

Abstract:

Due to significant influence of the growing area on the fruit maturity terms, fruit harvest maturity recommendations made for West European region can not be used in Latvian climate conditions, even in cases, if some of West European origin cultivars are suitable for growing here. Apple cultivars grown in Latvia have to have traits, which ensure an accumulation of decently high level of sugars during relatively short fruit growing period. Large part of apple cultivars of Latvian or East European origin have an improved biosynthesis of organic acids, relatively high content of vitamins, especially vitamin C, excellent aroma and intensive skin colour development in comparison to apple fruits grown in more Western regions. In such climatic conditions the acid content are sometimes too high even during the period of consumption readiness. This factor determine necessity to decrease the level of acids during storage for such apple cultivars, which have a genetically determined high content of acids. The optimal harvesting maturity, transpiration, physiological and microbiological loses of weight during the storage, spectrum of most important physiological and microbiological drawbacks, dynamic of flesh firmness grade, fruit quality (flavour, attractiveness) were tested in the Pure Horticultural Research Station during 1995-2000. The main task of trials was to find the optimal harvest maturity grade, which can insure good taste quality, and appearance, minimise the fruit weight losses in conventional atmosphere storage, without any after-harvesting chemical treatment. Storage potential of cultivar for of 5-6 months period in conventional atmosphere was preferable, but not limitable trait. Due to irregular fruit shape and tendency to watercore cultivar 'Stars' had serious problems for commercial growing. Cultivars 'Beforest', 'Ilga', 'Tiina' had unacceptable appearance for market. During the storage period strong influence of rootstock on the transpiration rate and microbiological loses of weight was observed for cultivars 'Belorusskoye Malinovoye', 'Iedzenu', 'Spartan', 'Orlik'. The most appropriate cultivars for such storage conditions were 'Belorusskoye Malinovoye', 'Sinap Orlovskiy', 'Iedzenu', 'Forele', 'Spartan', 'Orlik'.