COLOUR-MASKING OF DOMESTIC PAPRIKA (CAPSICUM ANNUUM L.) POWDER

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For testing of coloured food products, it is recommended to implement a testing environment based on standards, where colour differences between products do not affect the assessment of other sensory parameters (taste, flavour, texture) (ISO 11037:2011). In international practice, colour masking methods are used to achieve this, but all of them are subject to errors. In our study, we investigated 12 types of commercially available paprika powder. Therefore, as a first step spectral characteristics of the samples were characterised (Konica Minolta CR 400) in reflection mode in the light range visible to the human eye (380-780 nm). A monotonic ascending colour series was generated based on the L*,a*,b* values obtained from the samples, where the difference between the samples was almost similar (ΔE_{ab}=1.5-2.0). The spectra can be used to determine the range where masking can be effectively implemented. The vision of the sensory assessors (visual acuity, contrast sensitivity, colour vision) was tested (ISO 8586:2012) by assessors with normal vision under reproducible lighting conditions (ISO 11037:2011). Paprika samples were first arranged by the assessors in standard white (D65) illumination environment and then the same was done under different coloured light environments in a spectrally tunable light booth. The correct order characterises the masking effect of light environments. The results showed that all the samples of paprika differed from each other under the standard reference white illumination environment (Page test, Cabilio-Peng pairwise post hoc test). The most effective masking effect was obtained under the blue illumination environment.