

# PROGRESSIVE FARMER

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

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## Agriculture.

### THE VALUE OF PEA VINE HAY.

How to Grow and Cure the Crop.

Correspondence of The Progressive Farmer.

We have in the cow pea one of the most valuable forage plants at the South. And indeed, the cultivation of the earlier varieties is rapidly extending northward. This plant is valuable not only because it furnishes a nutritious food for stock, but also because it possesses the faculty of obtaining the most valuable and costly part of this food from the air, that is, the nitrogen part or protein, as it is called in a food product. It is that part of the food which makes lean meat and muscle in the animal, and produces milk from the cow. When we go to the market to buy this protein, which we do in the shape of cotton seed meal, linseed cake, or wheat bran, it costs us many times the price of the carbohydrates, the other part of the animal's food necessary to form a complete ration. These carbohydrates we buy most cheaply in cotton seed hulls, or shredded corn stalks. They constitute principally the carbohydrate, or woody fibre of plants, and they create heat and fat in the animal, and make the bulk necessary to fill their stomachs and promote a healthy condition.

Now, while all kinds of forage contain large quantities of the carbohydrates, they also contain more or less protein, according to the character of the plant. It can readily be seen that the more of this protein a given forage plant contains, the greater will be its feeding value, as its use would obviate the necessity of feeding so much of this material in its more expensive form.

By taking the standard balanced ration for a cow, which is 26 pounds of dry matter, 2.50 pounds protein, 12.50 pounds carbohydrates, and 4.00 pounds fats, and comparing it with 30 pounds of pea vine hay, which contains 26.78 pounds of dry matter, 3.24 pounds protein, 11.58 pounds carbohydrates, and .32 pounds of fats, we find that cow pea hay of itself gives us a rather narrow or highly balanced ration, and really needs a little straw or hulls to tone it down.

To give some idea of the great feeding value of cow pea hay, I find, after a careful comparison of analyses, that it is practically the same as that of pure wheat bran. When we fully realize the great value of this hay as a food for stock, and furthermore, that most of it, and in fact the most valuable part, is obtained from the air, we begin to see the great economy in growing this plant for forage. Experiments have proved that it leaves the land richer in nitrogen than it found it, by the decay of the stubble and roots, so that we may actually grow this hay and improve our soil at the same time. While other hay crops impoverish the soil, pea vines will make it richer, provided we keep up the supply of potash and phosphoric acid.

A crop of two tons of pea vine hay will remove from an acre of land about 78 pounds of nitrogen, 20.8 pounds of phosphoric acid, and 58.8 pounds of potash. It will be seen from the above that while the principal element used is the more expensive nitrogen, which the peas obtain free from the air, still there is also a large amount of potash and quite a little phosphoric acid taken from the soil. This we must replace on our land, instead of improving, or run down; for plants require all three of these elements of plant food to make a healthy growth. The relative value, however, of these chemicals is small compared to that of the captured nitrogen, so that a small investment in these cheaper forms of fertilizer will enable us to work wonders with the help of the cow pea. The 78 pounds of nitrogen captured from the air is worth 5 cents per pound, or \$11.20, while the 58.8 pounds of potash, at 5 per pound, and the 20.8 pounds of phosphoric acid at 5 cents per pound—the present price, would only amount to-

gether to \$3.98, certainly a paying investment for their use.

To keep up the fertility of our soil, then, where two tons pea vine hay are removed, we should apply from 400 to 600 pounds to the acre of a fertilizer analyzing 10 per cent. phosphoric acid, and 10 per cent. potash. This fertilizer can be made by thoroughly mixing together 1,600 acid phosphate, and 400 pounds muriate of potash to make a ton.

It will pay to prepare the land thoroughly for this crop. The shiftless method of plowing in the peas with a scotter will not answer, if you wish a large yield. The land should be broken deeply and subsoiled if it is clay and has a clay subsoil. It should be prepared, and the fertilizer applied broadcast, and harrowed in several weeks before you are ready to plant, if possible. If the peas are to follow small grain, this of course could not be done, for they should be planted by the middle of June. In this case, apply the fertilizers after the peas are planted, and harrow it in on the surface.

I am inclined to the opinion that as a rule people do not sow their peas thick enough for best results for hay. The effect of thin seeding is to produce a very large vine, which is difficult to cure. I shall sow, this year, not less than a bushel and a half to the acre, working them in with a cutaway harrow.

The question of curing the vines after they are grown has been the cause of endless trouble and disappointment to many. I will therefore give you the benefit of the new discovery I made along this line, so that others besides myself may profit by it. The method is not mine, but that of a friend, who has kindly allowed me to give it to the public.

