

The process, whether with early or long keeping fruits, consists in keeping them in an equable, moderately dry condition, a few degrees above the freezing point. This low temperature may be produced by different methods, although it is usually secured by the use of ice, in a room with double walls, ceiling and floor, packed between with dry sawdust or other cheap non-conducting substance, or by the use of what are known as dead air chambers.

Since the warmer air is always found in the upper part of the room, the ice box is placed there; and since the gaseous results of decay are heavier than atmospheric air, the opening, if any, provided for their removal should be placed very near the door of the room. The ice box will necessarily be the coldest object in the room, for which reason any excess of moisture in the air of the room will be condensed upon it, and this will the more readily occur if its surface is of metal. It must therefore be supplied with the means of collecting such condensed moisture, together with the drip from the ice, and carrying the same outside the building; the discharge pipe should be provided with a trap to prevent the admission of the warmer air from without.

The fruits to be held should be in as perfect a condition as possible; rather under than over ripe; and may be in moderate sized packages, or placed directly upon shelves. Bruised or decayed fruits should be rigorously excluded. Such arrangement will be found useful also for the preservation of perishable culinary and other articles.

The arrangements for the preservation of the longer keeping fruits differ from the foregoing mainly in dispensing with the use of ice; and, instead, securing the needful low temperature by employing a system of ventilation, by means of which the outer air may be admitted, when its temperature is low enough for the purpose, excluding it at other times. The fruit should be gathered with the utmost care, when not over ripe, all bruised or decayed specimens excluded, and the packages placed at once in the retarding house, the temperature of the same having been already reduced as low as practicable by opening the ventilators during cold nights and closing them before a rise of the outer temperature. The effect of this will be to avoid the continuance of the ripening process consequent upon the comparatively warm weather which so frequently occurs after fruits are gathered, bringing the fruit thus treated down to the final advent of winter, slightly if at all changed from its condition when gathered—an important point gained, especially in the more southerly portions of the apple growing regions of our country.

A building for this purpose may be constructed of cheap material, if only the work of packing or insulating be so thoroughly done as to effectively avoid circulation of air, save when admitted through the system of ventilation.

Admission to the room should be through double doors, and light should be admitted only when needful in conducting operations.

Fresh air is admitted through a passage from beneath at some central point in the fruit room which should draw its supply from the free outside atmosphere, and should be susceptible of being easily and tightly closed at pleasure. This passage should extend to near the ceiling, admitting the incoming air only at that point; which will thus displace the warmer air which will have risen to that position.

Carbonic acid and other products of decay will, if present, occupy the lower portions of the room. To insure the removal of these the pipe for the discharge of the outgoing air should start from near the floor, passing up through the attic and above the roof, but with its principal opening at or near the ceiling, to be used for the removal of the warmer air, when the temperature is to be reduced. These passages also should be kept tightly closed, except during the process of ventilation.

If both air ducts are opened when the contained air is warmer than the outer atmosphere, the warmer air will pass freely upward and be as freely replaced by the cooler air from the lower duct. This process will continue till the temperatures within and without the room are equalised.

It may, however, become desirable to change the air of the preservatory when the temperatures are such that a spontaneous movement of the air cannot occur. To provide for such necessity the upper ventilating duct should be of metal—ordinary sheet