Abstract

Adulteration of strawberry and raspberry purees with apple is a potential authenticity issue. In puree form, detection of such adulteration is not easy. A series of pure strawberry ($n = 32$) and raspberry ($n = 32$) purees was prepared. Strawberry and raspberry samples were adulterated at levels of 10, 20, 30, 50 and 75% (w/w) apple using different ($n = 28$) apple samples. Reflectance spectra were recorded using two different sample cell types. Classification of pure and adulterated fruit samples was investigated using soft independent modeling of class analogy. Best models permitted detection of apple adulteration at levels of $> 20\%$ w/w (strawberry) and $> 10 < 20\%$ w/w (raspberry). Quantification of adulterant content was by partial least squares regression. The most accurate models produced prediction errors of 3.4% apple (in raspberry) and 5.5% apple (in strawberry).