

Abstract

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Risk Assessment from Radon Gas in the Greenhouses

Radon is a naturally occurring radioactive gas found in varying amounts in all soils. Therefore, it is very important to study radon emanation from different soils in different circumstances; especially, in green houses which widely used to propagate and cultivate of plants. In greenhouses radon comes from either soil or the substances which make suitable flooring in the greenhouse. Radon and its progeny are accumulated in the air and on the plants themselves, which causes hazard for workers and customers in a later stage. Radon gas is measured in two kinds of greenhouses, one of them is constructed from plastic sheet and the other from glass (Agriculture Research Center – Horticulture Research Institute) using CR-39 NTDs as a passive technique. It based on the production of track in the detector due to alpha-particles emitted from radon and its progeny. The observed track densities are then converted to annual radon dose to be 12.36 mSv and 8.3 mSv for the plastic and glass greenhouses under investigation, respectively. It is also found that the workers have been subject to regulatory control.