

higher temperatures but did not infect the leaves. Vigorously growing mildew colonies that had developed under optimum conditions were killed in 6 hours when placed in chambers at 104° F.

Similar studies of the effect of moisture on the powdery mildew fungus showed that it will grow well under very dry conditions. At temperatures from 70° to 90° F, spores germinated at relative humidities approaching zero. Thus, moisture appears to have little effect on germination, infection, and development of grape powdery mildew.

The disease will develop much more abundantly in the shade or diffused light than it will in bright light. Long exposures to the direct sun may also destroy the fungus.

These studies show that the powdery mildew fungus will grow very well at moderate temperatures even under dry conditions, that its development is slowed down or arrested under high temperatures, and that in very high temperatures over 105° F the fungus colonies may die.

BOTRYTIS ROT

This disease often called slipskin, grey mold, and bunch rot is the most prevalent and important of the fruit rots occurring shortly after the first fall rains. It has been a serious disease, especially in the table grapes, in storage and transit, but also a destructive disease of wine grapes in seasons of early rains or extreme moisture from heavy dews.

Free moisture on the surface of fruit is most conducive to infection though infections will take place readily in an atmosphere of very high, 92-97% relative humidity. At temperatures ranging from about 60° to 70° F infection will take place within 18 hours, at higher temperatures the infection period is slightly longer, and at lower temperatures the infection time was also longer. For example, at 40° F the time for infection usually requires about 36 to 48 hours and at 35° F about 72 hours.

Grapes harvested early in the season usually have less Botrytis rot than those harvested later in the season. This may be due to two or more factors. Berries with low sugar are generally less susceptible than are berries with high sugar or the more mature the fruit the more susceptible it is to Botrytis. Also in late season the weather is cooler and the periods of high humidity longer.

Summer bunch rot of some wine varieties is caused by Botrytis, but infection takes place at bloom. The rot begins to appear in July.

Part of the information for this lecture was taken from

1. General Viticulture by A. J. Winkler
2. "California Wine Grapes: Composition and Quality of Their Musts and Wines" U.C. Bulletin 794, by M. A. Amerine and A. J. Winkler
3. "Grape Varieties for Wine Production" - U.C. Leaflet 154, by M. A. Amerine and A. J. Winkler