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## HOW TO GROW TOBACCO.

ADDRESS DELIVERED BY MR. W. A. PETREE BEFORE  
THE STOKES COUNTY FARMERS' CONVENTION  
AT DANBURY JULY 27, 1905.

(Continued from last week.)

The next thing I wish to speak of is the kind of soil best suited to tobacco culture. Doubtless you all know that the tobacco plant thrives or does best in a fresh virgin soil. The principal reason of this is that such soils contain more humus or decayed vegetable matter than older soils. This humus furnishes not only a certain amount of plant food itself, but it unlocks other fertilizing elements in the soil and brings them into a condition in which the plants can take them up. It enables the land to hold more water, and keeps it from washing so badly. It keeps the soil loose and admits a free circulation of air about the roots of the plants. But you all know as well as I do, that our lands have been cleared up and we do not often have fresh soil on which to plant our tobacco. So the thing for us to do, is to adopt some systematic rotation of crops, one that will fill our land with an abundance of vegetable matter, and bring it into a condition as near like that of virgin soil as possible. Now, a four year rotation I have used with good results is this: First, clover, then corn, then tobacco, next wheat, and then back to clover. My experience is that tobacco grows off more uniformly after corn than after almost any other crop. The worms, and especially the wire worms are not so bad on such land as they are on other kinds of land. Then my experience is that such land makes a finer and more salable quality of tobacco, than almost any other. The only objection I have to this particular rotation is that it does not add vegetable matter to the soil quite as fast as I think it should be. But we can remedy this very materially by sowing cowpeas in the corn at the last working; and even this can be improved upon by sowing rye down in the peas when the corn is out of the way, and working it in the land. When the rye comes up it gives a green cover crop to the land during the winter, and will take up and hold up much of the plant food in the soil, and keep it from leaching out and in the spring the dead pea-vines and green rye can all be worked into the land to feed the tobacco crop which follows. By this method, if you count the first cutting of the clover, you take off four crops from the land during the four years, and counting the second growth of clover you return three crops back to the land during the four years. You take off the first cutting of clover, the corn crop, the tobacco crop and the wheat crop, while you return the second growth of clover, the crop of pea vines and the green rye all back to the land. This should keep your land well supplied with vegetable matter. Another good rotation, is to extend the series or period to six years instead of four, and run wheat and tobacco twice, each, in the rotation. This would give us clover first, then corn, next, tobacco, then wheat, then peas right down on the wheat stubble, and in the fall sow rye down among the pea-vines, the green rye and dead pea-vines all to be worked into the land the next spring to feed the tobacco crop following, then comes wheat and then back to clover again. Now, brother farmer, I have told

you of the best rotations for tobacco and for other land I know of. And now I wish to say our land is somewhat like a bank, unless we make some deposits, we cannot expect to take anything out. Neither can you expect to make a cow give you large quantities of good rich milk unless you feed her well. And so it is with our land, we must feed it if we expect it to feed us.

The next thing I wish to speak of is the plowing or the preparation of the land for the crop and the cultivation of the crop. Having broken the land thoroughly good and deep and made it perfectly fine and mellow in the spring, I like to cultivate its surface after every rain if I can until the time comes to run off the rows and put in the fertilizer. This surface cultivation keeps the land clear of grass, mellowing the land, breaks up the capillaries of the surface soil, and shuts off the evaporation of moisture from the land, and holds it in store for the tobacco plants when they are set. If the land has this kind of treatment before the crop is planted, then I think that all the crop will need in the way of cultivation is just simple surface culture, but this should begin at once and be done often enough to keep all the grass and weeds killed, and keep the capillaries of the surface soil broken up so as to prevent the evaporation of water from the soil. And this surface culture should be kept up till the crop or plants are large enough to top. In fact, I sometimes continue to cultivate my tobacco awhile after it is topped.

