STUDIES ON THE BIOCHEMICAL CHANGES INDUCED BY GAMMA RAYS IN CARROT PLANTS

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B.Sc. Agric. (Biochem.) Ain-Shams Univ., 1982

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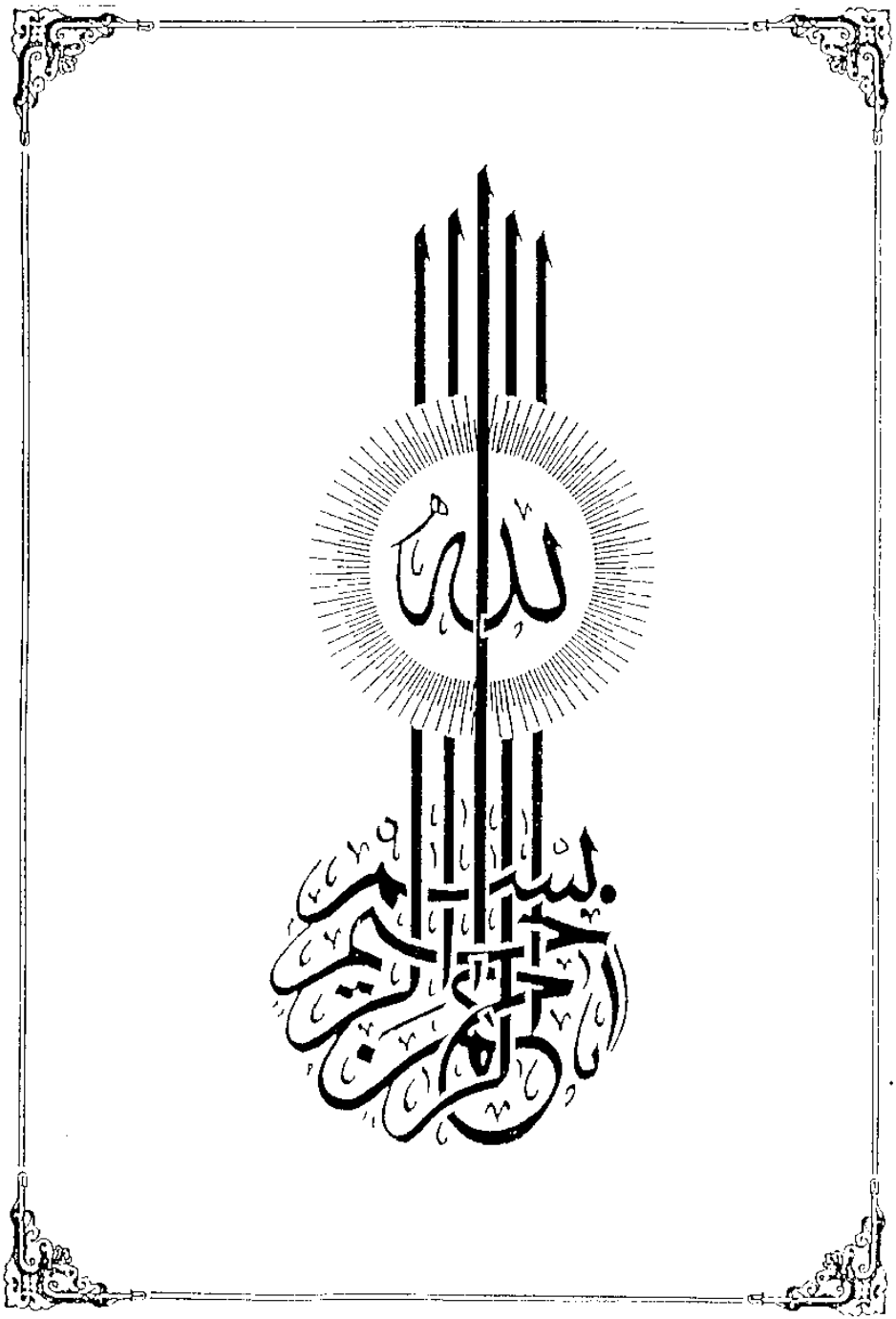

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ABSTRACT

Samples of carrot roots "Chanteny" Doucus carota L. were exposed to gamma irradiation (0, 1, 2 and 4 kGy). The first sample was stored at room temperature in plastic nets, second was kept in the refrigerator (4°C) in plastic nets and bags, and the third was dehydrated and ground to a fine powder then kept in plastic bags and stored in dark at room temperature.

Storage period prolonged for four months, while samples were taben every two weeks for the analysis of vitamin C, carotenes, vitamin A, phenolic compounds and sugars.

Storage of carrot roots at 4°C in plastic bags after irradiation was better than in plastic nets, so the shelf life of carrot roots had markedly

extended with improvement in freshness, appearance and the overall attributes. The dose of 2 kGy was the best one for such crop. Although irradiation of carrot samples was accompanied by decrease in carotenes and vitamin C but vitamin A was increased.

Key words :

Irradiation, Gamma rays, Carrot roots, Vitamin C, Carotene, Vitamin A, Phenolic compounds, Sugars, Dehydration, Cold storage, Packaging.

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