Standardization of the Methods for Distinction by Geographic Origins/Species and Detection of Important Characteristics in Food

Akemi Yasui
Analytical Science Division, National Food Research Institute
2-1-12, Kannondai, Tsukuba-shi, Ibaraki 305-8642, Japan

Summary

Reliability of labeling on food items is strongly needed. Methods used for compliance in regulatory analysis are requested to be validated by collaborative study. Distinction for maximum value is performed by quantitative methods, which should be validated according to the internationally harmonized protocol by IUPAC, etc. Its minimum criteria for quantitative study are 5 materials and 8 laboratories reporting valid data for each material. Characteristics of DNA markers used for distinction of species and detection of characteristics like GMO are studied by qualitative methods, which should be validated according to the guideline by AOAC International, etc. Minimum criteria for qualitative analyses by AOAC International are 10 laboratories reporting on 2 analyte levels per matrix, 6 test samples per level, and 6 negative controls per matrix. Establishment of methods for distinction by geographic origin is required to consist of validated methods for determination of inorganic elements, preparing discrimination models, verification of models and validation by multi-laboratory studies.