Now about fixing up the land ready to plant, I like to do this when there is good season in the land, and set the plants at once, as they grow off more quickly when set in freshly prepared land than they do when planted otherwise. And now there is a reason for this and let us see what it is. You all know that if the weather happens to be cool when you set your tobacco, the plants just stand there and are slow to take root in the soil. On the other hand, if the weather is warm when the plants are set, they take root and grow off quickly; and this is the principal reason why tobacco grows off more quickly on freshly prepared land than it does on land just after it has had a packing rain. The freshly prepared land is warmer. Why is it warmer? Because when the land is freshly prepared, the capillaries of the surface soil are broken up and the evaporation of water from the soil is stopped, and this keeps the land warm. The evaporation of moisture from the surface of the land lowers its temperature and keeps it cold. Suppose we have a thermometer hanging up here, and here is a glass of water and we dip a feather in the water and wet the bulb of the thermometer, you would notice that as the water evaporated or dried off the thermometer the mercury or temperature would fall showing that the evaporation takes away heat. And just so it is with our land; just after a soaking or packing rain, the soil capillaries pump the water up to the surface of the land, and here it evaporates and lowers the temperature of the land. But when our land is freshly prepared the capillary action of

the surface soil is broken up and this shuts off the evaporation of water and keeps the land warm. When we allow this evaporation to go on, we not only lose the moisture in the soil but we keep the land cold.

Now about running off the rows and putting in the fertilizer, I find that the quickest, the easiest, cheapest and upon the whole the very best plan is this: Run off the rows with a shovel plow of medium width, I generally go twice in the same row to insure uniformity of depth and width of the furrow, and I am always careful not to make the furrow too deep especially if the land is an open sandy nature and likely to let the fertilizer leach out in case there is much rain. When the furrows are opened, I distribute the fertilizer along in them as uniformly as I can, putting it at the rate of from 500 to 700 pounds to the acre. That is, if I do not aim to fertilize the crop some, later on. But if I intend to fertilize the crop some while it is growing, I do not put so much fertilizer in the land before the crop is planted. And I think that perhaps this is the better plan, in case the land is of an open nature and likely to let the fertilizer wash out in case of much rain. After the fertilizer is distributed in the furrows, I cover it up by following with another shovel plow a little wider than the one the furrows are opened with I run just one furrow or a furrow on just one side of the row or furrow containing the fertilizer, and this furrow should be run on the upper side of the row in case the land is not level. When this furrow is run the fertilizer is covered up and the row is ready for the plants which should be set in the lower side of the furrow just over the fertilizer and down a little in the furrow just below the general level of the land. I find that when tobacco is planted this way it grows off more quickly than it does when the fertilizer is covered up by running two furrows one on each side of the row. And now, gentlemen, there is a reason for this, and the reason is not hard to find and I want to fix it on your minds so that you will never forget it, for it will save you labor, and make you better tobacco. When the fertilizer is covered up by running a furrow on just one side of the row, the other side of the row is left unbroken or still connected with the balk, middle or land between the rows, this protects this side of the row from the air and sunshine and allows the water in the balk or land between the rows to feed out to the row where the tobacco plants can get it, whereas, if the fertilizer is covered up running two furrows, one on each side of the row, the list or ridge is cut loose from the middles or land on each side of it, and this list or ridge is left exposed to the air and sunshine and as the water in the balks or middles cannot feed out to it, it soon dries out. And when tobacco is set on such a ridge it does not grow off as rapidly as when it is set the other way. Then, it takes less labor to cover up the fertilizer by running just one furrow than it does to run two. And it takes less labor to cultivate the tobacco after it is planted, because it is easier to cover up any grass that may be growing around the plants when they stand down in the furrow just below the general level of the land than it is to cover it up when the plants are standing up on a ridge. Then, I think that generally, it is better for the tobacco to keep it down on a level

than to keep it up on a ridge. However, if the land is of a wet or springy nature, I have no objections to planting the tobacco on a ridge, and keeping it on a ridge and I think that perhaps this is the better plan when you have such land for tobacco. In fact, I know some farmers who plant their tobacco on a ridge and keep it on a ridge by using a turning plow and some of them make splendid tobacco; but as a general thing, I think that level culture is much better.

