

tions, and it is these mistakes that has produced such distrust in "Book Farming."

AGRICULTURAL CLASS BOOK.

Q. WHAT do farmers understand by the word earth?

A. The soil we till.

Q. Of what is this soil composed?

A. Of different earths, of which the chief are alumina, silica, lime, and magnesia. There are also minerals (of which iron is the most common) and what are called *alkalies* found in it, besides the decayed remains of plants and animals.

Q. What is alumina?

A. A pure clay; it is named alumina, because it forms the principal part of alum. It is generally combined with other earths, of which silix is the most frequent. It is also combined with a great deal of water. From such clay as this, pottery ware, bricks, &c., are made.

Q. What is silica?

A. In its pure state it is flint stone, sand, or fine gravel. It is abundant in some form in all soils. It cannot be dissolved by water. From silica, together with either of the alkalies, soda, or potash, in certain proportions, glass is made. The silica and alkalies are heated and run together into one mass, which is called glass.

Q. What is lime?

A. The substance of marble, limestone rock, chalk, and gypsum. It also forms a great part of marl, and of shells and bones of animals. When naturally mixed with the soil it is in the form of gravel, or a kind of sand, but not quite so loose as sand. It is slightly soluble in water.

Q. What do you mean by soluble?

A. Capable of being dissolved or melted.

Q. What is magnesia?

A. An earth resembling lime, but neither found in such large quantities, nor so often. It is sometimes found with lime, which is then called magnesian lime.

Q. What is the name given to the dark-colored substance formed of the remains of decayed plants and animals?

A. Humus, or vegetable mould: it contains all the principal food of plants in the most perfect state for their immediate use.

Q. Where is it found most abundantly?

A. In old garden soil, burial grounds, old dung-hills, and hedges.

Q. What is meant by the word alkali?

A. It is an Arabian word, which means the ashes of sea plants which have a saltish and sourish taste. The word alkali is now applied as a name for potash, soda, and ammonia, which are very abundant in the soil, and form a greater or less part of the food of all plants.

Q. What is potash?

A. It is a powdery substance of a light gray color, and most easily obtained from wood ashes, or the ashes of any land vegetables. It is seldom found pure, but for the farmer's purpose it may be considered as being so.

Q. What is soda?

A. A substance similar to potash: it is solid, and white, and, like potash, seldom, or never found pure, that is, by itself alone, but in combination with something else. It is chiefly obtained from bay and rock salts, and by burning sea-weed, in which it exists in large quantities. Bay salt is that which is made from sea water, and rock salt is that which is found under ground. Like potash and its compounds, soda and its compounds are found generally in all soils in greater or less degree.

Q. What is ammonia?

A. It is a gas which (being without color) cannot be seen; but we are made sensible of its presence by its smell, which resembles that of hartshorn. It is neither found so often nor in such large quantities as potash and soda. It is given out from decaying animals and vegetables, and also from the urine of animals. It is seldom found except in combination with other substances.

Q. Are all soils alike?

A. No; they differ much in their qualities.

Q. Tell me some of the different kinds of soils, and the names by which they are known?

A. The chief are, sandy, gravelly, clayey, loamy, peaty, and alluvial soils.

Q. What is a sandy soil?

A. A sandy soil is one in which sand, or silix, is in a greater quantity than other earths; and thus the sand marks or gives character to the soil. Sandy soils are mostly poor and barren; water runs too quickly through them. A sandy soil is also called a light soil.

Q. What is a gravelly soil?

A. It consists chiefly of small stones; and unless the gravel be limestone, it is a very poor, hungry, light soil; and, like a sandy soil, it parts too quickly with water.

Q. What is a clay soil?

A. A close hard soil, in which alumina is in the greatest proportion. From the great affinity or liking which alumina has for water, a clay or aluminous soil takes in and holds a great deal of water.

Q. What is a calcareous soil?

A. One in which lime, in the form of limestone, limestone gravel, chalk, marl, or shells, forms the chief ingredient.

Q. What is a loamy soil?

A. A mellow soil, not so stiff and greasy as a clay, but closer than a sandy soil. A loamy soil is naturally very good. There are varieties of loams, but they all contain lime, more or less.

Q. What causes the varieties of loams?

A. The different proportions of sand, and lime, and clay: according to their proportions, loams are light, heavy, middling, or calcareous.

Q. What is a peat, or bog soil?

A. One composed of the remains of the roots, and other parts of trees, grasses, and other plants in a partly decomposed state. This, in its natural condition, is the most unproductive of all soils.