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# Current situation of food irradiation in the European Union and forthcoming harmonization

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## Abstract

There have been efforts, since 1986, to harmonize the law of the Member States with regard to food irradiation; but only in 1999, a Directive was adopted. It includes, at present, only a single item, spices; and it enforces strict labelling. The European Commission was charged to develop a final 'positive list' of permitted items until the end of 2000; and the contents of this list are still under dispute between member states today.

The Member States had to implement the provisions of the Directive in 2000; however, only a few states completed their legal procedures. As long as the 'positive list' is not adopted, Member States can maintain their existing regulations except for spices. This whole picture must be put in the context of the existing General Standard for Irradiated Foods of the Codex Alimentarius, which does not allow for the exclusion of specific food items. © 2002 Elsevier Science Ltd. All rights reserved.

## 1. The current situation

The European Union has now 15 members and more states are expected to join in the near future. Harmonization of legal and regulatory systems affect all areas of life, most dramatically in 2001, through a new, common currency replacing national currencies. Food by its value is a very important factor of the economy, and hence, regulations have a significant effect on production, manufacturing, trade and consumption. Since 1986, there have been efforts to harmonize the law of the Member States with regard to food irradiation; but only in 1999, a Directive was adopted (EU, 1999a,b,c). It includes at present only a single item, 'spices' (i.e. 'dried aromatic herbs, spices and vegetable seasonings'); and it enforces strict labelling with the consequence that even minor ingredients, which are usually not listed individually on the label, must be explicitly listed if irradiated (EU, 2000). The European Commission was charged to develop a final 'positive list' of permitted items until the end of 2000; but today, the

contents of this list are still under dispute between Member States. There was even a 'consultation' on this problem on the INTERNET, and industry and consumer organizations responded. Due to several food scandals, the most prominent being BSE, the attention of the public and the pressure to the decision-makers is not in the area of food irradiation.

The Member States had to implement the provisions of the Directive in 2000; however, only a few states completed their legal procedures. As long as the final 'positive list' is not adopted, Member States may maintain their existing regulations except for spices. This implies that three members have a general ban, nine members have their particular lists of clearances, three members have no regulations, at present (cf. Table 1). This whole picture must be put in the context of the existing General Standard for Irradiated Foods of the Codex Alimentarius, which does not allow for the exclusion of specific food items. This Standard is presently under revision with the intention to remove also any upper dose limit and again the European Directive is at variance with accepted rules under international agreements. In particular, conflicts in the area of 'Technical Barriers to Trade' can be foreseen and the conciliation procedure of WTO might be needed for

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Table 1  
 Legalization of food irradiation in the EU (except 'spices')<sup>a</sup>

*Clearance:*

Belgium, Denmark, Finland, France, Italy, The Netherlands, Spain, Sweden, United Kingdom

*Ban:*

Austria, Germany, Luxembourg

*No regulation:*

Greece<sup>+</sup>, Ireland<sup>-</sup>, Portugal<sup>-</sup>

<sup>a</sup>Note: <sup>+</sup> denotes permitted, <sup>-</sup> denotes not permitted.

Table 2  
 Food items cleared in some Member State (*by specific nomination or by individual item*)<sup>a</sup>

'deep frozen aromatic herbs'  
 Potatoes, onions, garlic, shallots  
 Strawberries  
 'dehydrated vegetables or dried vegetables'  
 'flakes or germs of cereals for milk products'  
 'flakes from cereals'  
 Rice flour  
 Gum arabic  
 Chicken meat, 'mechanically recovered chicken meat'  
 Offal of chicken  
 'frozen frog legs'  
 'dehydrated blood, plasma, coagulates'  
 'frozen peeled or decapitated shrimp'  
 Egg white  
 'camembert from raw milk'  
 Deep frozen meal ('for patients which need sterile meals')

<sup>a</sup>Text in apostrophes to mark very specific wording.

help. The Codex Alimentarius does not provide for a restriction of food irradiation by the means of 'positive list'.

## 2. Forthcoming harmonization and outlook

The difficulty is in harmonizing results from the variability of national regulations within the EU by naming the food items (cf. Table 2) or classes (cf. Table 3) as well as the conflicting purposes (cf. Table 4). Also, permitted doses either by value or as being presented by maximum, minimum or average doses are not in congruence between Member States. It should also be noted that, in several countries, there is virtually no exploitation of some permitted application; and hence, only a very few facilities are registered for radiation-processing of food (EU, 2001a). Furthermore, it must be noted that the EU's Scientific Committee on Food (SCF) has expressed several opinions as to which food item might be justified to irradiate, but the SCF has never developed a general view in accordance with the Codex Alimentarius approach.

Table 3  
 Food classes cleared in some Member State

Tea  
 Bulbs, tubers  
 Vegetables  
 Fruit  
 Dried vegetables, dried fruit  
 Nuts  
 Cereals  
 Fish and shellfish, shrimps  
 Egg products  
 Food additives, flavourings

Table 4  
 Purposes for which food irradiation is cleared

Microbial decontamination  
 Inhibition of sprouting  
 Retarding decay processes  
 Disinfestation  
 Sterilization  
 'not stated'

Meanwhile, the European Commission has compiled a list of those food items for which Member States have proposed the inclusion in the final 'positive list' (EU, 2001b). It cannot be predicted when the final agreement between the European Parliament and the EU's Council of Ministers will be reached. This compilation at present does not contain 'fruit'. On Hawaii, elimination of fruit-fly is achieved by the use of ionizing radiation; this fulfils quarantine requirements of mainland USA and direct shipping is now possible. However, the EU would not provide an entry of such fruit. Such conflicts might become another issue for the conciliation procedures under WTO. According to the new Directive (EU, 1999a), the European Commission has started to compile irradiation facilities which have been licensed for food processing and have been nominated to the European Commission for inclusion in the official list of registered facilities. The new Directive, by the principle, provides for imports from third countries under the condition that the food item is contained

in the EC ‘positive list’ and that the irradiation facility providing such treatment is registered with the European Commission. The EC has not yet been challenged for such imports; despite the fact that some irradiated product (e.g. frog legs) irradiated in some third country are presently imported into at least one Member State.

## References

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- EU, 1999b. Statement by the Commission; statement by the Council and the Commission. Official J. EC, L66/23.
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- EU, 2001a. List of approved facilities for the treatment of food and food ingredients with ionizing radiation in the Member States. Official J. EC, C129/7–C129/8.
- EU, 2001b. List of Member States’ authorization of foods and food ingredients which may be treated with ionizing radiation. Official J. EC, C128/6.