

AGRICULTURAL DEPARTMENT

Edited by C. E. CLARK

Necessity of Organic Matter in the Soil.—III.

By J. L. Burgess, N. C. Dept. of Agriculture.

But should not this rye and clover and peas be fed to cattle and the manure put on the land rather than plow them under green? By no means till your land can spare them. Always feed the hungrier creature first. If the land is more in need of fertility than the cattle of forage, feed the land first and continue to feed it until it gains sufficient strength to produce a crop for the cattle, then market your forage and feed through live stock.

But is green rye worth anything as manure before feeding it to stock? I am going to let you answer the question for yourself. Below you will find a table showing the manurial value of green rye as compared with that of fresh cow and horse manure. Examine this table carefully because there is a great deal in it.

Table Showing Comparative Fertilizer Value of Green Rye and Fresh Horse and Cow Manure.

	Pounds per Ton.		
	Nitro- gen	Phos- phate	Pot- ash
Green rye	10.6	5.	14.2
Fresh cow manure	7.6	1.6	7.3
Fresh horse manure	8.7	1.9	7.3

The above table represents an average of a large number of analyses of both rye and the manures. The analysis of the manures in the above table refers only to the solid excrement and does not have reference to the liquid manure which on ninety farms out of a hundred goes to waste. You may be surprised to note that a ton of green rye is worth more as a fertilizer than a ton of fresh horse or cow manure. You may consider it from every point of view. The rye has nearly a third more nitrogen per ton, nearly three times as much phosphate, and twice as much potash, as either of these manures. You can, therefore, see the importance of the use of green rye as a manure for any crop you wish to grow.

We recommend the use of rye preceding a corn crop in case the growth of rye is rather large. The rye crop is hard to handle as a green manure preceding the cotton crop unless the rye is sown early in the fall and allowed to make a good growth during the fall and early winter and plowed under a month before the cotton is to be planted. Treated in this way, there should be no trouble in the use of rye as a green manure preceding cotton. It will be only necessary to roll the rye and disc it two or three times thus cutting it to small bits, plow it under, six or eight inches deep, and disc the land once or twice more in order to thoroughly incorporate it with the soil. After this the cotton land may be prepared in the usual way.

An acre of rye that will make one ton of cured rye hay will, if plowed under, add to the soil about 45 lbs. of available nitrogen; 20 lbs. of available phosphoric acid; and 56 lbs. of available potash. Now, do not get the idea that rye is a legume and collects nitrogen from the air because such is not the case, but the growing rye does build into its tissues large amounts of nitrogen already in the soil which would be lost by leeching during the fall, winter, and spring months and hence, rye is seen

to be a real conservator of nitrogen. The phosphate and potash are not really added to the soil but the rye builds these elements also into its tissues and conserves them against loss by leeching in the form of a nitrate.

To get this much nitrogen you will have to use about 6 tons of horse manure, or 7 tons of cow manure or over one ton of 8-2-2 commercial fertilizer. In order to get this amount of phosphate you would have to use about 10 tons of horse or about 13 tons of cow manure. To get this amount of available potash you would have to use about 7 1/2 tons of either horse or cow manure.

The chief advantage of stable manure over green manuring crops lies in its being decomposed and ready for use and in the large number of bacteria it carries into the soil with it. This advantage is only temporary, however, because as soon as the green manuring crops break down, they are found quite as advantageous to plant growth as the stable or barnyard manure and when plowed in while green and succulent, the processes of decaying go on quite rapidly.

In our further discussion of this subject we will frequently have occasion to compare green manure with stable manure. This comparison will not be made with a view to discourage the use of stable manure which every one knows to be the standard of perfection in fertilizer but we will make comparison in order to bring out the value of green manure more prominently than it has been brought out heretofore.

Perhaps the greatest drawback to the use of any green manuring crop is the old idea that land may be "soured" thereby and rendered infertile for a number of years. Next week we hope to dispose of this erroneous theory by explaining what really happens when a large crop of vegetable matter is turned into the soil in the ordinary manner.

From Person County.

When it was being made known that President H. Q. Alexander would speak on the 9th of August, at Colwell Institute, in Orange county, I began to lay my plans and arrange my work so as to be present on that occasion, and I do not regret having gone over and heard his speech, as it was like a deep river full and overflowing with bright ideas for the farmers.

I heard a great many say that they would not have been deprived of hearing the speech for anything, and also stated that they were greatly benefitted. He discussed wisely and entertainingly the mortgage and the credit system which was detrimental to the farmers, and to pay as they go or not go at all which made a living and lasting impression. Brother Alexander mentioned in a brief way business politics that would not bring shame on the Union nor clog her wheels, but never admit partisan or adherent politics. One thing in particular I commend the Doctor for is that he advocated the election of all officers direct by the people from the President of the United States down and not bend and twist around through an electoral college, for in this case the laborer and the wealth producer does not have an equal showing and all will agree that the farmer produces the wealth of the world, but he is cut out of his portion.

The President advised deep plowing which

would form a reservoir to retain moisture in the land, and the incorporation in the soil of humus and organic matter, and to improve the farm by the rotation of crops. In other words plant corn the first year; the second year wheat, followed by cowpeas; third year oats and vetch; fourth year corn and cow peas; fifth year red clover, and to cultivate the land flat and shallow and to run the harrow and cultivator over the crop often and that would continue the formation of a dust blanket on the surface that would prevent the moisture from evaporation.

Dr. Alexander is the right man in the right place, and is bringing things to pass for the farmers and the Union as he is going up and down through and across the State preaching better farming, stronger co-operation and more and better education for the farmers.

He spoke two hours and five minutes to a multitude of people that was estimated to number two thousand, and they could not find standing room in the large institute building. At the close of the address Rev. W. S. Wilhelm announced that dinner would be spread and served in the grove south of the institute, and there we found a table over a hundred feet long burdened down with every variety of food that a set of farmers could desire and did refresh the inner man and banish hunger.

Cameron Local has invited the State President to deliver us a speech and he has agreed to visit us sometime in September, and we are looking to that occasion with bright anticipations, and believe that a man of his speaking ability will add many new members to our Local.

Fraternally,
R. H. JONES.

Benham Local No. 1361.

Editor Carolina Union Farmer:

It seems that the brethren of the different locals are getting neglectful about writing letters for publication. I certainly appreciate the weekly visits of our paper. We should all strive to make the paper better, and the best way to do this is to subscribe for the paper.

We have a good, strong working local at Benham. We now have fifty-one male members and thirty-seven female members, all in good standing. We have demitted several. We meet twice each month and rarely ever fail having a lively and instructive discussion from the brethren upon some topic, which tends to better our conditions.

The brethren are generally strong in the faith.

We have had but few of the back sliders to join our local.

Our local and three other locals have taken stock, and put a stock of goods up on the co-operative plan, which is saving hundreds of dollars yearly to the Union people. The members all patronize the store, because they say "It is our store", and "We get our goods at a great saving to us."

For the encouragement of weak locals, I want to tell them that the brethren in our local say that it will pay us to keep up our local if all other locals in the State were dead. It pays socially, morally and financially.

Wishing all the brethren success, I remain yours fraternally, E. W. SETTLE, Pres.

The Wakefield Farms, Charlotte, are issuing a price-list of Frost Proof Cabbage Plants. Drop a card for one.