



AND

## North-Carolina State Gazette.

"Ours are the plans of fair, delightful Peace,  
"Unwarp'd by party rage, to live like Brothers."

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### Rural Economy.

#### ON THE CULTURE OF HEMP.

FROM THE ENQUIRER.

The Agricultural Society of Richmond having received some valuable communications from very respectable correspondents, the benefit of which they are desirous of extending as quickly and as diffusively as possible amongst their agricultural brethren, have directed a publication in your paper of the following:

1. The copy of a letter from W. C. Nicholas, Esq. of Albemarle, Virg. to W. W. Rodman, Esq. of Washington, N. Carolina, concerning the culture of Hemp, communicated by Mr. Nicholas, addressed under cover to the Society.

2. A letter from T. S. Slaughter, of Culpeper, to the Secretary, conveying an answer to certain queries lately proposed by the Society.

3. A communication from Theo. Armistead of Norfolk, relative to the preparation of TANNIN for exportation, a new subject of rural economy, particularly interesting to the Farmers of the middle country.

NO. I.

May 4th, 1811.

SIR—Your favor of the 24th March was received by the last Mail. Your application to me for instructions respecting the cultivation of Hemp, required no apology: The little success I have, myself, experienced, is due to the kindness of those to whom I applied for information when I began the culture. This imposes on me the obligation of imparting to others what was so liberally communicated to myself. Another motive, of itself irresistible, is, my earnest desire to promote the prosperity of my country, to which, I presume, nothing can more contribute than varying the useful products of our soil, so as to prevent the consequences which would necessarily flow from confining the agricultural labor of the country to the production of a few articles. Hemp has strong recommendations; it is, intrinsically, worth as much as cotton, is applicable to most of the uses to which cotton can be applied, and to others for which cotton will not serve; to commerce it is indispensable; and is the material of the manufacture best suited to our wants and to our population. When imported, hemp must be paid for with money, as it is the product of countries exclusively agricultural, which take none of our productions in exchange. Its bulk, and the distance of the countries whence it is brought, render the expences of transportation almost equal to the prime cost. It does not impoverish land, nor does it interfere with any of the crops we cultivate, except Tobacco. Hemp is sown before corn is planted, and is not pulled until the corn no longer requires cultivation; it needs no attention at the periods when wheat demands the labor of the farmer, either for sowing, harvesting or threshing. From these remarks you will learn my opinion of the value of the hemp crop, in its relation to political as well as rural economy. The interference of public duties, and ill health, have prevented me from giving so much attention to this culture, during the short period I have been engaged in it, as I could have wished, and I regret that my information will not therefore, be so ample and satisfactory as I desire.

I am inclined to believe that your climate is not the most suitable to hemp—the plant may grow as large, and perhaps larger than in higher latitudes, but I expect that the bark will be lighter and coarser. My residence is twenty miles East of the Blue Ridge, and I doubt whether it would be possible with the same management, to make as good hemp at this place as could be made West of the Allegany. It is true that hemp is made in considerable quantities, in Spain and Italy, but as the most maritime and commercial nations of Europe derive their supplies from Russia, I conclude that the Northern hemp must be best.

I will now answer, with as much fullness as I can, your inquiries: Question 1st. What is the kind and quality of soil most proper for hemp?—Answer, A dark rich loam; I have not found land in which either sand or clay predominates very favorable for hemp.—On rich sandy land, the hemp grows to a great height, but the bark is coarse and light. On stiff clay I have never seen the hemp tall enough to yield a great crop. The plant depends chiefly on a long tap root, furnished with a few fibrous roots; the tap root penetrates to a considerable depth, and consequently requires a deep soft soil, and deep and thorough cultivation.

Question 2d. Whether its being wet is an advantage or a disadvantage?—Answer: I learned very early that wet land did not suit hemp, and my experience confirms the fact: so entire is the conviction on this point, where both hemp and flax are cultivated, that 'Flax in the water, and hemp in the fire,' has become an agricultural adage.

