

Abstract:

Qualitative changes of some products during freezing, storage and thawing have been investigated with instrumental methods. Content of vitamin C was used as an index of quality during freezing and storage. Regimes of freezing and storage time were determined, taking into account their influence on the hydrophilous and structure-mechanical properties of the product. The freezing temperature of specific products and the amounts of frozen water at different freezing temperatures have been determined graphically. The objective characterization of physical properties of products allowed to evaluate quality, to incorporate this into the technological regimes of the treatment. Quality of fruit and berries was estimated by quantitative methods. Experimental results indicate that the incipient freezing that is associated with solidifying is mainly directed toward the formation of ice crystals, and the concentration of water soluble dry matter. Mechanical damage of tissues with large ice crystals in the process of freezing and thawing a product lowers its consistency. Water stage turning into ice essentially affects the quality of the frozen product. The thawing duration of fruit was evaluated. Suitability of varieties for freezing was tested, based on structural changes in fruit.