

# The Polk County News

Published every Thursday.

JOHN G. BIERBAUM Editor

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COLUMBUS, N. C., SEPT. 7, 1911.

## Necessity of Organic Matter in the Soil.

No. 4.

### SOURING THE LAND.

On one occasion a good farmer came to me and said: "Last spring I plowed under a heavy crop of crimson clover, planted my corn and got nothing. My land was soured and my crop was killed." Another said he had plowed under a heavy crop of peavines late in the summer, sowed wheat, and got no stand. The land soured and the wheat failed to germinate. Still another said he plowed under a heavy crop of vines and weeds which rendered the soil so acid he was unable to grow a crop for three or four years afterward. We could give a long list of names of men who by their own practical experience have proven to themselves conclusively that the use of green manure positively does sour the land and renders it infertile for a long time. Now, if one is out for a difficult job, just let him attempt to dissuade these men from the belief that their land has been soured by the use of green manure. They stick to the old idea as tenaciously as to their right arms. They feel that their theory is based on practical experience (and what is better in the substantiation of any theory than practical experience? Nothing, to be sure).

Now, we have all had experiences. We know that certain effects follow certain causes. Moreover, we instinctively assign some cause for every effect. Frequently without taking the trouble to investigate the fact on which our conclusions are based. Admitting that all facts are covered by some theory, one should always check his theory by his facts and strive to bring his facts in line with the correct theory. We often sustain loss by assigning the wrong cause to an observed effect.

The farmers referred to above plowed the green manure under, planted the crop and received no return. There was some cause, to be sure, for the failure of the crop. Some one guessed the green stuff soured the soil and further investigation was generally thought useless. Some advised the use of lime to correct this acid condition. Few farmers, however, were disposed to buy enough lime to correct the large amount of acid they could imagine would be developed in the decay of so large an amount of green manure plowed under. The result was that they did not use the green manure, fearing the detrimental effects on the soil, and the land has remained poor for lack of humus to this day.

Now, what really happens when a heavy crop of green manure is turned into the land? In order to make the explanation clear we will have to bring to our aid a few terms and fundamental principles of physics but these are simple and easily understood.

Fill a lamp full of oil, put the wick in it and note what happens. The oil begins to rise in the wick and finally reaches the top. The oil will continue to rise in the wick till every drop is taken out of the bowl of the lamp. The oil in the lamp bowl is called *gravitation* oil; that in the wick is called *capillary* oil. The rain falls on the land and gravitation pulls it down several feet below the surface. This is called *gravitation* water. When the sun shines this same water begins to climb up between

the fine particles of soil just as the oil climbs the wick, and continues to climb until it reaches the surface where it is dried up by the sun just as the oil is burned away by the flame. This is called *capillary* water. This capillary water continues to rise to the surface of the soil until every drop is taken out of the subsoil and dispensed into the air as vapor.

No farmer would hope to grow a crop with the water in the first six inches of soil only. He expects the moisture to rise to the surface from depths ranging from three to five feet below.

Now, let us cut the lamp wick in two and let the two pieces come within 1-16th inch of each other. At the same time we will put a wide thin board six inches below the surface of the soil. Let the lamp burn and let the sun shine on the soil and see what happens. You have found that your oil did not rise above the cut place in the wick and your lamp has gone out while there was an abundance of oil in the bowl. You have found also that the six inches of soil above the board is dry as dust while that is quite moist under the board. Why? Because the air space cut off the rise of oil in the wick and the solid board cut off the rise of moisture from the great reservoir below to the six inches of soil above it.

But what has this to do with the "souring of the land." Nearly everything. The phenomenon called the "souring of the soil" is nearly always based on the principles outlined above. Instead of using the board let us plow under a six or eight ton crop of green clover or cowpeas, eight or ten inches deep. Let this mass of vegetation lie during the month of August, say, then examine it after a hot, dry period of ten days or two weeks and see what has occurred. You might use some blue litmus paper and test for acid. If there is an appreciable amount of acid present you will get a red color in the litmus paper but be sure to tear up the vines and examine the soil just below, also examine carefully the eight or ten inches of soil just above the mass of vines. Your litmus paper will not likely be colored at all because you are not likely to find any acid but you will find the soil just below the vines as wet as mud, perhaps, while the eight or ten inches on top of the vines will be as dry as dust. Here you have the explanation of the "souring" effect of green manure on well drained lands.

(To be continued.)

J. L. BURGESS,  
N. C. Dept. of Agriculture.

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## BRIEFS FROM MELVIN HILL.

Correspondence of The News.

A few of the people here have started to pick cotton.

There was quite an electric storm here Sunday.

Melvin Hill is listening for a wedding sometime this week.

Preaching here next Saturday and Sunday, at 11 a.m. Also Sunday night, at "early candle lighting."

Messrs. Pink and Pervey Stacy of Cooley Springs were the guests of Mr. J. W. Stacy Sunday.

Tommy Peterson, who has been in the hospital for some time, arrived home Saturday, all O. K.

The Misses Cantrell of Henrietta were the guests of the Misses Head Saturday and Sunday.

Mr. and Mrs. George Branscom, and Dr. Head, who attended district meetings in Allegheny county arrived home Thursday and report a pleasant trip.

Dull times for the young folks. They have to go to work again, pulling fodder and picking cotton.—and, oh, how they dread it!

Good luck to the News man! [Thank you.—N.M.]

GRETCHEN.

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## Southern Railway

### SCHEDULE

Schedules published as information only Not guaranteed.

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No. 14. Leave Asheville 7.00 a.m.; leave Tryon 9.15 a.m.; arrive Spartanburg 10.25 a.m.  
No. 10. Leave Asheville 4.10 p.m.; leave Tryon 6.42 p.m.; arrive Spartanburg 8.00 p.m.

#### WEST-BOUND TRAINS

No. 9. Leave Spartanburg 10.30 a.m.; leave Tryon 11.50 a.m.; arrive Asheville 2.10 p.m.  
No. 13. Leave Spartanburg 5.25 p.m.; leave Tryon 6.42 p.m.; arrive Asheville 9.15 p.m.

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# Polk County News

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