

**QUALITY OF MANDARINS (*CITRUS RETICULATA* BLANCO)
INFLUENCED BY GAMMA IRRADIATION**

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Mandarins (*Citrus reticulata* Blanco) are consumed in large quantities in Turkey and one of the most important exports of the citrus fruits. There were 9829 bearing and 1885 non-bearing trees for mandarin in Turkey where had produced approximately 874 thousand tons mandarin in 2012. Mediterranean fruit fly (*Ceratitidis capitata*) is a pest of high economic importance, affecting production of several fruit species specially mandarins. Mediterranean fruit fly infestation in mandarin's fruits has been estimated to be 10–30% and also cause major problems to exports due to quarantine restrictions. Over the centuries, efforts have been made to control storage losses and maintain the quality of foods. Food irradiation is a technology which approved the efficiency for solving insect disinfestation and phytosanitary problems in citrus trade. In this research, the mandarins (*Citrus reticulata* Blanco) were irradiated at different dose levels (0.5, 1.0 and 1.5 kGy) and stored during 45 days. The alcohol insoluble pectin, °Brix (Total soluble solid), titratable acidity, pH, total carotenoids and vitamin C contents were analyzed after the irradiation in 0, 15, 30 and 45 days at during the storage time. Results showed that these physicochemical and chemical parameters (except vitamin C) were not influenced significantly by irradiation. These results therefore indicate that gamma irradiation is a harmless and highly effective quarantine treatment technique for mandarin and irradiation process become more conventional for insect quarantine applications.

Keywords: Mandarin, fruit quality, gamma irradiation

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