



## Agricultural Department.

## STONE DRAINS.

Land drainage is evidently attracting more attention now among farmers than it has hitherto, and it is not improbable that more tile will be laid this year than has been laid during any of its predecessors. The advantages of land drainage have been set forth so often that it would seem to be a tiresome repetition to refer to them again. But it is by this means that an interest has been awakened to the importance of the subject among farmers, which promises well for the future.

There are localities where stones may be utilized for drainage purposes and give satisfaction if properly used. They must be laid deep, or frost will disarrange the upper sections, sand and other obstructions will enter, and with no force of current to remove these substances the drain will soon fill up. The plan adopted by some farmers, is to put the drain in three feet deep and three feet wide from outside to outside, building the side walls one foot high and one foot thick to hold the cap stones, making the passage-way for the water one foot each way. The top of the cap stones is about eighteen inches from the surface. Such a drain costs more than an ordinary one two feet wide and two feet deep, yet the great advantage claimed for it is that it never fills up. Where stones are abundant on the fields to be underdrained, it is possibly a matter of economy to use them for the purpose, as they come in play for the drains and are removed from the surface where they are in the way. There are farms where stones are a great nuisance, and they may be thus utilized to advantage. It is only where they are present, however, that their use is advisable, for tile is preferable and more economical if the stones have to be brought from a distance.

The triangular stone duct consists of three flat stones in the form of a triangle at the bottom of the ditch, the side stones meeting at the bottom in the shape of a V, covered with another flat stone. Above this, the ditch is partly filled with irregular pieces of stone, or cobble stone, below the reach of the plow. On this, inverted sod or straw should be put, and the ditch then filled with earth. Another method—the coupled stone duct—is made by placing a flat stone at the bottom of the drain then setting two flat stones on it like an inverted V, and filling the drain as described above.

Another method is to place a flat stone at the bottom, another one at the side of the drain, and a third one diagonally from one edge of the bottom stone to the top of the other one; then filling with cobble or small stones, as described in the foregoing methods.

Still another method—but one which is very objectionable—is to use cobble stone, thrown into the bottom of the ditch promiscuously, without forming a continuous channel for the water to pass through. The labor of making a drain of this kind is almost as great as that required for other methods, while in a comparatively brief period the drain will be useless; fine dirt is carried down by water and soon fills up the interstices, rendering the drain valueless.

The use of cobble stones is not advisable where the soil is light or sandy; in those of considerable tenacity they can be used advantageously, if tile is not convenient, as in stiff or clayey soils the earthy particles adhere, and do not wash down among the stones. In light soils, or those approaching quicksands, stone should not be thought of; they will disappoint any reasonable expectation of good results.—*Prairie Farmer.*

## A COW WORTH HAVING.

Having seen records in your paper of wonderful butter cows, and having been several times requested to publish an account of ours, I herewith send the items to you for publication.

The cow came to us two years ago, having just lost her calf, and not giving much milk, besides being poor in flesh. We knew her to have been a valuable cow, and hoped,

with care, to bring her back to what she ought to be. She dropped her calf on the last day of May, 1879, and our record of her good deeds begins with the month of June. For the first two weeks of June she fed her calf altogether, but while doing that she gave us also fourteen pounds of butter. The third week in June she gave us 19½ lbs. of butter. Her milk was but seldom measured, but at its greatest flow, I do not think it much exceeded sixteen quarts per day.

The following is her record for six months:

June, 63 lbs. of butter; July, 68 lbs.; August, 60 1-8 lbs.; September, 54½ lbs.; October, 43½ lbs.; November, 45 lbs.; total, 333½ lbs.

For the three winter months she kept on after this fashion:

December, 42½ lbs.; January, 41 1-8 lbs.; February, 37 1-8 lbs.; total, 120½ lbs.

It should be said of her that she had nothing better than ordinary pasture during the summer and autumn, with but very little grain, supplemented with corn fodder during the dry season. The past winter she has been fed on good English hay and about three pints of meal daily. We are now trying to dry her up, as she is expected to calve again early in May.

Her butter is of a deep, rich golden color all the year through, and no patent or new-fashioned appliances have been made use of in raising the cream.

I suppose the animal has a pedigree, but we do not know it. She was made a pet of when young and is gentle as a lamb; would follow us all about the place, or even into the house (if we wished it) for the offer of an apple. She is dark brown, almost black, and we suppose her to be good part Jersey. She is now about nine years old.

IPSWICH.

The remarkable cow whose qualities are described in the above letter belongs to Mrs. Eben Caldwell of Ipswich, Mass., and the facts as stated are fully attested.—*N. Y. Observer.*

## ABOUT PLANTING TREES.

I think the cultivation of black walnut trees may be a great source of wealth for the present and future generations of the American people.

