

Abstract

The importance of food safety is growing everywhere in the world, thus also environment friendly growing systems come more and more into focus. Organic production in particular claims at achieving better quality fruit and consumers are willing to pay a premium price for this. However, there is little scientific evidence to backup these claims. The objective of this research is to find out how different production systems (integrated, organic) affect the external aspect, texture and flavor of apples. Six apple orchards were selected (3 organic and 3 Integrated) in 3 different growing regions of Belgium as a basis of current experiment. Texture, soluble solid content, taste parameters (sugars: sorbitol, sucrose, glucose, fructose and acids: malic acid, quinic acid) and the aroma profile of apples have been studied at harvest and after two week, of storage under shelf-life conditions. Apples were picked at the same maturity for excluding the effect of different harvest maturity. After shelf-life stiffness and firmness mostly remained higher in the integrated apples compared to the organic ones, while the-soluble solid content was slightly higher in the organic apples. Results showed no considerable difference in the taste of apples coming front different growing regions or different production systems. When examining the aroma profiles of apples, differences were found between fresh apples and those stored two weeks under shelf-life conditions, and also between apples coming from different production system.