would end our labors. As it is, a great many of these remedial compounds are required in plant economy, the absolute number needed depending entirely upon the different ways in which insects and fungous diseases attack their food or host plants. This results largely from differences in anatomical and physiological structure of these little but often highly destructive animals and plants.

Classes of Insects.

Practically all insects can be divided into two leading groups: (*a*) those which actually chew and swallow their food and have what the entomologist calls *biting mouth parts*, and (*b*) those which obtain their food by piercing the outer tissues of the plant and sucking up the juice, called insects with *sucking mouth parts*. The first group of insects, among which we find grasshoppers, cucumber beetles, codling moth larvæ, currant worm, and a great many others, can be poisoned by covering the surface of the plant upon which they feed with some poisonous material; while the second group, since they do not eat the surface of the plant, but feed only on the inside juices, must be destroyed by means of some substance which will act upon their bodies, as caustic washes, or something which will act upon their breathing pores, smothering them, such as a gas.

This, then, divides insecticides into two groups: *food poisons* and *contact insecticides*.

There are some insects, however, owing to their peculiar habits, inaccessibility, or other causes, which require special treatment, such as the cut worms, which work underground, and the grain weevils, which affect stored products; the ones which feed inside the bark or within the stem of the tree or plant, such as the apple tree borer or the raspberry cane borer; the household pests; and the animal parasites.

Classes of Fungi.

A fungus is a plant which feeds upon other plants, and is thus a parasite. It begins with a seed (spore) which germinates and produces a great number of small threat-like structures which correspond to the roots, stems, and leaves of an ordinary plant, and called the mycelium. Sometimes this mycelium develops wholly upon the surface of the plant or fruit, as with the powdery mildew of the grape; while at other times the germ tube of the spore penetrates the skin and produces its mycelium within the tissues, just as happens in the case of the grain rusts and smuts, downy mildew, and a great many others.

Fungi, then, can be classed as *external* and *internal*, and the method of dealing with them varies accordingly. Those of the first kind can be attacked and destroyed by use of proper materials, but the second kind can only be prevented.