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ON THE CULTIVATION OF DYERS' Madder AS AN ARTICLE OF AMERICAN AGRICULTURE.—RUBIA TINCTORIA.—By M. B. Bateham, one of the Editors of the New Genesee Farmer.

The quantity of madder consumed annually in the United States, and imported from abroad, is perfectly astonishing to those who have given no attention to the subject. Unfortunately, our public records do not give very exact information on the subject; but Mr. Ellsworth, as the nearest approximation he could obtain, gives the amount as *five thousand tons*! Estimating this at the low average price of ten cents per pound, it makes the round sum of *one million of dollars* paid annually to foreign countries for an article that can be produced as good and as cheap at home—paid, too, by a people loaded down with indebtedness, and disgraced by the forfeiture of pledged obligation!

The Cultivation of madder has heretofore been represented as a tedious and labourious operation, requiring much care and skill, as well as outlay of capital. The directions have been mainly gathered from foreign works, detailing the methods practiced by the plodding Dutch in Holland and Germany. These accounts have appeared so frightful to Americans, that none of them have dared to undertake the business; and labour-ingenuity have never been exercised upon it.

It is true, the crop requires three or four years to arrive at maturity, and needs considerable labour and some knowledge; but the quantity of land it occupies, and the amount of labour it requires, is far less in proportion to the value of the crop than those of any other farm-crop that can be named.

These assertions are fully corroborated by the experience of an enterprising American farmer, Mr. Joseph Swift, of Erie county, Ohio, who has been engaged in the culture of madder for 5 years past. A detailed account of Mr. Swift's mode of culture, and its results, was obtained at his residence last winter, by the writer of this essay, and published in the *New Genesee Farmer* for March, 1843.

From this account it will be seen, that after having informed himself on the subject, and becoming satisfied that the business was practicable and profitable, he at once planted 9 acres—a quantity that would astonish Mynheer Van Hollander. This he allowed to grow four seasons, and the crop was harvested and sold in the fall of 1842. The following are some of the results of his experience. The product of his best land is at the rate of 2,000 lbs. per acre; and he is certain that, with his present knowledge, he can obtain 3,000 lbs. per acre—which is more than the best average crops of Holland or Germany. The quality was superior to the average of imported madder.

The labour required, including the whole time, with the digging, clearing, threshing, &c., was from eighty to one hundred days' work per acre. The outlay for buildings, fixtures, &c., did not exceed, in all, fifty dollars.

The value of the crop was at the rate of fifteen cents per pound, at which price he sold most of it—notwithstanding the circumstance of its being unknown to purchasers, and all the prejudice that usually exists in such cases.

The result, then, in figures, fairly stated, stands thus, for an acre of good land properly managed:—

Mr. Swift, was one of the earliest settlers of that section of the country, having resided nearly thirty years on the farm he now occupies, which consists of about 400 acres of choice land, mostly alluvial, in the valley of the Vermillion river, seven miles from Lake Erie. At my request, he furnished me with the following practical directions for the cultivation of madder, which he remarked must be understood as intended for those who wish to cultivate only a few acres, and cannot afford much outlay of capital. Those who wish to engage in the business on an

extensive scale, would need to adopt a somewhat different practice.

Soil and Preparation.—The soil should be a deep, rich, sand loam, free from weeds, roots, stones, &c., and containing a good portion of vegetable earth. Alluvial "bottom" land is the most suitable; but it must not be wet. If old upland is used, it should receive a heavy coating of vegetable earth, (from decayed wood and leaves.) The land should be plowed very deep in the fall; and early in spring apply about one hundred loads of well-rotted manure per acre, spread evenly, and ploughed in deep; then harrow till quite fine and free from lumps. Next, plough the land into beds four feet wide, leaving alleys between, three feet wide; then harrow the beds with a fine light harrow, or rake them by hand so as to leave them smooth and even with the alleys. They are then ready for planting.

Preparing Sets and Planting.—Madder-sets, or seed-roots, are best selected when the crop is dug in the fall. The horizontal uppermost roots (with eyes) are the kind to be used; these should be separated from the bottom root, and buried in sand, in a cooler or pit. If not done in the fall, the sets may be dug early in the spring, before they begin to sprout. They should be cut or broken into pieces, containing from two to five eyes each—i. e. three to four inches long. The time for planting is as early in spring as the ground can be got in good order, and severe frosts are over, which, in this climate, is usually about the middle of April. With the beds prepared as directed, stretch a line lengthwise the bed, and with the corner of a hoe make a drill two inches deep along each edge and down the middle, so as to give three rows to each bed, about two feet apart. Into these drills drop the sets, ten inches apart, covering them two inches deep. Eight or ten bushels of sets are requisite for an acre.

