



THE



PROGRESSIVE



FARMER.

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

Vol. 1.

WINSTON, N. C., FEBRUARY 10, 1886.

No. 1.

Agricultural.

TOBACCO.

How to Manage It.

FROM THE PLANT-BED TO THE WAREHOUSE.

For the guidance and benefit of our readers, and more particularly those who are just beginning the cultivation of tobacco, we shall spare no pains to present them from time to time with the best and most reliable information from the most practical and successful tobacco farmers, as to the best methods of cultivating and handling it. We begin with the first step—the plant-bed—and we shall follow it with articles from the most trustworthy sources, all along through the seasons, to the warehouse.

The following is from the pen of Messrs. N. H. & A. G. Fleming, of Dutchville Township, Granville Co., who were selected to write the treatise, by the Durlam Fertilizer Co., because of their skill and success in raising fine tobacco, and who are endorsed by all of the Warehousemen of Durham as "among the best and most successful growers and handlers of fine bright tobacco in the State." With such an endorsement we do not hesitate to commend what they say to our readers. Our next will be on "the selection and preparation of the land for the crop."

I. PLANT-BEDS AND THEIR TREATMENT.—The growth and forwardness of the plant depends greatly upon the location of the bed. The location should be of a southern exposure, the soil moist, with sweet-gum and post-oak growth principally, and near a small branch if possible.

II. BURNING AND MANURING.—The bed should be cleared nicely of all shrubbery and litter before burning. Plant land should never be burned when wet, but when the land is in good order. We prefer to burn from the 1st of January to the 1st of March, though the time extends from November 1st to April 1st. The manuring is one point to be well looked after. The manure for the bed should never be of a burning nature, as that is apt to retard the growth of the plants in dry weather. Use fine stable manure, which should be applied evenly over the bed after the dead coals and ashes are raked off; then with grubbing hoes, hoe up three or four inches deep, not turning up the soil more than can be helped. If the bed is new, rake off the roots and apply from thirty-five to fifty pounds per one hundred yards, of the standard tobacco fertilizer, Durham Bull is used a great deal through our section, then with weeding-hoe, crop the bed thoroughly and rake, with a fine rake, taking off all coarse obstacles. When the bed is ready for the seed, which should be sown, one tablespoonful to the one hundred square yards, mixed well with about one gallon of dry ashes, or fertilizer; sow as evenly as possible; when sown, tread nicely, to prevent the beds "speaking" in extreme cold weather; drain well and put on canvas which can be removed as soon as the plants are safe from the fly and frost, which is about the 10th or 15th of April. It is very important to keep the weeds and grass pulled, as they are very injurious to the plants.

The following method of preparing the plant bed is given by Capt. R. B. Davis, of Catawba county. He is a native of Halifax county, Va., one of the largest tobacco-growing counties in that State, and there as here, for the last ten years, he has been highly successful in the cultivation of the plant.

The combined experiences of these gentlemen, thus plainly and intelligently given, we think, will enable any of our farmers to avoid any serious mistakes in the first, very important work of securing a supply of healthful, vigorous plants. Captain Davis says:

To the planter an early and abundant supply of tobacco plants is the thing of

prime importance. To secure this the seed may be sown at any time between the 15th of December and the 15th of March, the earlier the better, and allotting 100 square yards of seed-bed to every 10,000 plants that will be needed. The ground selected for the purpose should be virgin soil, of sandy texture, rich and moist, with full exposure to the sun, but sheltered to the north and west by rising ground or growing timber, against the cold winds of early spring. Such spots can be readily found in wooded hollows, at the foot of hills, and near to or alongside some water course. Other things being equal, the farther into the woods the spot selected is the best in order to escape the bug.