This gentleman, in the first place, procures several hundred pine poles, six or seven feet long, two inches in diameter, and sharpened at both ends. After the hay is cut and raked into windrows, he takes a fork and divides it into small piles about the size for a feed for a horse. He then puts up his pole by setting it in a hole made in the ground for this purpose by driving down an iron with a maul. He has a pointed steel cap made from an old saw, which he puts on the upper end of the pole to stick through the hay. After this, he puts one forkful of hay after another on top of the pole, and pushes them down on top of each other until the pole is full. He then takes off the steel cap, removing it to the next pole, and caps the stack with a little crabgrass or straw. Here the hay stands until it is cured, which is in about ten days. It is then hauled in, pole and all, placed in the loft, and the poles pulled out, ready for another lot. It is unnecessary to add that the poles must be smooth and free from knots.

This is the best method I have yet seen for saving pea vine hay. It cures out nicely on the poles, with the added advantage of keeping the leaves on the vines, as they are not shattered off by tearing the hay to pieces when hauling it in. I have already had the poles out to save my hay on this year, and I trust many Progressive Farmer readers will also try this plan. It has already proved a success.

F. J. MERRIAM

Fulton Co., Ga.

FROM A ROWAN FARMER.

Correspondence of The Progressive Farmer.

I will tell your readers something that will certainly benefit them. Frequently when cows calve they have trouble passing the afterbirth. If ten or twelve raw eggs are broken in their mouths or mixed in their feed, it will not fail to have the desired effect.

I have been told, and am now trying it, that a tablespoonful of blue stone put in a pear tree by boring a hole in the tree and putting the blue stone in it is an effectual remedy for blight. A friend of mine tells me after removing all the affected limbs and using the blue stone several years since has never seen any sign of it since.

JNO. BEARD.

Rowan Co., N. C.

### THE SMALL FARMER.

III.

Correspondence of The Progressive Farmer.

We hear a great deal said these days about keeping the boys on the farm, and the fathers and mothers are piously told to furnish pictures, magazines and papers, and thereby make their homes attractive, etc. We do not, by any means, underestimate good books and papers, but to the average hard-working farmer boy, three good, square meals a day will beat all the pictures ever hung upon palace walls. A poor breakfast with no hopes of any better dinner in sight, makes a dull and discontented hand in the field, and if such fare continues, he will surely rebel and go off in search of a better living.

It is so easy to have an abundance of something good to eat on our tables the year through if we only know how and will put forth a little effort. Of course, our all cotton and tobacco fellows will stick to their boiled salt fish, their "Western meat, Western corn and Western flour" bill of fare, in spite of all the advice of all the stations, bulletins and pure food congresses in Christendom. I suppose we will have to let them alone in their poverty, as they seem to like it.

To sell all we raise and buy all we eat and use, gives us over to the tender mercies of the middleman, who skins to the bone at both ends of the deal. The only sensible and safe way for the small farmer to pursue is to grow all he possibly can in the way of home supplies.

Right here a good kitchen garden comes in to help furnish at least one-half of all that is required to make up a good meal. Make the soil deep, rich and fine. Sow peas, beans, cabbage, beets, etc., in succession. Keep every foot of ground occupied with something to eat or sell. Plant out tomatoes, plant sweet corn, cucumbers, potatoes, squashes, melons, strawberries, dewberries, and then cultivate and otherwise care for them as their needs demand.

We may have daily a bountiful supply of delicious and wholesome vegetables and fruits, fresh and crisp, direct from garden to kitchen and table. Not so with our less favored neighbors in town and city—they have to eat such as they can buy on the markets; often times the best they can get is stale and inferior. No little of the summer complaints, with high rates of mortality among children in factory villages and the lowly in city life, is directly traceable to the sale of damaged fruits and vegetables they eat. They are gathered and carted through the hot sun to the railway station and many times the shipments are delayed until they are totally unfit to eat before they reach the consumer. Blessed, indeed, is the family that is so situated as to have their own little spot of ground where they can grow in plenty all the vegetables and small fruits they need for immediate consumption, or to put up in cans for future use.

It was learned by some recent investigations into the surroundings and the living of most of our mill and factory people, that not one family in ten even pretends to have a garden of any kind, no flowers, no shrubbery—everything black and bare and uninviting. Such environments always bespeak a low order of things, physical, mental and moral. The philanthropist may build school houses and churches and send out teachers and preachers to tell of a higher and a better life; he may establish free libraries on every corner; the State may appropriate another million for free education; but all of these well intended efforts will fall far short of the good results expected, until we learn to feed our boys and girls with at least as much care and judgment as we manifest in making up a well balanced ration for our farm stock.