Quest. 3d. At what time is it best to sow hemp seed? and whether it would answer to sow in the fall, as I have been informed has been done in Virginia?—The usual time of sowing west of the mountains, whence I obtained all the information I possess, excepting what I have acquired by the practice of three years, is from the 15th of April to the 10th of May. The month of April is, there, esteemed the best time for sowing, and in that climate it may be, but in this part of the country, the month of March is preferable. The best crops I have made were sown in March. Last year the early sowing was considered the worst hemp until the crop was broken, when it appeared that the bark of the late sown was much lighter, altho' the hemp was taller. The spring of 1810 was more unfavorable to spring crops than we have ever known, our land was never wet from the 1st of May till the 20th of June, and if after such a season, early sown hemp proved better than late sown, its superiority in common years, will not be questioned. The advantages of early sowing are not confined to the single circumstance of producing superior bark; but having an early growth, it smother all other plants and weeds, and before the sun becomes very powerful, covers the ground, shades it, and preserves its moisture. I have never known hemp seed to be sown in the fall, and am, therefore, unable to say whether it would answer or not, but in sowing early land that had been in hemp the preceding year, I have always found some volunteer hemp of considerable height which must have sprung from seed accidentally scattered the fall before. Of this I am certain that hemp is a very hardy plant, and that frost, to kill it, must be very severe. I cannot, however, assert that it would stand the winter, but am persuaded that if it would, the crop would be superior to a spring sown crop. My choice is to sow as early as possible, after the danger of the frost is over. I will take the liberty of adding to my answer to this query, my opinion that no plant requires the land to be more thoroughly and perfectly prepared; it should be broken at least ten or twelve inches in depth, and be loose and fine before it is sown: I effect this by trench ploughing in the fall, and plough at least twice afterwards; my last operation, previous to seedings, is to harrow the ground, in order that the seed may be sown on a surface perfectly smooth and level, which enables the seedsman to distribute it equally. I then plough it in, and in that state the land is left. When I commenced the culture, my practice was to harrow in the seed, but abandoned it on observing that the land was more apt to bake in the smooth order it was left by the harrow, than in the state which the plough leaves it. When a rain fell before the seed came up, on ground that had been harrowed, I observed a crust formed on the surface, through which the tender sprout could not penetrate, and which forced it to turn down, in that situation many plants perished. I once had a sowing of eight or ten acres, on which I knew seed enough had been put, made too thin from the cause I mention. For the same reason, hemp is more easily pulled after the plough than the harrow, land that is harrowed being found closer and harder than that on which the last operation was with the plough. Farmers differ in opinion as to the quantity of seed that ought to be sown, five pecks to the acre, is however more generally approved of than other quantity. I concur with this opinion in the main, but upon old and very foul land I have sown six pecks advantageously. It appears to be universally admitted that the crop is not injured by sowing too much, that only so many plants will rise as the land will bear, and that the waste of superfluous seed is the sole loss to be apprehended. If this be true (and nothing but the concurrent assertion of all the hemp makers I have conversed with could convince me of the fact,) it is certainly better, always to give too much seed and by this you will be secured from the ravages of birds, worms, &c. I never saw a thin crop of hemp that was good.

In a crop of hemp, about one half of the stalks bloom, and the other half bear the seed. And the following are the indications of its being fit to pull. The stalks of the blossom or male hemp, turn yellow, become a good deal speckled, and drop most of their leaves, and when the air is still, a very perceptible cloud of dust rises from the blossom stalks, and hangs over the field. When ripe the sooner it is pulled the better. As it is pulled, it is to be laid in rows as thin as possible over the land in which it grows; after being pretty well cured on the ground, it must be bound into sheaves with some of the shorter hemp and put up in shocks open at the bottom, in which state it should remain, until sufficiently cured to be put into large stacks or ricks, when it should be removed to the land on which it is to be dew rotted. The stacks or ricks should be so constructed as to expose only the roots on the out side, and if the tops of the stacks be covered with hemp they should be peeled the latter end of September, by which time, in most seasons, what is exposed on the tops will be half rotted; the hemp taken off should be laid apart from the rest, to rot.—When it is safe to house corn, and not before, the crop of hemp may be spread to rot, taking care again, to separate the outside of the tops of the stacks, which will rot sooner than the hemp within the stacks. Hemp ought to be spread so thin as to cover at least three times as much ground as it grew upon. The length of time requisite to rot hemp depends upon the weather, and it should be examined frequently. To ascertain when the hemp is sufficiently rotted, if after crushing seven or eight stalks with your hands and holding them eighteen inches or two feet from each other, the head or stalk will shake out and separate easily from the bark leaving it clean and entire, the process of rotting is completed. Your own observation and attention will soon make you acquainted with this part of the business, and better than can be effected by any written instruction. There is no risk, for by submitting it to the break (until you become skilful enough to judge without that trouble) you can easily provide against taking up your hemp too soon, and the frequent repetition of the same experiment will secure you from the danger of its being overdone. The precise point to aim at is to take up the hemp at the moment when the bark or lint will separate from the stalk without being rotted or weakened. The bark or lint of hemp is connected with the stalk by a substance which must be either rotted or dissolved before they will separate; produce the separation and the work is accomplished.