The next thing I want to speak of is the distance or the spacing of the plants over the land. I have already said, that uniformity of growth and quality are things we want in the tobacco crop. So now we will suppose that we have an acre of land we wish to plant in tobacco, and that the land is strong enough to produce we will say 30,000 good medium sized salable leaves of tobacco, how now shall we space or distribute these leaves over one acre, so as to get the best results, by making the leaves uniform as to growth and quality? If we were to plant 3000 plants on one acre and top every plant to ten leaves we would get the 30,000 leaves the land is capable of making, but many of them would be very uniform. Why? Because the order of nature is: First, birth, then growth to maturity, and then decay. The growth and maturity or ripening of the bottom leaves would be too far removed in point of time from the growth and ripening of the top leaves. The bottom leaves would get their growth and ripen before the top leaves would be sufficiently matured to make a good quality of tobacco. When tobacco is planted wide and topped high this way, it often happens that the bottom leaves ripen, dry up and drop off before the top leaves are ripe enough to cut, and if they do not dry up and drop off, having ripened so long in advance of the top leaves, it is almost sure to be the case that when the tobacco is cut and put in the barn, the bottom leaves will yellow, sponge and turn brown before the top leaves are yellow enough to cure. When you let your tobacco sponge you have a kind of rotten tobacco, rotted in the process of curing. When tobacco is planted and topped this way, it often happens that while we are waiting for the top leaves to get ripe enough to cut, cool weather comes on and the tobacco does not yellow and cure well when it is put into the barn, but dries up of a bluish green, and is inferior in character. How, then, can we remedy all these difficulties? Just simply by bringing the ripening of the bottom leaves and the ripening of the top leaves closer together in point of time. But how can we do this? Simply by topping our plants lower. But we have already seen that one acre of land is sufficiently strong to produce 30,000 good medium leaves, and we would have to top every one of our 3000 plants to ten leaves in order to get the number of leaves the land is capable of making. If we were to top the plants to less than ten leaves the leaves would grow rough and coarse, because the land is capable of making more. So the remedy is to distribute or allot the 30,000 leaves to a greater number of plants to the acre. If we were to plant 3,750 plants on one acre, and top every plant to eight leaves, we would get the 30,000 leaves the land would produce, and it would be much better than to get the leaves by planting just 3000 plants

and topping them to ten leaves. Why would it be better? Because it would bring the ripening of the bottom leaves, and the ripening of the top leaves closer together in point of time, the bottom leaves would not decay so badly while waiting for the top leaves to ripen and there would be more uniformity among the leaves as to growth and quality. But it seems to me that even this would throw the ripening of the bottom leaves and the ripening of the top leaves a little too far apart in point of time. If we were to plant 5,000 plants on one acre and top every plant to six leaves, then we would get the 30,000 leaves the land would produce and at the same time we would bring the ripening of the bottom leaves and the ripening of the top leaves so close together in point of time, the bottom leaves would not decay and drop off while waiting for the top leaves to ripen. Then there would be more uniformity as to size, and the tobacco would yellow and cure more uniformly. Then, there are other advantages in planting close and topping low, the tobacco can be topped earlier, as you can top a plant to 6 or 8 leaves earlier than you can to 10 or 12 leaves. And this earlier topping would insure in earlier ripening of the tobacco, and enable us to get it cut and into our barns while the weather is warm enough to enable us to yellow and cure it well. Then, there are other advantages. The leaves would be more evenly spaced or distributed over the land. They would shade the land more, and perhaps prevent in some measure, the evaporation of moisture from the soil. Then, too, the leaves would be more uniformly exposed to the sunshine by not being so many over one another, so as to shade the bottom leaves, as is the case when the plants are topped high. Now, all this was just a matter of theory with me, until I demonstrated or proved its correctness by an actual test, and I made this test last year. Of course, I did not plant all my tobacco in this way last year, but I planted enough of it in this way to make a proper test; and it enabled me to get my tobacco cut and cured earlier than I had ever done before. But now, I do not want any of you to let what I have said along this line cause you to go to the extremes and plant your tobacco too close and top it too low. Neither do I want you to take it for granted that I mean that 30,000 is the correct number of tobacco leaves to grow on an acre of land. I had to use some number with which to explain the principle and get it before you; and as 30,000 is approximately correct for my land, I just used that number, but of course, there is some land that will produce more than 30,000 leaves to the acre, and there may be some land that will not produce so many. Each farmer must be his own judge in this matter, bearing in mind the nature or the strength of his soil.

