Radiation treatment of foods

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Radiation Treatment for Food Preservation: Good or Bad? Radiation treatment used in food preservation has positive and negative effects but based on the results of researches it has more advantages compared to hazards. The positive effects of radiation treatment include effective disinfection, cost-efficient and time-efficient method of food processing, and good retention on quality of food and related commodities (Alothman et al. 201; Dionisio et al. 1267). Effective disinfection is related to the sterilization and removal of pathogens in the food (Dionisio et al. 1267). The radiation treatment of food is also cost-efficient or cheaper compared to other methods and can be accomplished in a shorter period of time. The preservation of the quality of the food in terms of flavor, texture and components is also another advantage of the radiation method as compared to other methods (Alothman et al. 201). The first benefit of radiation in food preservation is in terms of effectiveness in disinfection from different forms of contaminants. The use of radiation is recognized as a physical and non-thermal method of food preservation also referred to as cold-pasteurization used to decrease or even remove pathogens and contaminants from food. The process is commonly used for the “ removal of pathogens in fruit juices, hindering the spoilage of seafood and meat products and prevention of microbial growth such as Salmonella in poultry products.” Lower doses referred to as radurization are used to hinder enzyme action such as sprouting and ripening (Dionisio et al. 1267). The process of decontamination then can improve the shelf-life of the food and related products (Alothman et al. 202). The efficiency of radiation treatment on the basis of price and time is another important advantage. The process of radiation treatment is time-efficient due to the fact that compared to other methods it has short

processing time. Thus, the food processing can be completed faster and with the established and recognized efficacy of the process it can be considered more effective. In addition, radiation treatment is also considered as a cost-efficient method in related to the shorter and faster completion of food treatment. Low cost is also related to the fact that only low dose of irradiation can already be effective in food preservation (Alothman et al. 209; Dionisio et al. 1275). The preservation of the quality of the food in terms of flavor, texture and components is also another advantage of the radiation method as compared to other methods. Another advantage is the preservation of the quality of the food. Based on gathered information, the food products that had been treated through radiation resulted to minimal modification of the flavor, the color, the nutrients, the taste and other pertinent characteristics of the food. Compared to other process such as those based on the use of temperature and chemicals, radiation treatment can cause the least modification since low doses of the different types of radiation can already give favorable effects (Alothman et al. 201). Based on the research undertaken radiation treatment is and effective way to preserve foods. Although there are negative effects, the factors discussed are important evidences of the importance of radiation treatment namely disinfection, cost- and time-efficiency and preservation of the good quality of food and related commodities. Works Cited Alothman, Mohammad, Rajeev Bhat and A. A. Karim. “ Effects of Radiation Processing on Phytochemicals and Antioxidants.” Trends in Food Science & Technology 20 (2009): 201-212. Dionisio, Ana Paula, Renata Takassugui Gomes and Marilla Oetterer. “ Ionizing Radiation Effects on Food Vitamins – A Review.” Brazilian Archives of Biology and Technology 52. 5 (September-October 2009): 1267-78.