

## ACTION OF FROST ON PLANTS.

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At the January meeting of the D. C. Horticultural Society, Mr. Wm. Saunders, Superintendent of the Agricultural Grounds, had a paper (as per title) from which I give your readers some of its points:

"You cannot tell beforehand what plants or trees are hardy. The wood of the orange is in appearance as hard as the oak. Nor will trees, etc., brought from corresponding degrees of latitude grow equally as well in another country that has a similar temperature. Australian plants which will endure cold of 15° below zero in their native habitat are destroyed here when the thermometer reaches the freezing point. The arid climate of Australia thoroughly ripens the wood, which is thus rendered capable of enduring the severe cold.

"The temperature and physical condition of the soil have also an important controlling influence on the cold-resisting power of plants. Unless a proper degree of moisture is furnished by the roots the more succulent branches will become dry and shriveled under the influence of cold, dry currents of air, although the thermometer be above the freezing point; and when the temperature of the soil is low the activity of the roots is correspondingly decreased, and they are unable to replace the losses caused by evaporation from the external surfaces of the branches and stems of the plant.

"Seeing that the temperature of the soil in which plants are growing has so potent an influence on their cold-resisting powers, we realize the value of the application of leaves, strawy manures and similar materials over the roots of plants during winter.

"From what has been stated it is evident that so far as concerns soil and culture, the greatest safeguard against injury to plants from cold is that of having properly ripened or matured growths. How much of the disappointment in fruit culture is the result of immatured growths it would be difficult to determine. I have long considered this to be the cause of the disease known as "yellows" in the peach tree. This disease is most prevalent in localities where growth is prolonged until it is suddenly arrested by a killing frost; and I am not aware of its existence in climates where the tree becomes deciduous in the absence of frost. It is within the province of the cultivator to assist nature in the requisites for perfect maturation of growth. The