It is surprising to see how rapidly the walnut trees that are large enough for saw-logs are being hunted up throughout our entire nation, and are being shipped largely to Europe. There is one tree, we have been lately informed by good authority, standing in the State of Maine, 200 years old, eighteen feet in circumference three from the ground, 60 feet in body length, or enough for five saw-logs each twelve feet long, and that for it there has been offered \$1,500 as it stands. Its average crop of nuts is sixty bushels, that readily sell at \$1 per bushel, making a good annual income for the ground it occupies.

The State of Maine is not the only place where the black walnut has grown to an immense size. There is one tree standing on the banks of Clear Creek, Putnam County, Ill., that is said to contain about the same dimensions as the tree in Maine. Mr. F. Cummins, of Buda, Henry County, Ill., has a grove of twenty acres largely covered with black walnuts of all sizes. He has been offered \$1,000 cash for all that are large enough to square fifteen inches at the stump. The small trees, fifty years hence, would probably be worth as much to him, or his descendants, as the present crop, showing clearly that land planted to black walnuts will be a paying investment to the owners. Livingston Roberts, of Marshall County, Ill., planted some walnuts, when a boy of ten years old, some sixty years ago, that were cut last winter for saw-logs, and measured two and a half feet across the stump.

It might be well for our American people to go into the planting of black walnuts on a large scale, when the timber and nuts have so much value. There are thousands of acres of cheap lands subject to occasional overflow along the rivers of Ohio, Illinois, Missouri, and other states of our nation, that the owners would do well to plant largely to the black walnut, as it can be done cheaply and in time will be very valuable to their owners. The great majority of our western farmers seem to be going back on Osage orange hedges. To all such I would suggest the propriety of planting black walnuts every ten feet along the hedge. Keep the hedge well cut back, and in time the walnut trees

will kill out the hedges. Then you can use barbed wire, or cross-bars towed into the trees, and have living posts. In time each tree will become a saw-log, worth from \$5 to \$50. The stumps can remain standing, with the wire or cross-bars on them, and will remain good for a long time.

Persons starting new farms would do well to plant black walnuts in place of hedges. In this way walnuts can be grown by the million. I believe our railway companies would do well to plant out rows on each side of their tracks, for ties and lumber. In planting the nuts, it is better to plant in the fall, with the hull on; or, if kept until spring, they should be bedded out, with a slight covering of mould. Let them come up in beds. Cut off the tap-root, and plant out like cabbage plants in the spring.—*A. H. G., in "Ohio Farmer."*

## THINGS THAT PAY.

It pays to have a garden, if you will take care of it; if you can't or won't, do not attempt it. Perhaps a dozen of your neighbors are in the same fix; in which case you might club together and hire a gardener on the "co-operative plan." If you make a garden, it pays to enrich the ground liberally. Nothing from nothing is one of Nature's by-laws, if not a part of the constitution of things. Stable manure is adequate for nearly all purposes, but good superphosphate is more convenient, and has the advantage, for nearly all purposes, of being free from weeds. The value of wood-ashes, especially for potatoes, peas, early beans, &c., is also very great. It pays to withhold your seedling until the ground is dry and can be thoroughly pulverized, particularly for all root crops, and for corn. The distorted and crooked parsnips, salsify and radishes, and the slow-growing and stunted corn, are results generally due to soggy and lumpy soil. It pays to have a walk through your garden, each way, made with a loose stone foundation and filled in with coal-ashes. It pays to sow your vegetables in long rows, instead of in the old-fashioned beds, and to use stakes and line in planting everything, that your rows may be straight and even. It pays to rotate crops from one spot in the garden to another. When the ground is wormy, it pays to use lime. It pays to kill a weed wherever and as soon as you see it.—*Golden Rule.*

ASHES AS A FERTILIZER.—We would say that unleached wood ashes, used either alone as a top-dressing or in connection with a compost, form a most valuable fertilizer for orchards, young or old. They are rich in potash, one of the elements most needed by fruit trees, and are worth forty cents per bushel for this purpose. Ashes being in a finely divided state, their valuable elements are in a very favorable condition for the action of the roots of plants, and for orchards they have a value fully equal to that of ground bone. To any orchardist who wishes to put his orchard in the best condition at least expense, there is no question but ashes are worth two or three times what soap factories are accustomed to pay for them.—*Chautauqua Farmer.*

A WRITER IN THE *Wine and Fruit Reporter* says: "I desire to add my belief, from a little practice, that sulphur—one ounce to a gallon of water and sprinkled or syringed over the vines just at nightfall—will destroy insects and mildew and leave no bad show afterward. When sifted as a powder, it has an unpleasant and oftentimes injurious effect, although it is acknowledged a specific manure of value, even when applied boldly broadcast upon the soil. Salt I have found also, applied to vines in connection with gypsum or plaster of Paris, to act as a healthy stimulant on soils of a loamy clay, gravelly, or dark rich sandy loam."

