

attacked first. The diseased areas stand out in marked contrast to the uninjured parts of the leaf. The former varies from dark brown or almost black to lighter shades, while the normal color of the healthy leaf is a deep, dark green. Between the healthy and diseased tissue of the leaf, the line of division, in the form of a narrow yellowish band, is very distinct.

Under certain weather conditions a downy, whitish growth is distinctly visible on the under sides of the leaves. This growth consists of the innumerable spores and spore bearing parts of the fungus. By means of the spores the disease is spread rapidly. They are scattered by the wind, rain and other agents and lighting upon the leaves, germinate immediately and give rise to the same diseased conditions as were present on the leaf from which they came. Presently the whole field looks as though the plants had been scorched by fire—all are dead and dry.

These same spores or *conidia*, as they are called, are also responsible for the rotting of the tubers. The spores are washed from the plant down along the stem and into the ground to the tubers. The swaying of the plants in the wind doubtless assists in this downward journey. Many are brought in direct contact with the tubers and upon germination an entrance into the potato is effected. The normal white color of the potato soon changes to a dirty brown as a result of its inroads. If the ground is dry and remains so for a considerable time "dry rot" results, but if any considerable amount of moisture is present, the tubers decay rapidly, becoming nothing but a pulpy, ill-smelling mass. The progress of the rot in the tubers is well brought out in Fig. A, Plate IV. It progresses from the exterior towards the center of the potato. It does not advance regularly, but may penetrate much more deeply in one part than in another.