

grounds. It is a good field for criticism, and we hope you may be as successful with it as you have been with the old farm houses. There is one point, however, in regard to old farm houses which has been overlooked. These are in many instances so badly located, that one often feels inclined, though reluctantly, to pull them down for this reason alone. Where the house is properly located, we should hesitate long before destroying it, but we should hardly attempt to "rejuvenate" it, unless the house and its surroundings were pleasantly situated, or could be made so. This can sometimes be done, and a very considerable outlay thus spared to the owner.—Ed.]

THE EARTH-WORM—ITS USE.

(From the Scottish Farmer.)

REAUMER calculated that the number of worms in the earth exceeds the grains of all kinds of corn used by man, and as, perhaps, there is no other animal so preyed upon without any diminution in number as the earth-worm, the calculation may be not far wrong. Hedgehogs, frogs, and moles devour it; beetles prey upon it, and often cast their young upon it; and but for the earth-worm a large portion of the bird family would soon deteriorate or perish, for, with the exception of the finches, there is scarcely a bird, from the robin to the wild goose, but eats it, and many, during open weather, live almost solely upon it. After a summer shower, the farm-yard ducks actually race against each other along the road side in search of it; and on wet days they each devour hundreds. All river fish feed to a great extent upon it; and wherever the river beds are of a clayey substance, worms are more plentiful than in *terra firma*. The river worms are darker in color and flatter as a whole than the earth-worms, but so little do they differ in appearance that a novice could not tell the land from the water-worms. The worms in the water live under the imbedded stones, and trout are generally on the watch to gobble them whenever they leave their abode; they even move and turn over the stones in search of the worms and larvæ of water flies. When a flood comes the stones are generally displaced in great numbers, and at such a time (in a river such as the Tweed, for instance) the worms must be dislodged and carried along the river bottom in tens of thousands; and it is from this cause that the trout are generally gorged with worms and larvæ when taken after a flood. It is for such food, too, that ducks are constantly *gumping* among river shallows; for, if watched, it will be seen that they insert their bills below, or move, mostly all the likely stones they pass. We have frequently turned up worms at a depth of about a foot in the river.

But though the worm yields a considerable amount of food to the birds and fishes that grace the dinner table, it is much more beneficial to man as a fertilizer of the land. Subsisting on the earth through which it burrows, with an occasional meal from a decaying tuber or leaf, its peculations from the husbandman are

of the smallest nature ; whereas it lightens "the earth's surface" by its burrowings, and thereby aids the spreading of the roots of all cereals and bulbs ; and the burrows also carry down water after heavy rains, that, but for them, would often gather in surface pools, and thereby injure the crops ; they also admit the air to the soil to a depth which by natural means it could not reach. The earth ejected by them also tends to the improving of the soil ; and instances are known whereby these droppings or "worm-casts" caused in a few years a considerable increase in the depth as well as in the quality of the soil. Mr. Darwin, the naturalist, gives an account of a case of this kind which he tested, and from experiments, he clearly proved, that in an old pasture, a layer of cinders and lime had been covered in a few years to the depth of an inch, by the castings of worms. "On carefully examining," he also wrote, "between the blades of grass in the field above described, I found scarcely a space of two inches square without a little heap of cylindrical castings of worms." Now, a week or two ago we chanced to walk through a very old pasture, and we were much struck by the number of worm-casts it showed. They were, we are certain, nearly, if not as numerous as those mentioned by Mr. Darwin, and they darkened the field so much, though the grass was growing, that they caused some parts of it to look as if newly top-dressed. And when the fine soil thus raised gets spread by the feet of sheep or cattle, we doubt not but a stimulating top-dressing it will make. We have since examined several old pastures, and the castings were numerous in each ; but we noticed that they were fewest in the pastures where lime had been most used. This we set down to the hurtful effect that lime will be likely to have upon the wormlings.

The earth-worm is in more cases injurious to the gardener than the farmer. The giant lob-worm occasionally carries the main leaf of a young plant boldly into its hole ; and in gardens the barrenness of the soil enables the observer to notice that it is a common thing for a worm to drag straw, grass blades, plants, leaves, etc., into its hole ; but for what purpose these are carried down nothing definite is known. The things taken down, however, pass into manure. The worm in the garden has its uses if it has its faults ; and when it partakes of "green meat," which it never does extensively, the food selected is generally some vegetables or root rendered soft by decay.

They do not penetrate the soil to any great depth, because they require air. In stiff soils they are not generally found much beyond a foot from the surface, but on lighter soils, through which they bore with much more ease, they may be found deeper. At all events, they go deep enough to permeate the soil, and air and drain it, at a depth to which the plow can not reach, and for which, we fear, they get but little credit. Indeed, their usefulness is seldom thought of, whereas by the many they are still ignorantly looked upon and loathed as the "wriggling tenants of the grave."—

[The above from the *Scottish Farmer* is a good vindication of the much-abused earth-worm. Except when they get in pots, we do not think them injurious to the gardener ; on the contrary, we esteem them one of his best friends.—Ed.]