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GM DNA detected in refined GM oil – Public deceived – Farmers should be advised

GM DNA has been detected in refined oil. This means that oils such as GM canola should be labelled 'genetically modified', under Australia's current labelling standards.

They are unlabelled at present as Food Standards Australia New Zealand (FSANZ) say they do not contain GM DNA or protein.

Refined GM oils on our supermarket shelves have been escaping labelling because Food Standards Australia New Zealand had deemed that they do not contain GM protein or DNA.

MADGE Australia researcher Madeleine Love said "FSANZ has made many public statements saying there is no GM DNA in refined oils, when in fact, it is there."

"This means that GM oils have been mislabelled for a decade, and the public has been deprived of the right to make an informed choice. Many have been deceived into buying GM products against their will and better judgment."

"It also means that farmers intending on planting GM canola should be advised that the oil from their seed can be traced, and labelled."

The authors of the study[1] reported that the use of larger samples of oil helped the detection of GM DNA. Previous studies had used very small samples. The detection of DNA can be influenced by the food matrix, and the researchers found success with the 'nucleospin' methodology. This sort of method had been used back in 1998 to detect DNA in canola oil. The researchers also said it was difficult to detect DNA during the unstable stages in the production, perhaps leading previous researchers to stop measuring.

Ms Love has been reading through the literature in preparation for the Food Labelling Review. The study was published in Jan 2010 in the journal Food Research International.

Ms Love said "FSANZ has deemed that refined GM products such as oil, starch, sugars, syrups and cottons do not contain GM DNA and or protein, but is likely that they do. I expect to find studies to demonstrate it."

"Regardless, MADGE Australia is calling for **a 'process based' labelling system, where all foods fully or partly derived from a GM process are fully labelled**.

We believe this request is in line with public expectations, and in line with the original GM labelling intentions for Australia."

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[1] **Monitoring genetically modified soybean along the industrial soybean oil extraction and refining processes by polymerase chain reaction techniques;** Joana Costa[a], Isabel Mafra[a], , Joana S. Amaral[a, b] and M.B.P.P. Oliveira[a]; Food Research International Volume 43, Issue 1, January 2010, Pages 301-306; http://bit.ly/9wDGfw

Abstract

In the present work, the extraction and detection of DNA along a complete industrial soybean oil processing chain was described to monitor the presence of Roundup Ready® (RR) soybean. The analysed samples comprised all the steps prior to industrial oil extraction, namely, raw, cracked, laminated and expanded seeds, and the defatted flour as a sub-product. The samples collected at the refining unit included the crude oil, degummed/neutralised, washed, bleached and deodorised oil, as final product. The amplification of soybean lectin gene by end-point polymerase chain reaction (PCR) was successfully achieved in all the steps of extraction and refining processes, until the fully refined soybean oil. The amplification of RR soybean by PCR assays using event-specific primers was also achieved for all the extraction and refining steps, except for the intermediate steps of refining (neutralisation, washing and bleaching) possibly due to sample instability. The real-time PCR assays using specific probes confirmed all the results and proved that it is possible to detect and quantify genetically modified organisms in the fully refined soybean oil. To our knowledge, this has never been reported before and represents an important accomplishment regarding the traceability of genetically modified organisms in refined oils.