COMMERCIAL STATUS AND REGULATORY PROGRESS OF IRRADIATION

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As an alternative to methyl bromide, irradiation fits as a treatment to control pests and disease organisms in some durable and perishable commodities, and in some soil applications where the soils are packaged, or for reusable greenhouse materials.

Irradiation as a disinfestation treatment has been developing independently of the requirement to replace methyl bromide, primarily because it has been seen as a technology with benefits beyond those offered by fumigants. Irradiation is a broad spectrum pest control method. It can control internal pests that can not be controlled by fumigants or other methods. For some products, irradiation offers the additional marketing benefit of extended fresh market life.

Irradiation is used commercially for a growing variety of food and agricultural commodities, usually to control harmful or spoilage bacteria in foods and dry ingredients or to extend the shelf life of perishable foods. Commercial disinfestation or quarantine disease control applications are few and often limited to one or two per country. The relative good success of these commercial applications, however, prove irradiation's potential for wider use. Among the notable exampies are rice in Indonesia, forage crops and rattan ornamental products in Australia, birdseed in Canada, several fruit applications in the United States, cereal and dried fruit mixes and dried flowers in France, numerous horticultural and stored products in China, fruit in South Africa, pulses and other durable foods in Thailand,

The effect of irradiation on pests and product quality have been studied for many decades. In some instances, for example the radiation response of stored product pests, codling moth and fruit flies, sufficient research seems to have been done. In other areas, for example the response of some other pests such as mites and nematodes and the effect on the quality of some horticultural products, more research is required.

The regulatory position allowing the use of irradiation is relatively well established, yet for many applications, regulatory barriers reduce the current use of the technology. Irradiation is approved by CODEX Alimentarius, and has the general endorsement of the United Nations organizations responsible for food and public health. It is approved, for at least one food use, by 34 countries, although less than 15 of these likely include a disinfestation purpose. Regulations on food irradiation vary significantly in different countries - from broad acceptance of several food classes to limited acceptance of a few food items, and from prohibition to complete silence. Such disharmonious regulations are barriers to trade in irradiated foods.

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Harmonization of sanitary and phytosanitary measures were negotiated intensely under GATT, particularly during the recent Uruguay Round. The World Trade Organization agreement on Sanitary and Phytosanitary (SPS) measures and on Technical Barriers to Trade (TBT) which entered into force in 1995 will have a profound influence on the flow of free trade in food and food products. These agreements note that measures shall not be more trade restrictive than necessary to achieve a legitimate protection objective.

The SPS applies to all sanitary and phytosanitary measures which may directly or indirectly affect international trade. Intended to guide harmonization of sanitary and phytosanitary measures, the SPS encourages the recognition of internationally agreed treatments (including irradiation) and only allows control measure that are scientifically justified. Economic risk assessments of potential harm resulting from insufficient or ineffective pest control measure are allowed, but the SPS does not allow arbitrary or unnecessarily restrictive control measures . The clauses on transparency of control measures taken by countries will result in a decreased ability of countries to place unnecessarily restrictions on food effectively treated with irradiation to control pest or diseases. As a result discrimination against irradiated food, processed according to the principle of the CODEX Standard, in national regulations are not likely to withstand international court challenges.

The regional members of the International Plant Protection Convention (IPPC), including the North American Plant Protection Organization (NAPPO) has recognized the effectiveness of irradiation as a broad spectrum quarantine treatment of fresh fruits and vegetables, NAPPO in 1989 and IPPC in 1992. Given the leadership role played by regional plant protection organizations in the development of domestic plant phytosanitary regulations, these endorsements are very important.

The role of regulatory approval in major importing countries is very important in the development of irradiation. In the past year the regulatory policy position for irradiation as a quarantine treatment in the United States has improved with the publication of an important policy paper. Additionally, disinfestation treatments for some Hawaiian produce have been approved; other approved treatments for fruit fly hosts and for logs are expected. In Australia, policy has been much improved with regulations that outline the use and regulatory control of irradiation, although no specific approvals have been granted. In Canada, in spite of assurances the government will improve the approval of alternatives, several petitions for disinfestation applications have been unreasonably delayed. In Japan, obtaining regulatory approvals for irradiation disinfestation is very difficult, and thus far, approvals are officially non-existent.

Labeling of irradiated foods is seen by the food industry as a constraint, since competitive technologies such as chemical treatments often do not require a label. Consumers are often wrongly presumed to hold negative opinions towards irradiation and so the requirement to label reduces the use of irradiation. Since the use of many competitive treatments such as fumigation does not require labeling, the requirement to label irradiated food may be ruled an unfair technical trade barrier. It is also an additional expense for those using irradiation technology.