

THE CONDITIONS FOR LONG-KEEPING OF FRUIT.

IN what condition can fruit be placed to best preserve its good qualities and retard its decay? There seems to be two distinct active processes in the growth and development of fruit. The first is the growth—the collecting and building up of a compound of comparatively solid structure which is unpalatable and indigestible as an article of food. The second is the ripening process; a kind of organic ferment; a breaking down, softening, dissolving, rendering palatable, easily digested and valuable as food. In this change the volatile oils are generated, giving flavor and character to fruit. The time required in building up fruit preparatory to ripening has not been delegated to man to control to any great extent, whether a variety is to ripen in May, July or September. Yet if man cannot control the time of completed growth, he can, during this period, by good care and cultivation, increase greatly its size and value.

In the second stage of development ripening can be hastened or retarded, and when fully ripe, decay can be delayed. In the second stage fruit should not be left opened and exposed to atmospheric changes of temperature or moisture. Flavor is lost by evaporation. If the purpose is to hasten ripening, the fruit should be inclosed in a tight box or barrel, or wrapped in flannel, to prevent evaporation, and left in a warm room of uniform temperature.

The greatest advantage to the fruitgrower will result from checking too early maturity, and from preventing early decay after harvesting. His success demands a place for storage, with surroundings favorable for preservation. One condition is conceded by all—that the temperature, must be lower than that required for growth. That 32° is too low, seems to be the conclusion of

those best qualified to judge. Fruit kept long at that temperature, although apparently unchanged, when removed soon sinks to decay, not apparently from over-ripeness, but from the permanent suspension of all active forces. The process of decay, not that of ripening, takes possession. California shippers of oranges have come to the conclusion that refrigerator cars do not pay; in fact that they have occasioned great loss. It seems that the conditions most favorable for the preservation of fruit without loss in quality would be secured by a store-room, having the temperature so low as to check (not wholly destroy) the forces at work in fruit, whether these forces be chemical or organic,—so low that spores would not be active; the air so damp that moisture would not escape, while the temperature and moisture should remain uniform. Apples, as well as potatoes, buried in the ground and so covered as to be protected from heat and frost, come out in the spring as fresh and bright as when buried in the fall.

Grapes, picked and wilted, then buried in stone jars three to four feet below the surface, will come out with stems green and fruit plump and bright. In these two cases the temperature remains more uniform than could result with atmospheric exposure. Cellars having springs in them or streams passing through them are noted for keeping apples and vegetables fresh, even until late the next season. The water acts as a regulator of both temperature and moisture. These methods of storage approach the conditions specified above, and the nearer the approach the better the result.

If these conditions are favorable for the preservation of fruit in all its stages of ripeness, the question arises: How may they be the best and most economically secured? The cream-