In some future article we may give a model bill of fare, which will be in easy reach of every small farmer in North Carolina, and we hope to see the day when the tenant farmer and the mill operative as well, may sit down with thankful hearts to tables similarly supplied.

J. EDOM SMITH.

### DOES PEA VINE HAY EVER INJURE STOCK?

Mr. Barbrey Argues That When Damaged it is Unsafe to Feed it.

Correspondence of The Progressive Farmer.

A short time ago I received a copy of the Southern Planter, published at Richmond, Va., in which reference was made to the death rate among horses in Virginia; and the correspondent suggested that inasmuch as it could be shown that the loss of horses was confined to that portion of the State in which pea vines are largely used for hay, the sickness might be traced to the use of pea vine hay as the probable cause. Prof. Massey replied vigorously, charging the idea to be a "mare's nest" to scare the farmers and deter them from the use of this very valuable feed.

Prof. Massey is beloved very much by North Carolinians, and by Virginians too, and we regard him as an able man whose advice is often sought as coming from high authority; but while we regard him as a doctor of agricultural science, we do not remember ever to have heard of any pretensions on his part of being a doctor of medical science, and if not, he may not be accurate in diagnosis; and since some very ordinary men some times make important discoveries, it might be best not to ridicule ideas advanced until there is certainty of falsity.

This writer is 53 years old, and from his earliest recollection farmers have claimed that horses are injured by running on pea fields; that they "show up" badly in winter and spring. No claim was made as to whether the pea or the vines did the mischief, or whether it was due to sound or damaged ones; they simply discovered that such grazing had bad effects.

From the writer's experience in using pea vines as hay for horses, he is convinced that when well cured and free from mold it is valuable and free from danger to stock; but he is also convinced that there is much risk in feeding horses on damaged pea vine hay. Hence, he believes that the complaints made by farmers as herein stated are well founded, since very few peas or vines remain in fields late enough for horses to be turned in without being to some extent damaged by rains or dews.

A most difficult thing for me to do is to cure properly pea vine hay, even in good weather, if the pod is about grown. Even when detached from the vine and laid in the sun, and carefully managed, the pod is difficult to cure and leave no trace of mold on inside; much more difficult, then, must it be to cure the vines and pods together.

About eight years ago advice came through the bulletins and other papers that the proper time for cutting pea vines for hay, is when they are in bloom; that they hold their leaves better, and contain at this stage of growth all the food value that they do when the pod is grown, but in a different form. Later, these same mediums of information suggested that it is better to cut when the pods are turning brown; that by so doing the leaves would not shed so bad. If the latter is true the former may not be, but if the former is, even if it can be shown that the latter is also, common sense teaches that since it is easier to cure before the pod matures, and since it is admitted that damaged hay may injure, and even cause stock to die, all pea vines cut for hay, should be cut when in bloom. The writer did not succeed in preserving the leaves under either plan, except when in barn where they could be raked up.

This letter is not intended to discourage the use of pea vines as hay, for he aims to continue their use himself; but rather to encourage better curing, that all danger may be avoided.

If owners of mowers and rakes would also use hay presses and pack into bales of 160 pounds or less, so they can be stored under cheap shelters or in barns, it would greatly lessen the risk in preserving this most meritorious forage.

More anon.

WM. A. BARBREY.  
Sampson Co., N. C.

### HARRY FARMER'S TALKS.

XXIV.

Correspondence of The Progressive Farmer.

Our farming this year has been a little discouraging. Here are some of the troubles: First, the excessive rains prevent us from doing our work; second, our potatoes and other spring crops, including strawberries, seem to do but little in the way of growing; third, our main crop of oats were put in late so they look very small compared with the early fall sowing. Well, we do not have the blues, but push ahead with hopes of good crops in the end. If we only do our duty, we need not fear the results.

Nearly all the failures in farming come from neglect in some period of the work. In the mercantile world it is said that about 2 per cent. of business men succeed while 98 per cent. fail. Farming can show a much larger per cent. of successes than any other calling.

Harry Farmer cautioned farmers against a large acreage in cotton; he did not look for such a slump in the market so soon. Now we hear 5 cent cotton talked. A very prominent banker and business man who is a director in a cotton factory, wrote to the manager not to buy much cotton, as the price would be lower. But the other directors advised the manager to get enough to supply them until July, which he did to his sorrow. We mention this to show you that these high prices are not always based on the great scarcity, but is often purely speculative. When wheat jumped to \$1.50 per bushel a few years ago, it was purely speculative and not shortage that caused it. Farm products that can be kept several years without deteriorating, are not likely to undergo such great change in price like perishable farm products such as apples, potatoes, &c. Our farmers should study the monthly reports of the Department of Agriculture and base their plans more on them just as the stock broker does and be governed accordingly. We notice that the plan of determining the cotton crop has almost reached perfection. And we farmers should study them more if we wish to succeed.

