

TWO SCLEROTIA DISEASES OF POTATOES.

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The sclerotium disease of potatoes is a malady which is very widespread in certain districts, especially along the western and north-western seaboard of Ireland. This disease assumes two distinct forms—one characterised by large, compact fungal masses (the sclerotia), hanging loosely in the pith cavity of the affected potatoe plant; the other by small crumpled, inconspicuous sclerotia, firmly adherent to the outside skin (epidermis) of the leaves and stem. On planting the sclerotia belonging to the first named species they gave rise to one or several upright stalks, each supporting a small brown disc-like structure called technically *Sclerotinia sclerotiorum* Mass. This was usually about the size of a threepenny piece. On the upper surface of this were numerous oval bags called "asci," each containing eight spores. If planted on a potato these spores gave rise to threads, which penetrated into the plant, and produced after a while tuft-like masses of mycelium, the central part of which became hard and black—in other words, became a sclerotium. The affected plants soon die. This is a totally different disease to "blight," and requires different treatment. The other (smaller) variety of sclerotium when planted produces, not a peziza, but a mouse-gray mouldy growth called "*Botrytis*." This mould seems to be capable of attacking living potato plants. After killing them it produces its minute sclerotia on their withering stems and leaves. It never develops into a peziza, nor does the other peziza producing sclerotium ever produce a botrytis. By these studies, mostly carried on in the laboratory at the Albert Model Farm, the existence of two separate diseases of the potato, both characterised by sclerotia, and both eminently preventible has been demonstrated. The proper course to take is to carefully destroy by fire the withered remains of the potato crop each autumn, and not to grow potatoes on the same plot for several consecutive seasons. Deep cultivation also, with a view of burying the sclerotia out of harm's way, is very advisable. Though neither of these diseases is so much to be dreaded as the "blight," yet in certain districts they do a great deal of damage to the crop.