

ment of this disease, and it is during such seasons that it spreads with great rapidity. Last season was a characteristic one in this respect, so that whether the coming summer be dry or wet it may be expected that with the crop of seed, (spores) now on hand we must be prepared to fight the disease, as it will surely be more or less prevalent.

The appearance of the scab on the apple is too well known to need a minute description. When a thin section of the diseased portion of the fruit is examined by the aid of a microscope, Prof. Galloway* says that "a cluster of short brownish threads is seen arising from a darker mass of roundish cells, which are seated directly upon the healthy tissue of the fruit or the leaf, as the case may be. The free ends of the threads often bear pear-shaped bodies of nearly the same colour as the supporting threads. The pear-shaped bodies are the spores of the fungus, and it is through their agency that the parasite is propagated. The brownish threads serve merely as supports for the spores, while the dark mass of tissue constitutes the body of the fungus, or, if I may so express it, the root, branches and leaves. When full grown the spores separate readily from their supporting stalks, and being exceedingly light, are easily wafted from place to place by currents of air. In this way they reach healthy fruit and leaves, and if the proper conditions of moisture and heat are present they quickly germinate, by sending out slender tubes, which bore their way into the leaves or fruit, and ultimately give rise, just beneath the cuticle or skin, to dark masses of cells, like those already described. At first this mass of fungous tissue is entirely beneath the cuticle, but as the former continues to grow the latter is ruptured, and it is then that another crop of stalks and spores are formed. In this way the fungus continues its development throughout the growing season, the crops of spores formed in the autumn living over winter on the old leaves, fruit and young branches." And thus we have a stock of seed (spores) for next year's crop, which germinate, as already stated, when favourable conditions are found. Just as soon as the leaves begin to form in the spring they are attacked by the disease, and what is true of the leaves is also true of the fruit, spots being sometimes noticeable on the latter when little larger than peas. This emphasizes the statement that early treatment is a prime essential towards successful results.

* Galloway, Bulletin 59, Mich. Experiment Station.