Title	Determination of the fruit content of strawberry fruit preparations by gravimetric quantification of hemicellulose
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Abstract

A novel method for the determination of the fruit content of strawberry fruit preparations based on the quantification of hemicellulose is presented. For this purpose, the hemicellulose fraction was isolated from the alcohol-insoluble residue (AIR) of strawberry fruits (*Fragaria* × *ananassa* cv. 'Senga Sengana' and 'Camarosa') to calculate the amount of fresh fruit per gram hemicellulose. Fruit preparations with fruit contents ranging from 30% to 60% were produced using starch, pectin, xanthan and guar gum as hydrocolloids. For the determination of the fruit content, added hydrocolloids were removed by enzymatic digestion and alkaline degradation, respectively. The hemicellulose fraction resulting from AIR fractionation was quantified gravimetrically. Due to the characteristic composition of neutral sugars obtained after hydrolysis, the hemicellulose fractions may be used for authenticity control. Excellent agreement between specified and determined contents (30% vs. 31.5%; 45% vs. 44.7%; 60% vs. 64%; 40% vs. 37.6–42.2%) was obtained irrespective of the composition of the fruit preparation. This method is considerably more reliable than those based on the determination of low-molecular compounds which can easily be added to feign a higher fruit content. Furthermore, fruit juice concentrates added to fruit preparations as a food colorant do not affect the quantification of the fruit content.