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AGRICULTURAL.

Charcoal as a Fertilizer.
We made allusion to a little occasion to the use of charcoal for fertilizing purposes, and to a mistaken view of its mode of action. While this substance is often mentioned in journals as useful in compost, and as having a material value, is very little known to the agricultural community at large. It is well to have this somewhat more determined than it is now; that it may not be either over or undervalued when it may happen to be more or less accessible.

In the first place, charcoal is exceedingly indestructible. That this fact is familiar enough, we see in the very common practice of chaining fence-posts before putting them in the ground, to preserve the parts more especially exposed to decay. It is in fact one of the most indestructible of substances. It will be excluded if it suffers no change, when exposed to heat of the greatest intensity. Moisture has no effect, and no chemical agent will act upon it. It does not then, seem probable that it has of itself any valuable property as a fertilizer. It is hardly possible that it can, in any given time, go through a process of decomposition which will fit it for the food of plants.

But charcoal is a porous body, and in common with other porous substances has the power of absorbing and condensing gases in greater or less degree. After it has been heated to reduce and cooled without exposure to air, it will absorb ninety times its own bulk of ammoniacal gas. It is upon this property of absorbing gases, that its value as manure depends.

A cubic inch of charcoal is capable of condensing within its pores, ninety cubic inches of ammonia.

Then the practical question arises, how the ammonia is to become available as the food of plants, locked up within the pores of this indestructible substance. We attack much importance to what is called the vital power of the roots of plants, but it does not appear how they can penetrate the pores of the charcoal, or how they have power to act except on the mere surfaces with which they come in contact. The proper answer to the question is, perhaps, in the greatest absorbing power of water.

Water absorbs at the common temperature and pressure, from seven to eight hundred times its volume of ammoniacal gas, and will not part with the whole of it when boiled. Its power of absorption, as compared with charcoal, is as eight hundred to twenty, and the necessary result, when the substances come in contact, is that the latter gives up its store to the former. The ammonia is simply washed out of the charcoal by the first shower of rain, and transferred to the surface soil, to be made available as the food of plants. When this occurs, the pores of the charcoal are left full of water, and only then thus evaporates, or in other words, when the charcoal dries it is capable of absorbing ammonia as before. It is manifested then, it must be in position to dry after being washed out, if we want it to continue its good offices.

During the heat of summer when the atmosphere is most charged with ammonia, it is most capable of gathering this valuable gas, for it then is most quickly dried after being washed by a shower. But it must, of course, be on the surface, if we would have it answer our purpose in this respect.

The end gained by the use of charcoal in a compost heap is different from that above named, and depends on a different principle altogether. It is not by absorbing and condensing the gases which arise from a decomposing dung heap that it is valuable in this case, but rather by checking decomposition. If meat, when it has begun to putrefy, be packed down in charcoal, it is not only deprived of all bad smells, but the process of putrefaction is immediately stopped. No more gases are formed, and of course, none can be absorbed. Its effect is to stop the process of decay. In the same manner any animal or vegetable substance, if exposed to the action of charcoal, may be preserved unchanged for any length of time. Thus when used in the compost heap, all the substances it is brought in contact with are brought to the soil more rapidly separated from it by the rains which fall upon them, and then undergo the decay which fits them to become the food of wheat.

—*Ag. Editor Baltimore Sun.*

Cranberry Culture.

The cranberry growers on Cape Cod have held a convention, for the purpose of organizing an association for the promotion of their interests. We give the following abstract of their discussion on the occasion, relating particularly to the culture of the plant:

The President, Mr. Stull of Harwich, said that he had been engaged in the cultivation of the cranberry for many years, but still he felt there were many things yet to be learned, and presumed that others present felt the same, and he hoped they would discuss the matters before them freely and socially. He was of the opinion that maple and common brush swamp were the best bottoms for cranberries, and that cedar bottom was the next. He had no experience with sand bottom. He thought that ditches should be near to each other, not more than three or four rods apart.

Nathaniel Winkler of Barnstable said that he had several years been engaged in cultivating cranberries, and was satisfied that there was a great variety of the fruit. Some would grow best on high land, some, best on low, and some on peat. His advice to any person managing his lands for him, is to never let his vines get too far from his house.

Heir Hall of Dennis, said he owned the cranberry ground which his father occupied as such 50 years ago, and the

vines bore as well now as they ever did, the fruit, perhaps, being a little smaller. When peat was third best below the vines, the fruit grew best. Three or four sorts of cranberries came from the place, where only one grew originally.

