Fungous diseases, however, in accordance with natural laws, will in all probability increase in number, in proportion as the food plants upon which they prey, are multiplied, and as climatic conditions are favourable to their development.

In order, in this age of keen competition, to obtain from a given area the largest possible product of the highest quality, the best means of preventing injury from these pests must be adopted. After giving good cultivation, spraying, therefore, must be resorted to in order to secure this result. If we would derive the greatest benefit, it should be generally practised. The value of the efforts of one man who faithfully sprays his orchard, is greatly lessened if his neighbour neglects this preventive measure, and so allows his orchard to serve the purpose of a breeding ground for the spores of fungous diseases, of which we have such well marked examples in the "scab" of the apple and pear.

NATURE OF FUNGI.

A brief consideration of the principles underlying the practice of spraying, may enable the grower to understand the nature of fungous diseases, and this will be of service in directing an intelligent application of the remedies which are recommended. A glance at the character and habits of parasitic fungi will throw light upon the system of treatment.

The word *fungi* is used to designate an exceedingly numerous class of plants of simple organization ; we must never lose sight of the fact that they belong to the vegetable world and are therefore subject to the ordinary conditions of plant life. Some of them derive their nourishment from living plants or animals, others from dead plants or animals. Those which draw their food from other plants more highly organized than themselves, are termed parasites, and it is with this class that the fruit grower is chiefly concerned. These plants (parasitic fungi) have not the power of assimilating food from the soil or atmosphere, and therefore must obtain it in a prepared condition through the agency of the higher plants upon which they feed. The vegetative part of a fungus—that part corresponding to the root, stem and leaves of the higher plants —is made up of delicate thread-like tubes, usually more or less matted together ; these collectively are termed *mycelium*. The term *hypha* is applied to a single thread-like tube. Parasitic fungi bear no seeds or flowers, but are reproduced by spores which are borne upon specialized branches of the hyphæ. These spores are produced in great numbers and are the principal, though not the only, means of spreading disease. The hyphæ-threads of the parasitic fungi penetrate the tissues of the host plant—a name applied to the plant upon which they feed.

The spores are exceedingly light and easily carried by currents of air. When one falls upon a leaf and is supplied with moisture, it germinates by sending out a slender tube, which effects an entrance into the tissues of the leaf through the breathing pores (stomata), or intercellular spaces. After the parasitic fungus has thus entered the interior