The ground having been well chosen, the next thing is to rake it clean, and then burn it thoroughly so as to kill all germs of vegetation. The burning can be at a single blast, if done with dry brush, heaped upon the entire bed a height of some four feet. A better but costlier method is to burn with wood laid upon green poles, which serve the purpose of ventilation, in which case the wood should be piled the whole length of the bed, and of convenient width, say six feet, and after the pile has been well kindled, it should be allowed to burn some two hours, or until the poles underneath are burned up. The burning wood and fire coals should now be moved by using old hoes fastened upon long handles, and again spread a convenient width and fresh wood added, which should burn until the ground underneath has been burnt as thoroughly as before, and so on until the entire bed has been burned over. As soon as the ground has cooled enough to walk upon it, and without removing the ashes, it should be broken deeply and finely with the mattock, care being taken not to invert the soil, and then chopped with weeding hoes and raked until clean of roots and well pulverized—for which reason land should never be burned when too wet.

The quantity sown should be one and a-half teaspoonfuls to every 100 square yards, and in that exact proportion for each fraction or multiple thereof. Great care should be taken to sow the seed as regularly as possible, so as to prevent some spots from being too thin, and what is worse, other spots from being too thick. To do so the seed should be carefully measured and then thoroughly mixed in a convenient quantity of dry ashes, and the mixture divided into two equal parts. The bed should be marked off into convenient sowing breadths by lines four feet apart, and sowed entirely over with one half the seed and in one direction, and then over again with the other half and in the opposite direction, the sower retracing his steps. The seed should be left upon the surface and neither hoed nor raked into the soil, but trodden in with the foot, or pressed in with the back of a weeding hoe, or better still, by passing a light roller over the bed. To prevent drifting or puddling of the seed by washing rains, where the ground is rolling, trenches slightly inclined and two inches deep and four feet apart should be made with the mattock across the bed. Where the ground is flat and subject to being slobbered, it should be thoroughly drained, as nothing drowns more easily than tobacco plants.

For the three-fold purpose of warmth, moisture and fertility, the bed should now be top-dressed with a covering half inch thick of good stable manure broken fine, the fresher the better, but in any case free of grass seed. When such stable manure is not convenient, that from the hen-house or pig-pen will answer, hog hair also making an excellent top-dressing. If neither of these is at hand, some strongly ammoniated fertilizer should be applied at the rate of half bushel of it to every 100 square yards, and raked into the soil before seeding. The bed should now be thickly covered with fine brush to prevent both drying and freezing of the soil, by which the plants are either checked in the growth or lifted out by the roots.

The next thing to be thought of is to guard against the ravages of the tobacco bug, an insect which by a popular misnomer is called "The Fly," which makes its appearance about the first of April, and for which when once it gets possession of a plant-bed, no remedy has yet been found. None of the insect poisons, such as carbolic acid or kerosene oil, has any effect upon it. A partial preventive is to sow the borders of the bed thickly with black mustard. It springs up quickly, and upon it this bug loves to feed. A still better preventive is to shut the bug out by a fence around the bed one foot high, built of 12 inch plank nailed to pegs driven into the ground, with a little earth pressed against the bottom of the planks, so as to make the fence bug-proof. Such a fence or cold frame does the additional good of keeping the bed

warmer and moister and should never be omitted.

Ordinarily and after each seeding the plants will begin to show themselves about the first of March, at which time an additional half tablespoonful of seed for every 100 square yards, should be sown as at first. So soon as the plants are well up and have begun to grow, they should be pushed as rapidly as possible by top-dressing the bed before each successive rain with some good fertilizer, at the rate of one gallon of it to every 100 square yards, mixed with an equal quantity of damp earth. The fertilizer should never be applied while the plants are wet with either dew or rain, for fear of scalding them. Dry leaves and young grass should be hand-picked off the bed. But the covering of brush should not be permanently removed until the plants are large enough to set, but should then be, in order to toughen them. And after it has been removed, and while waiting for a season to transplant, should the plants begin to parch from drought, the bed should be well watered and again covered with green boughs laid upon a scaffolding two or three feet above the growing plants. I have never known this protection to fail in even the severest drought. But after a rain this shelter should be removed in order to accustom the plants to the heat of the sun.

ENSILAGE—SILOS.

