

# THE PROGRESSIVE FARMER.

THE INDUSTRIAL AND EDUCATIONAL INTERESTS OF OUR PEOPLE PARAMOUNT TO ALL OTHER CONSIDERATIONS OF STATE POLICY.

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## AGRICULTURE

### Growing Protein.

Editor of The Progressive Farmer:

To the stock feeder and dairyman there is nothing more important than the getting a supply of the protein part of his ration. Dairyman especially buy a great deal of bran and other food rich in protein for the purpose of balancing their rations. They have long considered that this is a necessary part of their expenses. Then if some one would tell them how to get this expensive protein without cost, but in the growing of it to get enough benefit to the soil to pay all the cost of the feed, he should properly be regarded as a benefactor.

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Now this is just what the Experiment Stations have been doing. Some years ago experiments were made at the Delaware Station in which it was shown that cow-pea hay and ensilage could profitably take the place of purchased bran and other protein foods. It was shown that cows that had for some time been getting the protein of their food from bran, were changed from the bran to cow-pea hay containing a similar percentage of protein, and they kept up in the milk production as well as when fed bran, and later when returned to the bran they fell off in milk yield. More recently the Tennessee Station has been experimenting in the same line. The following is the table they give of the digestible matter in the legume hay, per ton:

	Dry Matter lbs.	Protein lbs.	Carbohydrates lbs.	Fat lbs.	Nutritive Ratio.
Alfalfa	1,832	211.6	746.6	27.6	1:3.6
Cow Pea	1,786	215.8	768.0	30.2	1:3.9
Red Clover	1,694	181.6	707.0	33.2	1:5.9

This table shows that 1.16 pounds of cow-pea hay contain as much protein as one pound of bran or 3.25 pounds of cotton-seed meal. The bran costs on an average about \$16 per ton, and much more in some places. There is hardly a farm in the South or in the Southern parts of the Middle States where cow-pea hay cannot be made at a cost of \$3 per ton. At the rate of two tons per acre we have from the acre 431.6 pounds of protein in a digestible form. This is equal to within 48.8 pounds of the amount of protein in two tons of wheat bran. The two tons of cow-pea hay cost the farmer \$6. But this is not all. In the growing of that pea hay the farmer has left in his soil for future crops in the form of organic matter,

as much ammonia as he would put in a ton of complete fertilizer of the usual grade. As a ton of such fertilizer will average at least \$20, and generally more, and the nitrogen in it will cost as much as both the other, here will be a gain of \$10 to his land while growing feed for stock worth \$6.00.

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Nor is this all. If he feeds the hay judiciously and saves the manure carefully his soil gains fully one-half or more off the value of the feed, and he has evidently made a large saving over the buying of protein, in the form of bran. In these times of high prices for feed, is it not to the interest of the dairyman to grow his protein when he can do it and at the same time not only save putting out money, but can improve his soil at the same time? The growing of these legumes, then, becomes of the highest importance to the stockman and dairyman.

The cow pea, as shown by the table is the richest of all. But the cow pea is not adapted to so wide a range of climate as the alfalfa and red clover, and it is only a question as to whether the cows can be made to consume in the form of alfalfa and red clover as much protein as would be needed for the best production. Alfalfa and red clover can be grown all over the North, and alfalfa, too, all over the South. But in the South, for feeding purposes, the cow pea has a value greater than alfalfa per ton, though on limited areas of very fertile soil the alfalfa will make the heavier crop during the season.

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But while all these legumes are collectors of nitrogen from the air they are all of them the greediest consumer of the mineral matters in the soil, and to be able to do their best both in the production of forage and in the fixation of nitrogen they must have an abundant supply of phosphoric acid and potash available in the soil for their use. Supplied with these they will do the rest. Hence we see that the real place for the use of the commercial fertilizer is on these crops which through their growth not only feed the stock but feed the land and through the feeding of the stock enable the farmer to increase his manurial accumulation and get more and more independent of the fertilizer manufacturer.

The great lack of most of our soils is phosphoric acid, but it is found that when this is applied alone there

is not near the result unless a sufficient supply of potash is also given. Alfalfa and red clover are both helped by an application of lime, but on the other hand the cow pea is injured in its growth by the direct application of lime; why so, we cannot say, but know it to be a fact. Hence even in the red clay soils of the South where there is a store of potash in the form of an insoluble silicate, it is advisable to apply to the cow pea a proper percentage of potash with the phosphoric acid. For the best results on the sandy soils of the South, where the cow pea flourishes best, and where the soil is more deficient in potash than the red clay soils, it will pay well to apply to the cow pea crop 400 pounds per acre of acid phosphate and muriate of potash mixed at rate of five parts of the acid phosphate to one part of the muriate. Such an application will give a heavy crop of forage and will through the greater root development increase the amount of nitrogen fixed in the soil. Thus the stockman and dairyman cannot only get protein for their cattle ration free, but can actually make a profit in the getting of it.

W. F. MASSEY.

Wake Co., N. C.

### Call for a Meeting of Tobacco Growers at Danville, Va., Nov. 17, 1903.

The Progressive Farmer knows as yet nothing more of the plans for the meeting called in the following address than is given in the address itself, but we commend the idea to our readers and shall be glad to have them discuss it in our columns:

"To the Tobacco Growers of Virginia and North Carolina:

"From the best information we believe that the present tobacco crop is an average one in quantity, and a superior one in quality, but the present prices offered are far below the cost of production. We urge the farmers in every county of the State to meet and elect delegates to a State Convention of Tobacco Growers' Association to be held in Danville, Va., on Tuesday succeeding the third Monday in November, which convention will consider plans for a State organization, to be adopted in each county and district of the State, so that the interest of the producers will be protected.

"2. We urge all tobacco growers to hold their crop of tobacco and not offer it for sale until after the State Convention above called.

"3. That a committee of five be appointed, whose duty it shall be to take all necessary steps to extend and advance this move and to make all necessary arrangements for holding said State Convention.

"4. That we urge the tobacco growers of our sister State, North Carolina, to join with us in this move and send delegates to said convention, to be held in Danville, Va., as above-mentioned.

(Signed) "T. Y. ALLEN,  
"Chairman of Committee."

### Catawba Farmers to Cut Down Wheat Crop.

We have interviewed a large number of farmers this week about wheat sowing, and every one says there will be the smallest crop planted in Catawba this year that there has ever been for many years. A few farmers will not reduce their crop more than a fourth to a half, but there are some who will not sow more than a tenth as much as last year, and some will not allow a grain to be planted on their lands.

The reason for this is that for three years the fly has been so destructive that the farmers have lost a great deal of money on their wheat crops and they are not willing to risk another one. Wheat is a very expensive crop. Preparing the land is expensive; the seed wheat and the fertilizer are expensive and the drilling are expensive. On an average, the wheat crop in Catawba has cost the farmer \$5 an acre by the time it is put in the ground. A failure as complete as last year's is very costly.—Newton Enterprise.

### Of Interest to Stockmen.

The A. & M. College Veterinary Department will give a free veterinary clinic at the college every Thursday morning hereafter, from 11 to 1 o'clock. Any domestic animals, cattle, horses, swine, sheep, dogs, poultry, etc., may be brought to the college and they will be treated for disease or operated on surgically free of charge by Dr. Tait Butler, D. V. S., State Veterinarian and Professor of Veterinary Science in the college, and Dr. G. A. Roberts, D. V. S., Assistant Professor of this branch. All the veterinary students in the A. & M. College will be present and will assist in the clinic. This clinic will be of great benefit, both to the agricultural students in the A. & M. and to the farmers and other owners of animals in the State.