Mr. Stubbs of Wellfleet, said he had been unsuccessful in his cultivation, from the fact that he could not flow or drain his vines. He had three crops of vine worms (sometimes called the fire-worm) but passed through the Straits of Florida in company.

Now you must know that to bring the first of the season's sea into market, was hard, and is a very great object, and of course there is considerable rivalry among the first ships loaded.

Moreover, part of our cargo was of account of the owner of the ship, which means Captain Harrison.

It is doubly anxious to make a rapid passage. I do not know whether he understood he was to receive a present in case the "Dryad" should be the first ship into London.

He had cultivated the cranberry 23 years on Sandy Neck. He cultivated on salt marsh bottom, with sand three or four feet deep. It is not troubled with the vine worm (sometimes called the fire-worm) but suffers from the berry or fruit worm, which may fly only by rains. Sometimes propagates by sowing seed, but generally by the sod. He procures the seed by bruising the berry in a machine, something like a malt mill, then passing the seed through a sieve to separate it from the skins; then, washing in water, it being heavier than the pulp, would settle to the bottom, and be as clear as clover seed generally is. He thought that several sorts of vines would come from the seed of a single cranberry, some early, some dark and some light.

Josiah Freeman of Orleans said he could see no change in the form and quality of his fruit for upwards of 20 years. Gets about one bushel per rod on an average.

Cyrus Calton of Harwich, said that peat mud and loose sand were the essential elements for the growth of the berry. He wanted four inches of peat underneath three inches of sand as the best condition to raise fruit. If the mud was deeper, he wanted a greater depth of sand. If peat is six feet deep, he wanted ten inches of sand. That he can govern the growth of vines by the depth of the sand. He did not care whether the sand was white or yellow, so long as it was loose, and free from any soil, loam or vegetable matter, and when squeezed in the hand, would fall apart on opening it. He had flowed his vines while in bloom but invariably every flower bud that had expanded and turned out, would be killed, but those not turned out were not destroyed, but backed on several days. Half of the water off the 15th of April, and bailed occasionally afterwards. Sometimes had three bushels to the rod.

Nathanial Robbins of Harwich, would have ditches three feet wide at the top, and see what she is like.

Up ran Monsell, and in less than a minute haled the deck with, "She is a large dismasted ship, sir, waterlogged, I think, but you may be able to see her from the deck, right over our leu quarter."

You see, at the rate we were going, we were dropping her fast. At this intelligence Captain Harrison looked disturbed and annoyed, and walked the deck for a minute or two, without speaking.

The night was tolerably bright, except when the heavy clouds drove across the face of the moon; but no ship did we see.

At seven o'clock in the morning watch, the wind had risen so much that Captain Harrison very unwillingly gave orders to haul top-gallant-sails, double reef the topsails, and haul up the mainsail. Under this shortened canvas we still kept beating to the windward, and I, by the constant, anxious look out kept by the mates, that they were somewhere near the spot where the dismasted ship was last seen; but no, the day dawned, the sun rose, but the clear-expanses all around us were unbroken. The ship was gone! Without orders, Mr. Monsell took his telescope up into the main-top-mast, cross-tree, and there stayed for a quarter of an hour or more. When he came down, Captain Harrison asked him no questions. There was no need: the grave look of his face told its own story.

When he said this, I looked round, and was surprised to see that he had his glass directed to a point or so abeam the beam. No wonder he did n't see her, for the "Dryad" had not been idle all this time, and was dragging her fast.

As I could make out all this, you may imagine I was much astonished by hearing the captain say to the first mate, "I can't see her, Mr. Gilbert; I think it must be Monsell's fancy!"

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All that forenoon we kept stretching to windward, though every soul on board, not excepting the Captain, must have known that it was too late; but about midday Captain Harrison said to the first mate (and his voice seemed hoarse and strange), "you can put the helm up, Mr. Gilbert, square the yards, shake out the reefs and keep her away on her course." With that he came down below, and went without speaking, into the after cabin. At first I did not venture to disturb him, but after waiting about a quarter of an hour I fancied that I heard him groan; so by way of an excuse for intruding upon him, I got him wine, and taking it into the cabin, asked him to take some, saying that I knew he must feel in want of some refreshment. He was sitting with his elbows resting upon the table, and his face hidden between his hands.

Presently he said, "What are you doing in deck, when you are not wanted?"

Of course I took the hint, but what with going between the cabin and the gallery, and listening at the foot of the companion, heard and saw all that passed. Mr. Gil-

bert took over the tiller a little to leeward.

All this Mr. Gilbert said without removing the glass from his eye.

"She's abandoned, Laupoope, Mr. Gil-

bert," said the captain, in a tone which he adored the captain, in a way that sounded like,

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