

## SHIPPING PRODUCE IN COLD WEATHER.



SHIPMENTS of such perishable farm produce as apples, potatoes, etc., during the winter season are always fraught with danger of freezing while in transit. The cold snap during the middle of November resulted in considerable loss to shippers who were caught in just this way. Potatoes forwarded in unprotected cars were at times so badly frostbitten that receivers could get but 25c. to 35c. per bush. for stock which ought to have been worth nearly twice that much. The weather bureau of the United States Department of Agriculture has prepared some interesting figures regarding the temperature in degrees which various articles of farm produce can stand without injury when unprotected. Tabulated, the figures given in degrees above zero are as follows :

Apples, in bbls.....	20	Flowers.....	35
Apples, loose.....	28	Grapes.....	34
Apricots, in bbls.....	35	Lemons, boxed.....	26
Bananas.....	45	Mandarins.....	32
Cabbage, in Crates.....	30	Oranges, boxed.....	25
Celery.....	30	Onions, boxed.....	20
Cider.....	22	Pineapples.....	35
Cranberries.....	28	Potatoes, Irish, bbls.....	33
Eggs, in bbls. or crs.....	30	Potatoes, sweet.....	36

In the transportation of fruits and vegetables there are three primary objects to be obtained. First, the protection of shipments against frost or excessive cold. Second, the protection of the same against excessive heat, and finally the circulation of air through the car so as to carry off the gases generated by this class of fruit. In shipping goods, injury is liable to occur from long exposure to a temperature but little below 32°, or from a shorter exposure to a greater cold so that the duration as well as the intensity of the cold must be considered. The temperature of the produce when put into the car is quite a feature to be observed. If it has been exposed to a low temperature for a considerable time before, it is in a poor condition to withstand the cold, and the length of time so exposed should be taken into account.

As a rule, perishable stuff can be shipped with safety in ordinary freight cars when the outside temperature is 20° above zero. In refrigerator cars safety may be assumed when the outside temperature is 10° above zero. In the latter, the goods may be safely shipped with a temperature outside of from zero to 10° below if the car is first heated and at the end of the journey the goods are taken immediately into a warm place. In winter time refrigerator cars are used without ice in forwarding goods from the Pacific Coast. In passing through cold belts or stretches of country the hatches are closed and the car, being lined, with padded doors, affords protection against the outside temperature. In passing through warm climates the hatches are opened in order to prevent perishable goods from heating and decaying.