I have been prevented, frequently, by the weather for eight or ten days in the month of March from taking up hemp that was sufficiently rotted, and have never experienced any inconvenience from it; in cold or even cool weather it is not easily injured by exposure. When your hemp is sufficiently rotted take it up and put it in stacks of about 100wt. each, tying them at the top with hemp. It should be perfectly dry when stacked. The business of the farm should be so arranged that you may commence breaking as soon as the hemp is ready, for it is subject to loss and injury proportionate to the time you delay it. My hemp, when broken, is baled in a box made like a cyder press, across the bottom four ropes are laid to tie the hemp when pressed into the box with a common prize.

4th Query. What are the kinds of Machines for breaking, scutching or swinging hemp and where are they made?

Answer. We use nothing but a break similar to a flax break but larger. My breaks are six feet long, 36 inches wide at one end of the break and twelve at the other end. With four swords in the frame and three in the upper part of the break. With this instrument (which any person may make who can make an helve to a hoe or an axe) our hemp is broken and cleaned. With one of these, a man will break, clean and prepare for market in one day from 80 to 150 lbs. accordingly as the order of the hemp, its quality, and the state of the weather may be more or less favorable.

6th Query. What quantity of hemp have you made to the acre?

Answer. Various quantities. When I commenced the culture, I was not only uncertain what parts, but whether any part of my land would bring hemp; in some instances I have been badly dis-

appointed, and in others, agreeably surprised. My average crop from all the land I have sown has not been satisfactory, a good deal of it was unfit for hemp, many acres indeed were not worth pulling, other fields to the contrary, yielded more than I ever expected from them. I will give you a statement of the crops of one of my farms for 3 succeeding years. The land has not been surveyed, but I am convinced it does not exceed eight or nine acres. From this land I made in the year 1808, 16500 wt. in 1809, 16000wt. and in the year 1810, 14000wt. The deficiency of the crop of last year I ascribe to the extraordinary drought of the last spring.—The result of this experiment was the more satisfactory, as it enabled me to make an accurate comparison between the produce of hemp and tobacco on the same land. In the year 1807 I had all the land (and about thirty thousand hills more) in tobacco that I afterwards sowed in hemp. That part of the land which was sown with hemp had brought a fine crop of tobacco, and yet I made more lbs of hemp from it alone, than of tobacco (with the product of the additional thirty thousand hills included) with less labour, and less interference with the wheat and corn crops. This experiment I deem very satisfactory and conclusive in favor of hemp. On another farm I made last year, twelve thousand weight of hemp from about 25 acres, of which, five acres at least were not worth pulling, and that I have this year, either thrown out of culture or matured highly.

4th Query. What is the best mode of steeping or watering, and whether you have tried the French process by hot water and soap?

Answer. This question I have purposely, delayed answering, because it is one of great difficulty, and my own experiments do not afford me very satisfactory means of solving it. In 1808 when I made my first crop of hemp I was entirely ignorant of every mode of managing it. I thought it safer to adopt the method that had been practised, in the small way, in this part of the country, where hemp had long been raised, by some people, for making rope for the use of their plantations, and to familiarise my people to the culture before I ventured on any innovation. The inducements to water rotting are strong, the hemp is said to be better, and of course commands a better price, I therefore felt considerable anxiety on this subject. The French process appeared to me impracticable on a large scale, for the bulk of hemp when good, from 70 to eighty acres of land is immense. The streams convenient to me, were objectionable; liable to be suddenly raised so as to endanger the hemp, by carrying it off, or to injure it by making deposits of mud. I therefore availed myself of a wide and deep ditch at the foot of a hill, which I enlarged, and where I had a perfect command of water, being able to let off or on at pleasure. I was pleased with the situation and made it large enough to hold as much as would yield about 800 or 1000 wt. of clean hemp. In this place I have tried water rotting two years; the result has not been very satisfactory—the labour of putting in, taking out, drying, and securing, is very great and unpleasant. The hemp managed in this way is more tedious to break, my people cannot break more than half as much water rotted, as of dew rotted, and my observations induce me to believe that the loss is much greater. I believe also, that in one respect, the hemp is injured, by breaking the fibre of the bark. From a small experiment that I made last year, of rotting hemp in the river, I am inclined to suppose, that where it can be immersed in large volumes of water (free from the risk I before mentioned) the object would be accomplished with more certainty. I think that in my ditch or pond the quantity of water is insufficient for the hemp. The water rotted hemp I have sent to market has certainly commanded a readier sale and higher price than dew rotted, but I question if I have been more than reimbursed the extra labour, and loss of hemp in the way I have managed it. I would not have you infer from this, that I mean to abandon water rotting, or that I am prepared to say it is not the most eligible mode of managing hemp. My opinion of the loss is conjectural, and I will, the ensuing fall, make some experiments to ascertain the matter with precision; if I succeed in watering it properly, I feel almost convinced that the difference will be found

