estimate, privately gathered, showing a loss of 800,000 bales. Unless some way is discovered of getting rid of this pest the cotton crop in Texas seems doomed, and that line of business will move northward to the Indian Territory and to Oklahoma. But then the question comes up, how long will it be before the weevil gets into that part of the country? The rate of progress northward is forty to sixty miles a year and the weevil has now marched over nearly half of Texas. Notice was taken of the fact that a North Carolinian has done so foolish a thing as to bring two of these curses to this State. They ought not to be allowed to live a minute. This much is to be said about Texas and cotton—that if that State gets rid of the weevil and machinery is invented to pick cotton then the "Lone Star" State can grow the cotton crop for the whole United States, and cut North Carolina and others out. Governor Aycock and the writer were talking about this a day or two ago. North Carolina raises more cotton per acre than Texas. In fact, this State and one other show the largest yield per acre. But at what a cost is this effect brought about in North Carolina! The annual expense for fertilizer, bought from manufacturers, is upwards of four million of dollars annually, while in Texas not a cent is expended for this purpose. In fact, the writer was told while in Texas that only one car-load of fertilizer had ever been taken into that State, and that the man who received it was at once informed that he would be arrested if he did not immediately remove it. —Col. F. A. Olds.

One of the best farmers in the county requested us to print the article by Prof. Franklin Sherman, Jr., which appeared in The Progressive Farmer of last week on the Hessian Fly and the best means of combating it. We comply with the request with great pleasure. This pest has cost Gaston County thousands and the State tens of thousands of dollars this year. The means of destroying this pest utterly do not seem to be known as yet, unless, as suggested in our own agricultural department in our issue of May 12, the total abandonment of wheat and rye production for a year or two should produce that happy result. But this plan is so difficult of universal observance as to render it impractible. The next best means of combating the pest, as set forth by the State Entomologist, in the article above-mentioned, will be found to be of practical application, and the more widely his methods are adopted and the more faithfully they are carried out, the more satisfactory will the results be to the wheat-grower. We trust that all of our readers who are planters of small grain will read Professor Sherman's article carefully and observe in concert, as widely as possible, both at this harvest-time and in the autumn's seed time, the directions he has given for reducing the seriousness of this insect's ravages in our crops of wheat and rye.—Gastonia Gazette.