The next thing I wish to speak of, is the stage of growth the tobacco plant should reach before it is topped. Generally, if the crop is of good medium growth, I like for the plants to run up just a little before they are topped. I think this keeps the leaves from growing coarse as it insures relatively or comparatively small stems and fibers. It also causes the leaves to stand farther apart on the stalks, and this insures a free circulation of air and heat through the tobacco while it is being cured. If

(Continued on fourth page.)

## Briefs Adrift.

Some farmers in this section have begun cutting tobacco.

Mr. T. Hutchens, of Madison, was here a short while Friday.

There are eight prisoners confined in jail here at present.

Miss Mamie King, of Madison, came up Monday to visit relatives.

Miss Maggie Davis, of Guilford College, visited here this week.

The hotel at Piedmont Springs will probably close in a few days.

Stokes court convenes September 25th, less than a month distant.

Mr. D. S. Watkins, of Walnut Cove, passed through Danbury Monday.

Mrs. J. Spot Taylor, of Piedmont Springs, visited Danbury Monday.

Deputy Marshall Gaston H. Carroll, of Winston, was in Danbury Monday.

Mr. W. D. Bennett, of Walnut Cove, spent Sunday with his parents at Jewel.

Mr. Scales, representing the Madison Grocery Co., spent Monday night in town.

Miss Rachel Hollinsworth, of Mount Airy, is expected here Friday to visit relatives.

Miss Annie Kate Jones, who is at Piedmont Springs, spent Saturday and Sunday here.

Messrs. Leonard Irvin and Hurley Siceoff, of Mount Airy, spent a few days here the past week.

Misses Louise and Blanche Pepper, after a visit here of several weeks, returned to their home at Winston Thursday.

Messrs. C. A. and Wilkes Mitchell, of Dillard, spent Friday night and Saturday here attending the Sunday School Convention.

Messrs. Willie and Charlie Moore, of Moore's Springs, spent Sunday in Danbury. They report about fifty guests at the springs.

Mr. Frank H. Petree left Monday for Wake Forest College, where he goes to resume his studies in the law department of that institution.

The family of Mr. J. C. Buxton, who have been occupying their cottage at Piedmont Springs this summer, returned to their home at Winston Friday.

Miss Nora Covington, of Delk, who has been attending the teachers' institute here, returned home Friday on account of the death of her grandmother.

Mr. R. E. Smith, a prominent merchant and farmer of Francisco, visited Danbury Monday. Mr. Smith has named his place "Cornelia Farm."

Misses Anna Buxton, Hattie King, Edith and Julia Cunningham and Mr. Robah Gray and Mr. McAlister, who are at Piedmont Springs, visited Danbury Friday.

Messrs. J. S. Whitten and Wiley Mabe, two of our good farmers of Peter's Creek, visited Danbury Monday. Mr. Whitten was enroute home with a load of piping.

Mr. R. R. King, who holds a position with the Virginia Bridge & Iron Co., of Roanoke, visited his parents here the past week. He has been in Oklahoma for some time erecting bridges for his company.