

"The first type," says these writers, "is commonly designated as radiation frost and usually occurs on still nights as a result of the rapid loss of heat from the earth to the upper atmosphere by radiation. By reason of the high humidity of the lower air layers, this type of freeze is much less common in Florida than in California. In this type the trees in groves or parts of groves in low situations suffer most and the lower parts of trees are commonly injured more than the upper parts.

"The second type of freeze is the so-called 'blown-in' or 'cold wave' type, which may last from one to a few days and is usually accompanied by considerable wind. In such a freeze a large body of cold air is carried down over the state from the north by the migration of a high-pressure area and the conditions usually result in a very rapid radiation of heat from the soil also. Most of the severe freezes in Florida are of this type. In such a freeze the trees in the more exposed situations commonly suffer more than those at lower elevations or those protected by timber, and the upper parts of the trees are often more seriously injured than the lower parts."—*C. F. Talman*, in *Why the Weather?* (SS.).

#### DRY WINDS IN THE CITRUS GROVES

In a recent article Floyd D. Young, of the Weather Bureau, describes the remarkable "desert winds" that occasionally invade the citrus belt of southern California, causing much damage to trees and fruit. Their destructive effects are felt mainly in fall and winter. The winds come down through mountain passes from the plateau region of Nevada and northern Arizona and are initially very cold but are warmed by compression in their descent and become so dry that relative humidity as low as three per cent. is sometimes registered at Pomona.

"Damage to crops," says Mr. Young, "especially citrus fruits, due to desert winds, is sometimes enormous. Citrus damage is of two kinds, the mechanical injury to the trees and fruits owing to the high velocity of the wind, and the desiccating effects of the extremely dry air on the foliage. When the wind velocity is high, 30 to 40 miles per hour, much fruit is blown to the ground and a great deal of that left on the trees is badly scarred through limb rubbing. Two desert winds which occurred in Orange County, Calif., during December, 1927, caused an estimated loss of 1,500 carloads of oranges through blowing the fruit from the trees. The manager of the cooperative marketing association in one district estimated that 35 per cent. of the entire orange crop on the trees in his district was blown to the ground. In the most exposed portions of some orange groves, as many as 500 oranges were counted under individual trees after the wind. Fruit scratched or bruised through contact with limbs during a storm is much more subject to decay than sound fruit. If a period of rain or nights with heavy fog follows a strong desert wind within a few days, the injured fruits often decay on the trees. Foliage injury or 'wind burn,' as it is called locally, is due entirely to excessive dehydration of the leaves and small twigs in the extremely dry atmosphere. It is confined almost entirely to orange trees."—*C. F. Talman*, in *Why the Weather?* (SS.).