not to exist in breaking at least; this, however, I deem of small consequence, as I am satisfied that we shall soon break our hemp by machinery that will very much diminish the labour; my experiments in water rotting, shall be very much diversified, as I am still sanguine in my expectations that I, or some other person, will succeed in discovering the right method: should it be my good fortune, it will give me real pleasure to communicate the result to you, and to my other countrymen through the Richmond Agricultural Society, to which I intend to present a copy of this letter.

The most unpleasant labour in the hemp crop and that which presses most, is pulling; to pull a quarter of an acre, is said to be a day's work for a man. In the Western country it is cut with a knife or hook, and it is said to be as easy to cut half an acre as to pull a quarter. This is important in two points of view, it saves labor, and will enable you to double your crop of hemp, for the crop of hemp a man can make is limited only by the land he has proper for its production, and his ability to save it in due time. It is easy to sow, to rot and to break much more than it is practicable to manage in the season of harvest. It is true that cutting will occasion some loss of weight, but I am convinced the hemp will be more valuable, the bark of the root disfigures the appearance of the hemp and cannot be spun to advantage with the finer part of the bark of the stalk above the root. Most of the roots indeed are broken off and lost by the break. Hemp seed is made by suffering a part of the crop to remain until it is ripe or by drilling it and cultivating it like corn, taking care to pull up in good time the stalks that will not bear seed.

I will take the liberty to add to this letter, long as it already is, a comparison between the labor necessary for a crop of hemp and a crop of tobacco, from which it will be obvious that the former interferes less with other crops, and requires, likewise, much less labor. It is known that hemp does not exhaust the land; while growing it shades it completely, it prevents it from washing, deposits a considerable quantity of leaves and farina, and if the herds are used in a farm yard, their absorbent properties render them an excellent material for manure. Upon a plantation of 500 acres of open land, on which from 90 to 100,000 tobacco plants are cultivated, ten hands must be employed all the year: this crop with as much corn as will support the plantation, and ten bushels of seed wheat to each hand, is as much as can be managed, with the utmost industry and attention and every facility that can be derived from good teams and implements of every sort.—The produce of this labor when applied on good land, I estimate as follows; and this I know to be above a fair average.

1500 pounds of tobacco, at \$ 6 is	90
100 bushels of wheat, at 1	100
	190
190 \$ to each hand, is, for ten hands,	1900
Deduct for the amount hire of each hand, taxes, maintenance and tools, 80 dollars each,	800
on a farm of equal size,	1100
I would sow 120 acres in wheat, chiefly on fallow, and would expect 15 bushels to the acre,	1800
18 acres in hemp, at 500 lb. to the acre, is 9000 lb. at 10 cents,	900
	2700

This crop would be managed with six hands, for expences deduct \$80 each, 480 Dollars, 2220

I believe the above is a fair estimate. I am convinced I can make more pounds of hemp than of tobacco upon the same land, and that it is worth more, I refer to the state of the market for an average of years. That more land can be cultivated in wheat, with a hemp, than with a tobacco crop, is demonstrated by its being shown that hemp and wheat never require the planter's attention at the same time; whereas it is notorious that in harvest in the threshing and seeding and in the preparation for seeding great attention is necessary to the tobacco crop; that the land is less injured, can be better prepared, and more of it manured, is equally obvious. But to put this out of all doubt, I subjoin the following statement to show the number of days work required to make each crop and the season when the labor is performed. I do not take into the estimate the time that is required to break or prepare the land for hemp, because precisely the same preparation would be advantageously bestowed upon the land that is to be planted in tobacco.