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PEAT OR MUCK FOR MANURE.

Peat, or "muck," may be described as vegetable matter in a state of decay.—Its origin is somewhat various, being sometimes derived from the branches and leaves of trees, and sometimes from mosses and aquatic plants. It is not found in so large bodies in this country as in the British islands. It is quite common in England and abundant in Scotland; while in Ireland it includes large districts, and even extends up the sides of mountains, covering the earth to the depth of forty to fifty feet, and, by computation, embraces nearly a seventh part of the surface. In those countries it constitutes the fuel of a large portion of the population. That which is used for this purpose, is formed chiefly by mosses, which for ages have continued to grow on these localities. Persons who are acquainted with peat bogs or mosses, understand the process of accumulation; others may not so readily comprehend it. There is a continuous growth from year to year, but the under strata die, are more or less decomposed, sink down, and by pressure are converted into the state which is called peat. We have but few bogs in which peat of so solid a nature as that used in Ireland for fuel has been found. But in some instances our bogs have been dug for the purpose of procuring fuel, to good advantage.

The greatest value of bogs in this country, however, consists in their affording *manure*. We shall enter into no particular discussion, at this time, in regard to the specific operation of peat or muck in benefitting vegetation—whether its action is wholly mechanical, producing in the soil the requisite physical texture, or whether the substance is actually "dissolved" and absorbed by growing plants—its utility in augmenting the yield of various crops, has been abundantly demonstrated.

It is, perhaps, proper to make a distinction between peat and muck, though the terms are frequently used synonymously. Peat should be considered as referring more particularly to the composition of bogs, and which has become so solid that when it is cut in pieces they will retain their form; and muck to the loose matter which has been accumulated from leaves, or the washings of woods and fields.

The value of these substances as manure, especially for immediate use, varies greatly, according to their origin.—The muck found in ash, maple, or elm swamps, or which is formed by the leaves and small branches of hard-wood trees, is usually far better than that found in pine, cedar, or hemlock swamps, or in legitimate peat bogs. The former will generally produce excellent effects on most crops as soon as it is applied; the latter must have time for decomposition, and generally requires to be mixed with some substances which will assist the development of its fertilizing qualities. It is frequently remarked, that muck from the localities last mentioned, is *sour*; and chemical investigation has shown that it does in fact contain an acid, which is called *tannin*. The bark of oak, and of most hard wood trees, contains this principle; but when the bark or trees decay, the acid is soon dispelled by the action of the air and rain. With the remains of resinous trees, such as pines, cedars, &c., it is not so. Either from the acid being combined with resin, or from some other cause, it is much less soluble; and muck which is mixed with the rubbish of these trees, produces at first rather injurious effects. The refuse of wood-piles, composed of chips and bark chiefly from pine, is sometimes applied to land as manure; but the yellow colour and stunted appearance of vegetation in such cases, shows that the application was rather poisonous than beneficial.

In many situations, we believe that the substance of swamps and bogs constitute the best and cheapest material which can be used, to a certain extent, for enriching the soil. Its application is attended with the greatest benefit on such lands as contain least vegetable matter; and it so happens, fortunately, that those portions of the country which are most deficient in this respect, are generally best supplied with the article to which we refer. The question is, how can it be used to the best advantage?—We have before remarked that some kinds of muck operate beneficially as soon as they are applied, and without admixture with any other substance.—Such, however, is not very abundant, and with that which is ordinarily met with, the case is different. The acid must be got rid of, and the vegetable food which the peat or muck contains, rendered soluble. There are several ways in which this article may be usefully compounded, some of which are the following:—

1. Composted with animal manure. This mode has been practiced more or less for many years. Lord Meadowbank's experiments, more than forty years since, proved the value of peat compost. He found that any substance which would occasion a fermentation of the peat, would render it good manure; but stable or barn-yard manures were mostly used. He found that one load of manure would ferment three loads of peat; but it is evident that the proportions must vary, according to the strength of the manure and its tendency to heat, and the *sourness* of the peat. The peat and manure are laid in a pile, in alternate layers. It is best to dig the peat in autumn, when the bogs are usually driest. The compost may be formed in spring, and will ferment sufficiently to be used for crops in three or four weeks, according to the state of the weather—the change being, of course, most rapid in a high temperature.

Elias Phinney, Esq., of Lexington, Mass., one of our most judicious farmers, has ascertained that a cord of green dung will convert twice its bulk of peat into manure of equal value to itself.*

The beneficial action of the manure in this case is ascribed to two causes.—The ammonia of the manure being an alkaline salt, neutralizes the tannin, and the heat, in connexion also with the ammonia, renders the vegetable nutriment of the peat soluble. It is undoubtedly one of the best modes in which the farmer can use peat or muck. But he should never lose sight of the importance of using a sufficient quantity of muck in his stables and yards, to absorb and prevent the waste of all liquid manure.

If vats or reservoirs are formed for the reception of urine, the liquid may be used with excellent effect on peat; urine is richer in ammonia than dung, and its action on peat is consequently more powerful. Cheever Newhall, Esq., of Dorchester, Mass., prepares large quantities of peat in this way, and considers a cord of peat saturated with a hogshead of urine, more valuable for any crop, than a cord of any kind of dung made on the farm.

2. Doctor Dana, in his *Muck Manual*, observes that "the power of alkaline action is alone wanting to make peat good cow-dung,"—that "by the addition of alkali to peat it is put into the state which ammonia gives to dung." The effect of alkali is undoubtedly similar to that of the ammonia of manure. Its chief value probably consists in its neu-

* Dana's *Muck Manual*.