

are the fruiting-spores of the fungus, which are also known as the summer spores. Some of these spores are dispersed by natural agencies such as wind, others are carried by insects. Under certain conditions these spores germinate, one essential condition being the presence of moisture: this may either be ordinary atmospheric moisture or moisture from the fruit itself. Very often the disease first appears on fruits which are touching—moisture being held for a considerable time at the point of contact of two fruits. After germination—that is, the rising of a new shoot or growth from the spore—it enters the fruit and therein multiplies in a very remarkable manner, feeding on the plant-food. Small circular patches of decay have been observed in just over twenty-four hours, and the whole fruit will decay in three to four days. As the disease spreads in the fruit fresh summer spores are thrown out on the surface. It is recorded that these summer spores can be produced under favourable conditions in thirty hours from the time of the spore entering the fruit. With the spread of the disease on the fruit the flesh turns a characteristic brown colour; but the flesh does not become sunken until the larger portion of the fruit becomes diseased. Some of these infected fruits fall on the ground, others remain attached to the tree. The flesh ultimately shrivels and dries up, the fruit becoming mummified.

Although it is considered by scientists generally that the disease is carried over winter on mummified fruit, and that it is highly important that diseased fruit should be destroyed, it is held that the disease also winters in the wood of young shoots. That these diseased shoots or twigs are even more dangerous as a source of infection is evident from their position in close contact with other parts of the tree and with the fruit. To secure control of the disease it is absolutely necessary that all such diseased wood should be removed.

On mummified fruit two kinds of spores are produced—(1) semi-dormant spores, or oospores; (2) dormant or winter spores, or ascospores. Summer spores may also be present, but I think it is a generally recognized fact that active spores may and do become dormant or semi-dormant spores when unfavourable conditions prevail, such as when the plant or fruit which is attacked dies. It is claimed that the winter spores, or ascospores, will remain dormant on mummified fruit in the ground for two winters and then germinate. However, in the spring these spores germinate, producing fresh spores, which are liberated by various agencies. These spring spores settle on buds, flower-petals, young leaves and twigs, and even young freshly formed fruits. If the weather conditions are suitable they germinate and enter the parts mentioned. The fungus grows in them and causes the affected parts