After Culture.—As soon as the madder plants can be seen, the ground should be carefully hoed, so as to destroy the weeds and not injure the plants; and the hoeing and weeding must be repeated as often as the weeds make their appearance. If any of the sets have failed to grow, the vacancies should be filled by taking up parts of the strongest roots and transplanting them; this is best done in June. As soon as the madder plants are ten or twelve inches high, the tops are to be bent down to the surface of the ground, and all except the tip end covered with earth shovelled from the middle of the alleys. Bend the shoots outward and inward, in every direction.

When ready to take out of the ground, put half a bushel of roots at a time and stir them about in the water, pulling the bunches apart so as to wash them clean; then, having a platform at hand, lay them on it to dry. To make the platform, take two or three common boards, so as to be about four feet in width, and nail cleats across the under side. On these spread the roots about two inches thick for drying in the sun. Carry the platforms to a convenient place, not far from the house, and place them side by side in rows east and west, and with their ends north and south, leaving room to walk between the rows. Elevate the south ends of the platforms about eighteen inches, and the north ends about six inches from the ground, putting poles or stumps to support them: this will greatly facilitate drying. After the second or third day drying, the madder must be protected from the dews at night, and from rain, by placing the platforms one upon another to a convenient height, and covering the uppermost one with boards. Spread them out again in the morning, or as soon as danger is over. Five or six days of ordinary fine weather will dry the madder sufficiently, when it may be put away till it is convenient to kill-dry and grind it.

Kiln-drying.—The size and mode of constructing the kiln may be varied to suit circumstances. The following is a very cheap plan, and sufficient to dry one ton of roots at a time. Place four strong posts in the ground, twelve feet apart one way, and eighteen the other; put girts across the bottom, middle, and top, a d nail boards perpendicularly on the outside as for a common barn. The boards must be well seasoned, and

all cracks or holes should be plastered or otherwise stopped up. Make a shed-roof of common boards. In the inside, put upright standards about five feet apart, with cross-pieces, to support the scaffolding. The first cross-pieces to be four feet from the floor; the next two feet higher, and so on to the top. On these cross-pieces, lay small poles about six feet long and two inches thick, four or five inches apart. On these scaffolds the madder is to be spread nine inches thick. A floor is laid at the bottom, to keep all dry and clean. When the kiln is filled, take six or eight kettles or hand furnaces, and place them four or five feet apart on the floor, (first securing it from fire with bricks or stones,) and make fires in them with charcoal, being careful not to make any of the fires so large as to scorch the madder over them. A person must be in constant attendance to watch and replenish the fires. The heat will ascend through the whole, and in ten or twelve hours it will all be sufficiently dried, which is known by its becoming brittle like pipe stems.

Breaking and Grinding.—Immediately after being dried, the madder must be taken to the barn and thrashed with flails, or broken by machinery. (a mill might be constructed for this purpose,) so that it will feed in a common grist-mill. If it is not broken and ground immediately, it will gather dampness so as to prevent its grinding freely. Any common grist-mill can grind madder properly. When ground finely it is fit for use, and may be packed in barrels like flour for market.

Amount and value of Product, &c.—Mr. Swift measured off a part of his ground, and carefully weighed the product when dried, which he found to be over two thousand pounds per acre, notwithstanding the seasons were mostly very unfavourable. With his present knowledge of the business, he is confident that he can obtain at least three thousand pounds per acre, which is said to be more than is often obtained in Germany. The whole amount of labour he estimates at from eighty to one hundred days' work per acre. The value of the crop, at the usual wholesale price, (about fifteen cents per pound,) is from three to four thousand dollars. In foreign countries it is customary to make several qualities of the madder, which is done by sorting the roots; but as only one quality is required for the western market, Mr. Swift makes but one, and that is found to be superior to most of the imported, and finds a ready sale.

If any person desires instruction for making several qualities of madder, or further information respecting any other point, it may be obtained by addressing, post paid, Joseph Swift, Birmingham, Erie county, Ohio.

Blackberry Syrup.—We are indebted to a friend for the following receipt for making blackberry syrup. This syrup is said to be almost a specific for the summer complaint. In 1832 it was successful in more than one case of cholera:—

To two quarts of juice of blackberries, add one pound of loaf sugar, $\frac{1}{2}$ oz. nutmegs, $\frac{1}{2}$ oz. cinnamon, pulverised, $\frac{1}{2}$ oz. cloves, $\frac{1}{2}$ oz. allspice, &c. Boil all together for a short time, and when cold, add a pint of fourth proof brandy. From a teaspoonful to a wine glass according to the age of the patient till relieved, is to be given.

For cleansing brass, take 1 oz. oxalic acid to a quart of alcohol. Rub with a woollen rag till dry. It has been tested, and with great satisfaction to many.

It is said that ringworms may be, in most cases, simply cured by scratching around the outer surface with the point of a sharp needle. The disease will not pass the line, if the skin is thus cut.

The blood of a white hen, (says the *New England Farmer*,) smeared on a freckled face, and suffered to dry thereon, and afterwards wiped away, clearly takes away all spots from the same.