

Standardization of KFDA Individual Methods for Pesticide Residues in Foods

(식품 중 잔류농약 개별 공정분석법의 확립 및 표준화)

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KFDA official analytical methods for pesticide residues have been operated not only to screen rapidly suspected pesticide residues in domestic and/or imported foods but also to make a precise decision on violation of legal maximum residue limits. Dual analytical systems consisted of multiple and individual analytical methods are included in KFDA Standard Code of Food prerequisite to fulfill these purposes, respectively. Particularly, strict criteria are required for development and application of individual methods to meet legal judgement as well as to confirm analytical data produced by multiple screening methods. Unlikely to high and fast throughput in multiple methods to cover target analytes as many as possible, the first priority in individual methods lies in the method reliability achieved by highly specific procedure, reproducible determination and confirmation. During the past decade, scientific efforts on practical revision of individual methods in Standard Code of Food have been continued to adopt more advanced analytical principles along with employment of highly verified techniques of analytical operation. An emphasis has also focused on requirements of method validation, which comprise LOQ/LOD, recovery, confirmation of residues, repeatability/reproducibility and practical parameters. Ongoing improvements on the Korean official methods could be summarized as following concepts: 1. scope and limitation of application between multiple vs. individual methods; 2. standardization of analytical procedures in accordance with physicochemical properties of target analytes; 3. flexibility of analytical methods to cover a class of pesticides including analogous pesticides to be newly registered; 4. employment of verified techniques for consistent operation; 5. simplification of analytical procedure feasible to routine analysis. In this presentation, retrospect and current status of scientific criteria and cases on the method development will be provided. Prospect on the future studies and harmonization of practical aspects for Korean official methods will be also discussed.

Key words : Pesticide, Residue, Food, Individual Analysis, Official Method

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