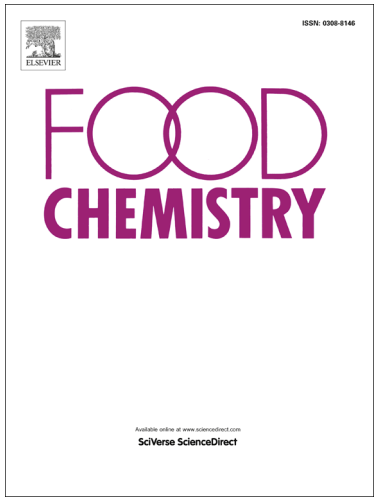

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Detection of insect's meal in compound feed by Near Infrared spectral imaging

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Abstract

Insects have recently emerged as a new protein source for both food and feed. Some studies have already demonstrated that insects' meal can be successfully added to animal feed without threaten animals' growth indices. However, effective and validated tests to individuate insects' meal in feed are strongly needed to meet traceability and safety concerns and to support the European legislation under development. Spectroscopic techniques represent valuable rapid and non-destructive methods that can be applied for in-situ analysis in feed production plants or in farms.

In this work a Fourier Transform Near Infrared spectroscopy imaging (FT NIR) as a potential screening method for the detection and quantification of insects' meal in feed is presented. Discriminant analysis was used for the automatic recognition of insects' meal fragments into the feed matrix. Moreover, the possibility to quantify