

Abstract:

The aim of our two-year study was to investigate quality factors such as sensory properties, colour, volatile composition, sugar and acid content, mineral elements, pesticides and vitamin C in frozen strawberries (*Fragaria x ananassa* Duch.) for industrial processing. The samples consisted of 'Senga Sengana', 'Jonsok', 'Korona', 'Polka', 'Honeoye' and 'Bounty', cultivated by applying conventional farming practises and harvested analogously in 1997 and 1998 in the Inner-Savo area of eastern Finland. In addition, organically cultivated 'Polka', 'Jonsok' and 'Honeoye' berries were analysed. Also, the variation of quality factors in 'Senga Sengana' of different domestic and imported fruit source origins was investigated. Strawberry headspace consisted of 52 different volatile compounds, including esters, aldehydes and ketones with wide variation in profiles depending on the variety, but not on type of farming system. Sugar content ranged from 5.4 to 11.0 g/100 ml, total organic acids ranged from 1.2 to 1.8 g/100 ml, and vitamin C content ranged from 32.4 mg/100 g to 84.7 mg/100 g. Sensory properties, sugars and acids were similar between conventional and organic sources. Fruit origin and year had a strong effect on 'Senga Sengana' sweetness, sourness, sugars and acids.