

HOW SOILS ARE MADE FERTILE

Continued from page 16
What is the Soil?

Of what are soils composed? They are the union of organic matter or humus and inorganic matter or mineral elements. How were they made by Nature? By the constant returning to the original soil everything that came from the soil or was produced upon the soil. If a plant, tree or animal died it returned to the ground, making the soil a little richer than it was before the plant, tree or animal lived.

The formation of soil did not cease with the creation of the world. Soils are now being formed around us on every hand with a greater rapidity than they were at any time before man became a factor on this world. Let the farmer neglect to cultivate one corner of his field and without delay Nature begins to produce a crop of weeds. Thousands of insects appear and live upon these weeds and cast their insect excrement upon the neglected soil. In due time both insects and plants die and give their bodies back to the soil, where they decay and increase the supply of organic matter. The increase of organic matter increases the fertility of the soil. In clover and timothy meadows soils are being made and fertility increased in this very way. In the pasture where the animals are kept the formation of soil is even more rapid than in the timothy meadow.

Layers of Earth

If a farmer will take a spade and dig down into the forest or meadow, he will see how soils are now being formed. The first layer he will notice is purely of vegetable matter. In the most cases this layer is very thin, but it is there nevertheless. The next layer is a mixture of organic and inorganic matter. This layer is

the soil proper and may vary from one inch to eighteen inches in thickness. Beneath this is the subsoil, which consists almost entirely of inorganic materials. In other words, it is decayed rocks. Under this is found, usually, the rocks from which the subsoil is made. Of course, there are exceptions to this, but it is the general rule.

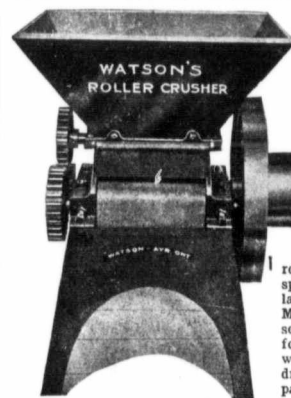
The reader can see that all there is to the formation of soils is the application of organic matter to the inorganic. Nature has done this by growing crops and producing insects and animals, and when these die they are returned to the soil. If man wishes to build up his soil and maintain, if not increase, its fertility, he must keep the supply of organic matter or humus ample. This can best be done by growing those crops that will return a great deal of their growth to the soil and by keeping enough animals on the farm to eat up at least all the hay and forage, and a great deal of the grain produced and to return all of the manure produced by these animals to the ground that grew the crop. If it is nature's way to return the crops grown on the soil to that soil and to keep animals, birds and insects also on these soils for their excrement and bodies when they die, it should be the aim of the farmer to return as much of the crop as possible to the ground, and to keep animals that will produce a great deal of manure. If crops are grown that will return a great deal of organic matter to the soil, and animals are kept that will produce a great deal of manure, and that manure is returned to the soil, the supply of organic matter will be maintained, as well as the fertility of the soil.

The forest and prairie, as said before, are examples of how soils are made. No matter how heavy the growth of grass or trees may be, the fertility of the soil in which this growth is made is constantly increased; in fact, the heavier the growth the more fertility there is returned to the soil. The falling of the leaves, the death of the year's growth of grass and the thousands of insects, birds and animals that excrete fertility and finally die, pay back to the soil more of the materials that make soils rich than were needed to produce the growth. This is nature's way: Pay back to the soil as much or more than is needed to produce the growth made upon the soil, whether that growth be plant or animal life.

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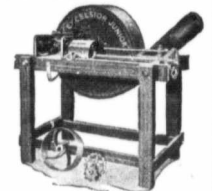
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