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Nec aranearum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libanus ut apes.

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HEMP.

AN ESSAY ON THE CULTURE OF HEMP,
BY THE HON. H. CLAY.

This is a complete treatise on the best manner of raising and preparing an article, which always commands cash sufficient to reward liberally the cultivator who proceeds correctly in obtaining this valuable product. The author of the essay is not less favourably known as a statesman than as a practical and scientific agriculturist, and as his name will give it that weight and currency with American farmers which is due to its intrinsic excellency.

The preparation of the ground for sowing the seed is by the plough and horses, until the clods are sufficiently pulverised or dissolved, the surface of the field is rendered even and smooth it should be as carefully prepared as if it were for flax. The most important point too often neglected, cannot be attended to too much. Scarcely any other crop better rewards diligence and careful husbandry. Fall or winter ploughing is practised with advantage; it is indispensable in old meadows, or old pasture grounds, intended for producing hemp.

Plants for seed are ordinarily reared in a place distinct from that in which they are cultivated for the lint. In this respect, the usage is different from that which is understood to prevail in Europe. The seeds which are intended to reproduce seeds for the crop of the next year, are sowed in drills about four feet apart. When they are sufficiently grown to distinguish between the male and the female stalks, the former are pulled and thrown away, and the latter are thinned, leaving the stalks separated seven or eight inches from each other. This operation is usually performed in the blooming season, when the sexual character of the plant is easily discernible; the male alone blossoming, and when agitated throwing off farina, a yellow dust or flour, which falls and colours the ground, or any object that comes in contact with it. A few of the male plants had better be left scattered through the drill until the farina is completely discharged for an obvious reason. Between the drills a plough is run sufficiently often to keep the ground free from weeds and grass; and between the stalks in each hill the hoe is employed for the same object. The seed plants are generally cut after the first smart frost, between the 25th of September and the middle of October, and carried to a barn or stack yard, where the seed is easily detached by the common flail. They should be gathered after a slight but before a severe frost; and as they will fall out very easily, it is advisable to haul the plants on a sled, and if convenient, when they are wet. If transported on a cart or waggon, a sheet should be spread to catch the seed as they shatter out. After the seeds are separated, the stalks which bore them being too large, coarse and harsh, to produce lint, are usually thrown away; they may be profitably employed in making charcoal for the use of powder mills. In Europe where the male and female plant are promiscuously grown together in the same field, both for seed and for lint, the male stalks are first gathered, and the female suffered to remain growing until the seeds are ripe, when they are also gathered, the seed secured and lint obtained, after the rotting from both descriptions.

After the seeds are threshed out, it is advisable to spread them on a floor, to cure properly and prevent their rotting, before they are finally put away for use the next spring. Seeds are not generally used unless they were secured the fall previous to their being sown, as it is believed they will not vegetate if older; but it has been ascertained that when they are properly cured and kept dry, they will come up after the first year. It is important to prevent them from heating, which destroys the vegeta-

tion property, and for that purpose they should be thinly spread on a sheltered floor.

The seeds, whether to reproduce seeds only, or the lint, are sowed about the same time. Opinions vary as to the best period. It depends a good deal upon the season. The plant is very slender, when it first shoots up, and is affected by frost. Some have sowed as early as the first of April, but it is generally agreed, that all the month of May, and about the 10th of it especially, is the most favourable time. An experienced and successful hemp grower in the neighbourhood of Lexington, being asked the best time to sow hemp, answered, 'immediately before a rain.' And undoubtedly it is very fortunate to have a moderate rain directly after sowing.

When the object is to make a crop of hemp, the seeds are sown broadcast. The usual quantity is a bushel and a half to the acre; but here again the farmers differ, some using two bushels or even two bushels and a half. Much depends on the strength and fertility of the soil, and the care with which it has been prepared as well as the season. To these causes may be ascribed the diversity of opinion and practice. The ground can only sustain and nourish a certain quantity of plants; and if that limit be passed, the surplus will be smothered in the growth. When the seeds are sown, they are ploughed or harrowed in; ploughing is best in old ground, as it avoids the injurious effect of a beating rain, and the consequent baking of the earth. It would be also beneficial subsequently to roll round the ground with a heavy roller.

