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? WHY THE WEATHER ?

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FRUIT THERMOMETERS

A valuable adjunct of orchard-heating methods as a protection from frost is the "fruit thermometer," first used experimentally in the California citrus groves in 1918 and now in routine use in the same region. The standard type of instrument is a mercurial thermometer about four inches long, made of heavy glass to avoid breakage. Like the clinical thermometer of the sick-room, it has no back or frame. When not in use it is kept in a case of hard rubber.

The purpose of the instrument is to measure the temperature inside an orange or other fruit and its indications, taken in conjunction with those of an ordinary air thermometer, guide the grower in deciding if and when to light his heaters. The bulb of the thermometer is pushed into the fruit just far enough to get it below the rind, the measurement being made on the side away from the trunk of the tree and in a location about the height of a man's eyes and exposed freely to the sky.

The freezing-points of different citrus fruits - all lower than 32 degrees, the freezing-point of water - are known approximately. When the freezing-point of the fruit to be protected is reached on a cold night and when, at the same time, the air temperature is still lower, the heaters must be promptly lighted. As long, however, as the temperature of the fruit remains well above its freezing-point, even though the air is much colder, heating can be deferred and, again, if the fruit has reached its freezing-point but the air is warmer, heating is unnecessary. As orchard-heating is a costly process, much money is saved through the use of these instruments, under the guidance of Weather Bureau experts.

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