**BRIEFS**

Short reports on current agricultural research

Soil moisture and Phytophthora

**ROOT-ROT OF TOMATOES**

Field studies of a root-rot of tomatoes caused by the soil-borne fungus Phytophthora show that the disease is most severe under water-logged soil conditions. Water-logging may occur because of tight subsoils or a high water table, since both these conditions slow down the drainage of excess water out of the upper root zone.

Cooperative field investigations indicate that careful control of irrigation water will minimize water-logging of the soil and markedly reduce loss of plants by the disease on a soil which can be water-logged rather easily. At the same time, the carefully irrigated treatment supplied adequate moisture for good yields of fruit.

Phytophthora root-rot does not always occur on water-logged soils, even where the disease has been present in previous seasons. Marked reduction of disease where tomatoes follow barley as compared to tomatoes following tomatoes has been observed. Because the surface soil frequently becomes very dry under barley, and the fungus is severely affected by extremely dry soils, the influence of soil moisture on survival of the fungus is being investigated in the greenhouse.

Data on duration of water-logging in field soils are being collected as a means of predicting where special water management practices are necessary in preventing severe Phytophthora infection.

—D. W. Henderson, Dept. of Irrigation, Davis.

**Chemotherapy of**

**BEE DISEASES**

During the past three years, approximately 200 colonies of bees have been treated successfully for the eradication of American foulbrood in a research apiary established in Imperial County. The infected colonies were treated with either terramycin or sodium sulfathiazole, or both, after all poor combs were eliminated and the colonies strengthened by the addition of brood, more bees and young queens. Each colony was reduced to a one-story hive and treated with medicated syrup to stimulate brood rearing and to enable the bees to eliminate all evidence of the disease.

Combs were rotated in the brood chambers to cause brood to be reared in all combs.

The colonies were fed only sufficient medicated syrup to stimulate brood rearing or to carry the bees over the winter period, or during the spring buildup. The colonies used up the feed before they began storing surplus honey and were not treated during the honeyflow if they

**Double cross hybrid varieties in**

**LADINO CLOVER**

The development of an experimental double cross hybrid variety of ladino clover which would be comparable to double cross hybrid corn is underway. Heretofore a barrier to development of hybrid corn has not yet been established.—W. E. Nyquist and E. H. Stanford, Dept. of Agronomy, Davis.