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? WHY THE WEATHER ? Mailed May 13, 1930

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FROST

On still, clear nights in spring or autumn the temperature of the air often falls below the freezing point (32 degrees Fahrenheit). If the air contains a considerable amount of water vapor, a deposit of minute ice crystals will form on the surfaces of terrestrial objects, including vegetation. This deposit is called "hoarfrost," and the chilling of the air that causes it is described as a "white frost." If, however, the air is so dry that its dew-point (the temperature at which condensation occurs) lies below 32 degrees, there may be no deposit of hoarfrost even though the air becomes cold enough to injure plants. Vegetation is more or less blackened by freezing; hence this phenomenon is called a "black frost."

So far as plants themselves are concerned, a frost implies the freezing of their saps and juices. The temperature at which this occurs varies from one species or variety to another, and also varies for different stages of a plant's development. It is always at least a little lower than 32 degrees; the freezing-point of pure water. American meteorologists grade frosts with reference to their effects on vegetation as "light," "heavy" and "killing," but the application of these terms is necessarily somewhat loose.

In another sense of the term a frost is the occurrence of a temperature of or below 32 degrees, without regard to its effects on plants. In British parlance the number of degrees the temperature falls below 32 is described as so many "degrees of frost."

Lastly, when we say that there is "frost in the ground" we mean that the soil contains ice.

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