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Food testing and agriculture

Multiresidue Analysis of Seven Anticoagulant Rodenticides by High-Performance Liquid Chromatography/Electrospray/Mass Spectrometry

Journal of Agricultural and Food Chemistry, **55**, 571-576 (2007)
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Tags
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Abstract
Mice and rat populations are commonly controlled by two classes of rodenticide anticoagulants, coumarins and indandiones. However, poisoning of nontarget animals also often occurs. For cases such as these, a rapid, multiresidue method, which provides positive confirmation for both classes of anticoagulant rodenticides, is needed by diagnostic laboratories. A method was developed for the determination of seven anticoagulant rodenticides, coumafuryl, pindone, warfarin, diphacinone, chlorophacinone, bromadiolone, and brodifacoum, in diverse matrices, animal feed, cooked beef, and fruit-flavored beverages using high-performance liquid chromatography/electrospray/mass spectrometry. Detection was by MS/MS with electrospray ionization in negative mode. Confirmation was by retention time, *m/z* of molecular ion, and two parent–daughter transitions. Recoveries from selected the matrices ranged from 61 to 117%. Limits of quantitation were as low as 1.5–4.5 ng g-1. The developed method was rapid and provided the simultaneous confirmation and quantification of the seven anticoagulant rodenticides. Reprinted with permission from the Journal of Agricultural and Food Chemistry.

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