HINTS ON SHEEP-RAISING.—A sheep-grower says: "It is folly to keep old sheep. They should be turned off to the butcher in their prime. It does not take half the amount to fatten them. When they get old and thin, in order to put them in the condition for slaughter, the whole structure must be rebuilt. Four sets of lambs are all any ewe should bear. This will bring her to five years, and this is the age when, with a little extra care, she will round up to a full carcase. Exceptions may be made when the breed is scarce, and the blood is more desirable than anything else.

## DOMESTIC.

MARLBORO PIE.—One cup of stewed dried apples, sifted or made fine with a spoon; half cup sugar, one cup milk, small piece of butter or some sweet cream in place of butter, two beaten eggs, nutmeg, no top crust.

NOODLES FOR SOUP.—Beat one egg light; add a pinch of salt, and flour enough to make a stiff dough; roll out in a very thin sheet, dredge with flour to keep from sticking, then roll up tightly. Begin at one end and shave down like fine cabbage for slaw.—*Lakeside Cook Book.*

HASH.—Take cold beef of any kind, free from gristle and bone, chop quite fine; to one cup of meat add two of potatoes, chop, put into a spider with a piece of butter, and enough water and milk to moisten slightly; let it cook slowly one-half hour, stirring occasionally; let it brown, salt to taste.

TONGUE TOAST.—Take a beef tongue that has been well boiled, chop fine, mix with cream or milk, the beaten yolk of an egg, a piece of butter, and salt to taste; simmer gently. Toast thin slices of bread, butter them, spread with the mixture and serve hot. Keep covered and hot in a tureen. This is also very nice without the toast, and is good for breakfast or tea.

A SAGO PUDDING.—Three teacups milk, three tablespoons sago, two eggs, four tablespoons sugar, pinch of salt; soak the sago in the milk two hours before adding the other ingredients, beat the eggs well, mix and flavor with vanilla or rose. If the sago settles to the bottom of the pan while baking, stir it, and if it seems too stiff or solid, add more milk and sugar. Stir often enough to have it thoroughly mixed; it should be soft and jelly-like. Serve with cream and sugar.

SAGO CHOCOLATE PUDDING.—Make as above; shave one heaping tablespoon of sweet chocolate, dissolve in a little milk, sweeten and stir into the sago. Serve with whipped cream or cream and sugar.

CHOPPED BEEF.—Two pounds lean, raw meat chopped fine, one teacup rolled crackers, one of sweet milk, one teaspoon salt. Put in a pan, cover another over it, bake one hour. It is improved by a dressing of bread or cracker crumbs spread over the top; wet the crumbs with milk or water, season with butter, pepper, and salt. The scraps may be used for breakfast by taking a spoonful and covering it with mashed potatoes mixed with egg and fried in butter or suet.

BEEF PIE.—Take any pieces of beef (or any other meat) that are left, stew in a little water till tender; cut in small-bits, put into any pan of convenient size, pour in the water that was left from stewing it, adding more if necessary to just barely cover the meat, add a piece of butter, a little salt, and a sprinkle of flour; cover with a good biscuit crust, make a small hole for the steam to escape and bake one-half hour. Raw, tender beef may also be used, and sliced potatoes may be added. This is an excellent way to use up any bits of meat or fowl, as several kinds may be mixed together. If any gravies were left, save them to warm up and serve with the pie. If preferred, the meat may be chopped as fine as for hash.

HOW COOKING AFFECTS POTATOES.—The nutritive value of potatoes is not materially affected by the different ways of cooking them, unless they are wasted in peeling; when potatoes are peeled before cooking, unless they are large and very thinly pared, the waste is about one-fourth, and as most of the mineral elements lie next the skin they are generally cut away with it. The analysis of potatoes boiled in their jackets shows that they contain double the quantity of the salts of potash which remains in those that have been peeled; besides this important fact, potatoes boiled in their jackets do not waste more than an ounce in a pound. The waste in baked potatoes if peeled is about one-fourth; if they are eaten in their skins there is but little waste. Baked potatoes should be served the moment they are soft; after that the steam which escapes in the bursting of the starch cells begins to condense, and is absorbed by the mealy substance of the vegetable until it becomes sodden and heavy; if baked potatoes are served at the right point of cooking they are perfectly digestible and wholesome; they should never be placed in a covered dish, nor allowed to stand an instant after they are done.—*Miss Corson.*