Food Irradiation in the EU

Giorgiana Mihaela BELBE, Maria TOFANĂ

University of Agricultural Sciences and Veterinary Medicine, Faculty of Agriculture, No.3-5, Mănăștur Street, Cluj-Napoca, România, e-mail: giorgiana.belbe@gmail.com

Keywords: ionizing radiation, irradiated foods, $^{60}$Co gamma irradiation, accelerated electron irradiation, irradiation in Europe.

SUMMARY

At Community level irradiated foods and food ingredients are regulated by Framework Directive 1999/2/EC and Implementing Directive 1999/3/EC. Foodstuffs may only be irradiated in approved irradiation facilities in the Member States or in irradiation facilities in third countries which have been approved by the Community.

The status of food irradiation in EU was investigated using data made public by the European Commission. For the present inquiry data from the interval 2003-2007 was analyzed pointing out the following aspects: number and geographical distribution of approved facilities, details of approval, radiation sources used and groups of irradiated foods and ingredients and their quantity. The published data showed that in 2007 there were 12 Member States which had approved facilities for the treatment of food and food ingredients with ionizing radiation. The number of the irradiation facilities was 23. The majority of the facilities, 78%, used a $^{60}$Co source and had approval of irradiation for dried aromatic herbs and spices and seasoning.

In the interval 2003-2007, the total amount of irradiated foods and ingredients has met a decreasing tendency, reaching 8152.9 t in 2007 from 17154.6 t in 2003. The countries with the most important quantities of irradiated foods are Belgium, with an average of 5461.2 t/year, Netherland with an average of 4409.4 t/year, and France with an average of 2876.6 t/year.

The foods and food ingredients that were irradiated in the EU between 2003 and 007 are the following: Arabic gum, caseins, cereal flakes, cheese, chitosan, dried blood and plasma, eggs and egg white, fish, food samples, frog legs, fruit, guarana seed, herbs, spices, MDM and chicken offal, meat, mushrooms, oil seeds, poultry and game, prepared dishes, proteins, shrimps, starch and vegetables. Of these, the most important are frog legs with an average of 26.60 %, herbs and spices with an average of 22.33 %, poultry and game with an average of 12.48 % and vegetables with an average of 11.44%.

In conclusion, food irradiation is widespread in the EU and the range of foods and food ingredients is wide, up to 24 groups. But, as their quantities are low, the importance of irradiated foods on the European market is minor.

REFERENCES