Title Sensivity to gamma irradiation of post-harvest pathogens of pear

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Abstract

Recently, radiation has been used as a fungicidal treatment in the post harvest technology of fruits. The effect of gamma irradiation at doses of 5 - 3000 Gy, on spore germination and mycelial growth of four fungi (*Alternaria tenuissima*, *Botrytis cinerea*, *Penicillium expansum*&*Stemphylium botryosum*) pathogenic to stored pears were studied. Inhibition of spore germination was found to be directly related to the strength of the radiation dose. *B. cinerea* and *P. expansum*were radiation sensitive, while *A. tenuissima* and *S. botryosum* were radiation resistant. Exposure of mycelial mat to different radiation doses showed that a dose level of 1000 and 3000 Gy could be considered sufficient for decontamination by the radiosensitive and radio-resistant species, respectively. Regardless of index of mycelial age, young mycelia were more resistant than mature mycelia. The lower doses of gamma radiation increased total proteins and total soluble sugar s of all the tested fungal species but did not effect lipid synthesis.