

QUALITATIVE AND QUANTITATIVE PCR ANALYSIS OF DIFFERENTLY PROCESSED ROUNDUP READY SOYBEAN

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Eight types of processed Roundup soybean materials, namely, seeds, cracked seeds, expander, crude flour, proteic flour, crude oil, degummed oil and lecithin, all derived from different steps of an industrially production food supply chain, were examined by qualitative and quantitative PCR. Specific combinations of primers differentiated sequences from the whole insert. The amplification of marker PCR fragments long not more than 500 base pairs was successful both in raw material (seeds) and in partially (cracked seeds) and highly (flours, crude and degummed oils and fluid lecithin) processed materials. Real time quantification was also applied as a screening assay in all processed foods. Results obtained show that the developed screening, gene-specific and construct-specific markers can be used in HACCP protocols for the control and traceability of GMO contamination of food and feed products containing soybean, according to the current EU regulations for the labelling and traceability of novel foods.