As Cheap Beef and as fine Butter and Milk as can be produced in the United States.

[For the PROGRESSIVE FARMER.]

Many are now inquiring in this grand old State of ours, what change can be made to make agriculture pay. Cotton, in the sections best adapted to its growth, does not pay; neither does the making of grain, nor the improved grasses. Where the land is adapted to the growth of tobacco, and where all the requirements of its production and curing have been carried out fully, it has been found profitable in a small way, but the difficulties in the way of accomplishing this are so many and great, requiring so much time and trouble, that the probabilities are that only a comparatively small portion of our farmers can be successful in making this important crop.

With these facts fully established, the question arises, what can we raise that will relieve us from the difficulties under which we are laboring, and that has the possibility of getting us out of our troubles?

I maintain that the stock and dairy business, with the assistance of the silo and ensilage, will meet all the requirements. I insist, and to a certain extent have demonstrated, that by using only the food plants for our stock, natural to the South, without attempting to bring to our aid clover or any of the improved grasses, we can make as fine quality of beef and butter here, and at as low cost, as in any portion of the United States. This, of course, is an advanced position for a farmer in the State of North Carolina to take; of this, I am fully aware, yet I stand prepared to make the assertion good, and any other farmer can do the same.

And now how to do it: I commenced with a thoroughbred Jersey bull of good butter strain to cross on good native stock. In this way I have been able to sell at from fifty to seventy-five dollars each when two or three years old, or when they drop the first calf. This calf, if a bull, is worth \$20, if a heifer, \$50. If the grades are nearer up to the pure blood, say 1/2 to 3/4 Jersey, there is a corresponding increase both in the quantity and quality of butter, as well as increase in the selling value. If money can be spared to purchase thoroughbred heifers in the beginning, the profits will be much greater, both from butter yields, and the value of young stock, as thoroughbred Jersey heifers from one to two years old, are worth from one to three hundred dollars, and will sell readily at that price.

To feed this stock well is simple and inexpensive by means of the

silo. I have written several articles, giving descriptions of silos, so that it is probably unnecessary to speak here. The plant for ensilage is our field or cow pea (the best I have found for that purpose, being the Whip-poor-will variety). These I plant after wheat—first breaking up the land, then running the rows three feet apart. Then put eight to twelve peas in each hill, about twenty inches apart. After they are three or four inches high, side up with a cotton plow, and if the ground becomes grassy, side up a second time, going over with a hoe and cutting out the largest weeds and grass. No other cultivation is necessary. From four to eight tons of pea vines are made on each acre, making the ensilage cost (including two dollars' worth of manure per acre) from \$1.50 to \$2.00 per ton.

These vines may be put in the silo just as they come from the field, without being cut in a cutter, without injury to the ensilage. From these vines I make the finest quality of ensilage, and also the most inexpensive. This, however, does not average more than one dollar and a half a ton, and two tons of this is worth more, in feeding value than one ton of the best hay. I would ask: Is there any portion of the United States where good hay can be bought for \$3.00 per ton? Then why can we not raise butter and beef as cheaply as any other section?

My cheapest made ensilage is from corn stalks cut after the corn is sufficiently matured to gather without injury. I let the ear remain on the stalk a few days later than when we consider the fodder is ripe enough to gather. At this time the grain is well glazed. Then pull the ears from the stalks and throw in small heaps convenient to haul to the barn. Then cut down the stalks at the ground, blades on them, haul and pack in silo, as closely as possible, taking care to have them lie so as to have them fit closely to each other, avoiding vacant places and inequalities: Mix in pea vines if need be to fill up. When full cover the whole with inch boards, laid lengthwise the silo. Then put common earth or sand 18 inches deep. This answers the double purpose of excluding the air and weighing the silo, and will be sure to preserve the ensilage. An acre that will make four barrels of corn will make four tons of ensilage, or a ton of ensilage to every barrel of corn. To save the stalks and fodder in this way is less expensive than to pull and save in the usual manner, while the ensilage is worth ten times as much as the fodder. Ensilage made in this manner does not cost \$1.00 per ton, giving a large feeding capacity (the stalks) which would otherwise be lost. These stalks and fodder make an excellent food, of which for the past three years I have fed horses, mules and cows over three hundred tons, and from which I have seen no bad effects.

