

F Weighardt. Nature Biotechnology (2006) Vol.24#1 p 23 - 25

European GMO labeling thresholds impractical and unscientific

Foods containing more than 0.9% GMO by weight must be so labelled; providing the consumer the opportunity to make an informed(?) choice. The commercial costs of erroneous labelling could be considerable. The costs of false test results, or false interpretations of test results could also be considerable. The article shows good reason to doubt the usefulness of current quantification techniques; do they actually meet the needs of regulation?

Techniques have been developed which should allow the regulator the opportunity to test the accuracy of food labels. These techniques work by quantifying genetic material.

However, the author of this article points out that weight for weight proportions are not the same as genetic proportions; some GMO-derived tissues contain very small proportions of genetic material. The key question then is whether different lines of the same plant species exhibit a conserved ratio between the weight of what is considered an ingredient and the number of genomes contained in it. If so, does this apply when plants are grown in different conditions? The author cites examples where variation is as high as 40% making it potentially very difficult for manufacturers to work with confidence. Crop plants which accidentally contain novel genes, e.g. through pollen drift, could have gene to weight ratios that differ from reference materials by up to 4 times.

Foods with multiple ingredients each with GM counterparts on the market would be exceptionally difficult to label with any confidence unless accurate provenance was available. Measurements which determine that GM composition is greater than 0.9% could be in error by a factor of 4; the assessment actually only states the relative gene dosage with respect to the employed reference material.

Comment

Compliance with EC Directives would be costly. Product testing would need to be accompanied by justifications of the conclusions drawn from the lab results.

The potential for harm from GM food ingredients need not be proportional to DNA content. Several food stuffs are used only when proteins including DNA, have been removed. Some risks would only manifest if the genes were actually active, many genes are not active unless triggered. Labelling, as currently defined, would provide no useful information on these matters.