

place, they germinate and the fungus again develops, as already described. These are summer spores and aid in spreading the fungus rapidly. Later in the season, about autumn, the winter spores are produced among the threads of the mycelium by a sexual process. They have much thicker walls and are fitted to withstand the adverse conditions of winter, and thus carry the trouble into another year. Hence the advisability of destroying leaves, etc., that might be suspected of having these winter spores upon them. When the shoots are attached it is indicated by dark colored spots slightly depressed, but not so deep as in the case of Anthracnose. Affected fruit fails to develop, it gradually becomes withered and brown. (See fig. 2). Hence the term "Brown Rot" applied to distinguish it from "Black Rot." In the latter the berries are very much wrinkled and dried up. (Compare figures A and B).



Fig. 2.



A



B

The Downy Mildew in its growth bears a close resemblance to the fungus causing "Potato Blight," described by the writer in the O.A.C. Report for 1886. A great many "blights" on different plants, turnips, lettuce, onion, cabbage, etc., are caused by parasites in the order (*Peronosporæ*) to which the above belong.

REMEDIES.—1. Eau Celeste, a mixture of copper sulphate ammonia and sodium carbonate (see under conclusions at the end of this Bulletin) has been used very successfully against Downy Mildew by spraying as follows: 1st. Application ten days before the vines blossom; 2nd. Just after the blossoms fall, and 3rd, about two weeks later. 2. The Bordeaux mixture, copper sulphate, lime and water, as also referred to in the conclusions, is effective.