North Carolina, in the tenth census, is put down as making 28,000,000 bushels corn. One ton of ensilage to five bushels corn would give 5,600,000 tons. Reduce the quantity to 2,800,000 tons which will equal 1,200,000 tons of hay, and we see what an enormous quantity of stock food is thrown away. I consider corn stalks valueless, left on the ground as manure. The same census gives the State 94,000 tons of hay—showing that the corn stalks thus utilized will give over ten times as much of stock food as the entire production of hay.

Now suppose the farmers of North Carolina would make say two tons of pea-vine ensilage to the acre after wheat—a very low estimate, but this would give 1,000,000 tons, and 1,200,000 tons corn ensilage. Can any other conclusion be arrived at than that we can feed stock and raise

milk and butter as cheaply as any portion of the country.

C. W. GARRETT.

[Maj. Garrett puts up annually over 300 tons of ensilage and below we give his method of constructing his silos. In our next issue we will give his management of stock, showing, after an experience of five years, that he "stands prepared to make his assertions good."—Ed.]

My silos were built in 1881, and have been filled four times, the ensilage being always well preserved. First, I dug a trench for foundation-sills, 43 feet long, 14 feet wide and 8 inches deep. Into these put the sills, of white oak, all heart, 10 inches square, framing a sill of the same size across the middle. This makes the foundation for two silos, inside measure 20 feet long by 12 feet wide. I put studs of heart-oak into these sills 10 feet long, 2 by 6 inches, 2 feet apart, intending the silos to be 10 feet deep; then with one-inch plank boarded up each side the studs 10 feet high; fill the spaces between the studs and inner and outer wall of plank with sand (saw-dust will answer as well), thus making an airtight wall, which is all that is necessary, however it may be done. The 6 feet of studding above the walls or body of the silo is necessary for the purpose of filling, tramping, weighting, etc. I have one door to each silo at the outer end, made by having the two middle studs 3 feet apart. To these hang two doors 18 inches wide by 5 feet long to the inner edge of the studs, the doors open outward. Then close the doors and nail on boards to outer edge of studs, and fill between doors and boards with earth, and you have the same wall as the other parts of the silo. When you wish to open the doors rip off the boards in front, when the earth falls and the doors open outward, exposing the ensilage. Of course, the studs are framed into plates above, which should be done in a substantial manner, as the pressure from weighting the silo is quite heavy. My roofs extend 3 feet beyond the sides and ends, to prevent rain from being blown in on the ensilage. After filling the silo I first cover the ensilage with inch plank, laying them down lengthwise; then cover these with wheat or pine straw to prevent earth or sand from getting in; then cover with earth 18 inches deep and you may rest assured that your ensilage is safe. I prefer common earth for weighting for two reasons—first, it is more easily handled; and second, it excludes the air better than anything else. When feeding the ensilage first take out in front of the doors from bottom to top, about 2 feet; then on each side, until the entire end is taken out; then put in good substantial props to hold the planks and keep the weight from bonding them down, which repeat, propping every 3 feet as the ensilage is taken out, until the whole is exhausted. Care should be taken that this propping be well done, otherwise the plank above may give way and endanger the safety of the feeders.

It has been well said that "our people must learn to grow everything for man and beast, before they can claim to be self-sustaining," and more, they must learn to make a without running into debt. No general prosperity can prevail until we can make what we consume before we consume it. Easy credits destroy any people; it demoralizes the thrifty and makes paupers of the unthrifty. Very truly yours,

C. W. GARRETT.

—We asked Dr. [Name] about ensilage. [Name] said: "I have had no experience with it had no factory. It is the most profitable I have ever produced. I have produced 1st. B. one acre will keep one condition for one the best food in the