

the time. These avocados were growing at the Florida Experiment Station, Gainesville, far removed from any region where blotch was known to occur naturally. Some of the fruits were punctured and the mycelium of the fungus from a pure culture inserted into these punctures. With others the mycelium was laid on the surface of the fruit within a marked area. The surface of the fruit was sterilized before the inoculations were made and after the fungus was applied each fruit was wrapped in moist, sterilized cotton and protected by a covering of waxed paper. Checks were treated in the same way except that no fungus was introduced. The inoculations were made on June 30, 1920. Twenty-three days later the fruit was examined and no indications of infection were noted. It was examined again about two weeks later, or on August 14, and eight out of ten individual fruits that were inoculated showed typical infections of blotch. A larger percentage of infections resulted where the fungus was placed on the surface than where it was introduced thru the rind. In some of the inoculations well-developed spots were found in which the fungus was fruiting and the typical *Cercospora* type of spore was present.

Isolations were made from spores taken from the surface of typical spots and also from the interior tissue of typical spots on the inoculated fruit. It was found that the fungus from the surface spots was identical in growth characteristics and morphology to the fungus that had been applied or introduced into the fruit. There is apparently a period of four or five weeks from the time the fungus enters the fruit until symptoms of the disease are visible.

The writer is of the opinion that another spore form exists and that this probably is produced in the bark of dead twigs as a pycnidial spore. In some of the laboratory cultures on sterilized twigs of the avocado, which had been kept for a number of months, small, black bodies that appeared to be immature pycnidia were observed. These were found never to contain spores during the time the fungus was under study and no method was found to make the fungus fruit in artificial cultures during the period of investigation.

The fungus is highly parasitic to the rind of the avocado fruit. However, young fruit and those nearly mature show a great degree of resistance. The critical period of infection probably lies between the time the fruit is one-fourth to three-