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A Science Service Feature

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? WHY THE WEATHER ?

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KEEPING THE ORANGES WARM

As early as midsummer, California orange growers begin preparing for frosts which do not come till several months later. In a large orchard, tanks are placed at convenient intervals as reservoirs for the oil heaters. These tanks are filled during the summer. About October 15 the heaters are placed in the orchards, perhaps fifty or more to the acre. In southern California alone there are approximately 2,000,000 burners in use.

The work of keeping oranges and lemons warm, then, has assumed large proportions and is aided by a special fruit frost service of the U. S. Weather Bureau. Usually the freezing point of the mature orange is about 27 degrees, but whenever temperatures as low as 32 degrees are expected, warnings are widely distributed in advance. Each large orchard has its own "thermometer runners", whose reports on the temperature at different parts of the grounds serve as guides for the firing squad. The expense of heating is so large that it is important to follow the temperature closely and keep the oranges not more than just within the limits of safety. A large grove with 10,000 heaters may burn as much as \$3000 worth of ^{oil} on particularly bad nights.

The weather Bureau has been very successful in estimating just how low the temperature will go. In one district last winter where forty-eight forecasts of freezing temperature were made, 79 per cent. predicted the expected to within one degree, 98 per cent. were within two degrees, and the greatest miss was less than three degrees.

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