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Czech J. Food Sci.

Růžičková J., Šustová K.

Determination of selected parameters of quality of the dairy products by NIR spectroscopy

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The possibility of the application of near-infrared spectroscopy to the analysis of the selected parameters of quality of the dairy products was followed. The contents of solids and fat, as well as pH in yoghurts (also the titrable acidity), milk semolina, and milk rice were determined. The samples were analysed by reference methods and by FT NIR spectroscope at integrating sphere within reflectance mode in the wavelength range of 10 000– 4 000 cm^{-1} with 100 scans. To develop the calibration model for the components examined, the partial least squares (PLS) was used and this model was validated by full cross validation. The highest correlation coefficients were found with yoghurt: 0.998 (solids), 0.989 (fat), 0.875 (pH) and 0.989 (titrable

acidity), with milk semolina: 0.967 (solids), 0.983 (fat) and 0.992 (pH), and with milk rice: 0.987 (solids), 0.990 (fat) and 0.852 (pH). The results of this study showed the availability of NIR spectroscopy for a quick and non-destructive analysis of the dairy products.

Keywords:

NIR spectroscopy; dairy products; dry matter; fat; pH; titrable acidity of yoghurt

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