After the seeds are sown, the labours of the cultivator are suspended until the plants are ripe and in a state to be gathered; every thing in the intermediate time being left to the operations of nature. If the season be favourable until the plants are sufficiently high to shade the ground, (which they will do in a few weeks, at six or eight inches height) there is strong probability of a good crop. When they attain that height, but few articles sustain the effect of bad seasons better than hemp.

It is generally ripe and ready to be gathered about the middle of August, varying according to the time of sowing. Some sow at different periods, in order that the crop may not all ripen at the same time, and that a press of labour in rearing it may be thus avoided. The maturity of the plant is determined by the evaporation of farina, already noticed and the leaves of the plant exhibiting a yellowish hue; it is then generally supposed to be ripe, but it is safest to wait a few days longer. Very little attentive observation will enable any one to judge when they are fully ripe. In that respect it is a very accommodating crop, for if gathered a little too soon, the lint is not materially injured, and it will wait the leisure of the farmer some ten days or a fortnight after it is entirely ripe.

Two modes of gathering the plant are practised, one by pulling them up by the roots, an easy operation with an able bodied man, and the other by cutting them about two inches (the nearer the better) above the surface of the ground. From the quarter to the third of an acre is the common task of an average labourer, whether the one or the other mode is practised. The objections to pulling are, that the plants with their roots remain connected with them, are not afterwards so easily handled in the several operations which they must undergo; that all parts of the plants do not rot equally and alike, when exposed to the dew and rain; and finally, that before you put them to the bracke, when the root should be separated from the stalk, the root drags off with it some of the lint. The objection to cutting is, that you lose two or three inches of the best part of the plant nearest the root. Pulling being the most ancient method, is most generally practised. I prefer upon the whole, cutting; and I believe the number who prefer it is yearly increasing. When pulled, it is done with

the hand, which is better for the protection of an old leather glove. The labourer catches twenty or thirty plants together, with both hands, and by a sudden jerk draws them without much difficulty. The operation of cutting is performed with a knife, often made out of an old scythe, resembling a sickle, though not so long but broader. This knife is applied much in the same way as the sickle, except that the labourer stoops more.

Whether pulled or cut the plants are carefully laid on the ground, the easier the better to cure; which they do in two or three days, in dry weather. A light rain falling on them, while lying down, is thought by some to be beneficial, inasmuch as the leaves, of which they should be deprived, may be easier broken off or detached. When cured the plants are set up in the field in which they were produced, in shocks of convenient size, the roots or butt ends resting on the ground, and the tops united above by a band made out of the plants themselves. Previous to putting them up in shocks, most cultivators tie the plant in small hand bundles of such a size, as that each can be conveniently held in one hand. Before the shock are formed, the leaves of the plant should be rapidly knocked off with a rough paddle or hooked stick. Some suffer the plants to remain in these shocks, until the plants are spread down to be rotted. Others again collect the shocks together as soon as they can command leisure, (and it is clearly the best) and form them into stacks. Few farmers permit these stacks to remain over a whole year, before the plants are exposed to be rotted. By remaining that period in stalks, the plant go through a sweat, or some other process, that improves very much the appearance, and I believe the quality of the lint, and this improvement fully compensates the loss of time in bringing it to market. The lint has a soft texture and a lively hue, resembling water rotted hemp; and I once sold a box of it in the Baltimore market at the price of Russia hemp. In every other respect the plants are treated as if they were not kept over a year.