The cool wet weather makes the tent caterpillars bad this spring. A good plan to destroy them is to wet them with kerosene oil while they are in the tents or in little knots in the forks of the trees.

Part of our corn crop last year had a good crop of cow peas among the corn. Part had scarcely any, the peas having died out from some cause. The land was sown to oats and all treated alike, but you can see where the heavy pea crop was, standing a hundred yards away, the difference is so great. Will report on this later.

HARRY FARMER.

Columbus Co., N. C.

### AGRICULTURAL GLEANINGS.

To prevent the decay of posts, the end of the post to be put in the ground should be charred on a fire. A coat of tar is then applied with a brush. The tar soaks into the pores of the wood and after being in the ground awhile turns into a kind of resin, keeping out the water.—E. W. Spilhalter, Connoquenessing, Pa.

Following is a tested way of preventing rabbits from eating young apple trees. On butchering day take a pail and catch the blood from hogs and apply with a brush to trees; painting as high up as the rabbits can reach. Do this twice a year and the rabbits will never touch your trees. This we have tried and found to be a sure preventive.—Clara Jones, Taron, Kansas.

There are many recipes for grafting wax, but after trying many I consider the following the best. To four pounds of rosin and one pound of beeswax add one pint of linseed oil put in an iron pot and heated slowly and mix well. Pour into cool water and pull by hand until it assumes a light color. Work into sticks and put into a cool place until wanted. I like linseed oil much better than animal fat for making grafting wax.—John Jackson.

## Live Stock.

A DEMAND FOR GOOD HORSES.

Correspondence of The Progressive Farmer. The excessive drain upon the supply of horses for military purposes in the last few years has practically depleted this country's number of good horses, and there exists today an actual shortage which cannot be made good for several years. The demand has been chiefly for heavy horses—those suitable for cavalry and for dragging heavy provision trains. Horses that would answer the requirements for these purposes have been shipped to South Africa, Manila and Europe in great quantities. It has been impossible to meet the needs of all requirements because of the lack of suitable animals. The demand now is for heavy draft horses, good animals for horseback riding, and even for roadsters. Breeding and rearing of any of these must return good profits to the farmer or owner. Horseflesh in the last few years seems to have recovered from the low depression it reached a few years ago. Then the animals reached the lowest stage of demoralization possible; but the losses sustained by owners of horses then were not wholly an evil. There was some good that came out of it. Not the least of these was the cleaning out of all the poor and inferior animals that had been accumulating in the country. Years before the depression prices for horses had been so good that people paid exorbitant sums for pretty inferior horseflesh. Breeders found that they could sell almost anything they raised, and in a few years the country was flooded with poor horses. The depression in prices cleaned out these inferior animals. Some were shot, others froze to death on the Western prairies, and some were shipped away. Only the man with good horses decided that he would not sacrifice his stock, and he clung to his favorite animals.

Now the country is actually depleted of good horses, and there never was a better time to breed. The type of animal that is needed should be an incentive to every owner of good horseflesh to raise some for market. Poor horses will never again pay in this country. If the present boom continues it will never include the inferior animals which a few years ago found a market. If one cannot raise animals suitable to do their work well in the world, it will be better to abandon the business entirely. The farmer with fair intelligence who has good stock to begin with never had a better chance to make money from raising good horses, and the time to begin is when the supply is low and the country depleted of stock.

E. P. SMITH.

SUMMARY OF RESULTS IN TENNESSEE STOCK FEEDING.

Experiments at the Tennessee Experiment Station lead to the following conclusions as set forth in a bulletin just issued:

1. Tennessee is admirably adapted to the production of stockers which can be successfully fed on the products of the rich valley farms.

2. Stock husbandry has a valuable effect on soil fertility, as 90 per cent. and over of the fertilizing ingredients consumed in the foods are available for the restoration of soil fertility.

3. Cotton seed bran is too expensive for roughness and has an unfavorable effect on digestion, producing impaction of the rumen. Tennessee farmers cannot afford to use it in this form, and all the roughness needed in cattle feeding can be produced more cheaply on the farm than anywhere else.

4. Cow pea vine hay made an admirable substitute for cotton seed meal. As it is not so rich in protein, however, it should be fed at the rate of 2 to 3 pounds of the former for one pound of the latter.

5. It is seen from these tests that a home-grown ration of shredded stover, cow pea vine hay and corn meal can be fed with success to a fair type of native cattle. This means much to the farmers of Tennessee.

6. Tennessee is admirably adapted

[CONTINUED ON PAGE 8.]