Wholesomeness Data on Irradiated Food

There is no item of more primary importance to the welfare of the human race than food. It has long been realized that even small increases in the quality and/or quantity of food mean great benefits to people everywhere, particularly to those who are under-nourished or on the threshold of starvation. Therefore, the application of food preservation technology to prevent food losses has become a major factor in solving the world's food problems. Some of the chemical additives used to preserve food have caused harmful effects on the well-being of the consumer, but the newly-developing commercial treatment of a number of food products with low doses of ionizing radiation has been shown to be technologically advantageous and economically viable.

Great efforts are made to assure that any new technological advances will not result in adverse effects on health. Regulatory agencies have set exacting standards, and require that scientific evidence be produced to prove that food processed by radiation is wholesome and safe for human consumption. As a result, health authorities are increasingly approached by food manufacturers interested in the use of the new process, requesting the clearance of a specific irradiated food for human consumption. This submission must be based on scientific data. At present, available data on wholesomeness of irradiated food is generally in a form which is cumbersome to deal with, especially as a sizeable portion of it is unpublished. Thus it is very difficult for an individual preparing a petition to find out precisely what has already been accomplished in similar investigations undertaken elsewhere.

The Food Preservation Section of the Joint FAO/IAEA Division decided to set up a data system whereby wholesomeness information on irradiated food can be easily obtained and disseminated by means of publication. The data will be related to toxicological safety, nutritive value and microbial innocuity. To do this the Division has sent a questionnaire to institutes and scientists involved in programmes dealing with wholesomeness of irradiated food, requesting them to provide information on investigations already completed, on those which are currently in progress and on programmes projected for the future. Based on the responses received, a list of wholesomeness investigations recently carried out in Member Countries on different food items, can be found in Table 1. Summarily it can be stated that the results from these investigations do not indicate any detrimental effects on health.

Detailed data will be published periodically by the International Project in the Field of Food Irradiation in "Food Irradiation Information". The project has been established under the auspices of FAO, IAEA and OECD (NEA) with 22 countries at present contributing financially to the Project.

The Food Preservation Section of the Joint FAO/IAEA Division, in collaboration with the International Project in the Field of Food Irradiation, is bridging the gulf in information relating to the wholesomeness of irradiated food, and furnishing scientific evidence to health authorities for their consideration of the acceptance of irradiated food.

TABLE I.

Investigations on wholesomeness of irradiated food being undertaken in FAO/IAEA Member States. This list has been compiled by the Food Preservation Section of the Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture, and classified by commodity:

Food Commodity - Primary Group	**Specified Item**	**Countries Carrying Out Study**
FRUITS	Apple	USA
	Apple juice	Austria
	Apricot	USA
	Jackfruit	Philippines
	Orange	Australia
	Papaya	USA
	Pears	USA
	Prune-Plums	USA
	Sweet Cherries	USA
	Strawberries	Netherlands, USA
VEGETABLES	Lima Beans	Australia
	Mushrooms	Canada, Netherlands
	Niebe	France
	Onions	Canada, Japan, USA, USSR
	Peanuts	Philippines
	Potatoes	Brazil, Canada, Czechoslovakia, Japan
	Tomatoes	Spain
GRAINS	Maize	France
	Millet	France
	Rice	Japan, Korea
	Wheat	Belgium, Canada, India, UK, USA
MARINE PRODUCTS	Bleeker	Philippines
	Clams	USA
	Cod	Norway, UK, USSR
	Flathead Fish	Australia
	Haddock	Canada
	Hake	Spain
	Herring	FRG
	Mackerel	Norway, Thailand
	Sheat Fish	USSR
	Surgeon Fish	Philippines
	Shrimp	India, Netherlands, Philippines
	Tuna	Philippines

Food Commodity - Primary Group	Specified Item	Countries Carrying Out Study
FRESH WATER FISH	Trout	FRG
MEATS	Beef	France, UK, USA, USSR
	Chicken	Canada, Netherlands
	Ham	UK, France
	Horsemeat	UK
	Lamb	New Zealand
OTHERS	Eggs	France, FRG
	Lab Chow	Denmark, Hungary, UK
	Milk Powder	FRG
	Paprika	Hungary
	Piglets Prestarter Diets	FRG