The method of dew rotting is that which is generally practised in Kentucky. The lint so spread is not so good for many purposes, and especially for rigging and ships, as when the plant have been rotted by immersion in water, or as it is generally termed, water rotted. The greater value, and constantly higher price of the article prepared in the latter way, has induced more and more of our farmers every year to adopt it; and if that prejudice were subdued, which every American production unfortunately encounters when it is first introduced, and comes in contact with a rival European commodity, I think it probable that in a few years we should be able to dispense altogether with foreign hemp. The obstacles which prevent the general practice of water rotting, are the want of water, at the best season for the operation, which is the month of September; a repugnance to the change of an old habit, and a persuasion which has some foundation, that handling the plant after their submersion in water during that month is injurious to health. The first and last of these obstacles would be removed by water rotting early in the winter or in the spring. The only difference in the operation, performed at these seasons and in the month of September, would be, that the plants would have to remain longer in soak before they were sufficiently rotted.

The plants are usually spread down to be dew rotted from the middle of October to the middle of December. A farmer who has a large crop on hand, puts them down at different times for his convenience in handling and dressing them. Autumnal rotting is more apt to give the lint a dark and unsightly colour than winter rotting. The best ground to expose the plant upon is meadow or grass land, but they are not unfrequently spread over the same field on which they grow. The length of time they ought to

remain exposed depends upon the degree of moisture and the temperature of the weather that prevail. In a very wet and warm spell five or six weeks may be long enough. Whether they have been sufficiently rotted or not is determined by experiment. A handful is taken and broken by the hand of applied to the brake when it can be easily ascertained, by the facility with which the lint can be detached from the stalk, if it be properly rotted. If the plants remain on the ground too long, the fibres lose some of their strength, though a few days longer than necessary, in cold weather, will not do any injury. If they are taken up too soon, that is, before the lint can be easily separated from the woody part of the stalk, it is harsh, and the process of breaking is difficult and troublesome. Snow rotting, that is when the plants, being spread out, remain long enough to rot, (which, however, requires a greater length of time,) bleaches the lint, improves the quality, and makes it nearly as valuable as if it had been waterrotted.

After the operation of rotting is performed the plants are again collected together put in shocks or stacks, or, which is still better, put under a shed or some covering. When it is designed to break and dress them immediately, they are frequently set up against some neighbouring fence. The best period for breaking and dressing is the months of February and March, and the best sort of weather frosty nights and clear thawing days. The brake cannot be used advantageously in wet or moist weather. It is almost invariably used in this state out of doors and without any cover; and to assist its operation, the laborer often makes a large fire near it, which serves the double purpose of drying the plants and warming himself. It could not be used in damp weather in a house without a kiln or some other means of drying the stalks.

The brake in general use is the same hand-brake which was originally introduced, and has been always employed here, resembling, though longer than the common flax brake. It is so well known as to render a particular description of it, perhaps, unnecessary. It is a rough contrivance, set upon four legs, about two and a-half feet high. The brake consists of two jaws with slits on each, the lower jaw fixed and immovable, and the upper one moveable, so that it may be lifted up by means of a handle inserted into a head or block at the front end of it. The lower jaw has three slats or teeth, made of tough white oak, and the upper two, arranged approaching to about two inches in front, and in such a manner that the slats of the upper jaw play between those of the lower. These slats are about six or seven feet in length, six inches in depth, and about two inches in thickness in the lower edges; they are placed edgewise, rounded a little on their upper edges, which are sharper than those below. The laborer takes his stand by the side of the brake, and grasping in his left hand as many of the stalks as he can conveniently hold, with his right hand he seizes the handle in the head of the upper jaw, which he lifts and throwing the handful of stalks between the jaws, repeatedly strikes them by lifting and throwing down the upper jaw. These successive strokes break the woody or reedy part of the stalks into small pieces or shreds, which fall off during the process. He assists their disengagement by striking the handful against a stake, or with a small wooden paddle, until the lint or bark is entirely clean, and completely separated from the woody particles.

After the above operation is performed, the hemp may be scutched, to soften it, and to strengthen the threads. That process, however, is not thought to be profitable, and is not therefore generally performed by the grower, but is left to the manufacturer, as well as that of beating and hackling it. Scutching is done by the labourer, taking in his left hand a handful of the lint, and grasping it firmly, then laying the middle of it upon a semi-circular notch of a perpendicular