

Title            Detection of radiation-induced markers from parts of irradiated kiwifruits  
Author           Deokjo Jo and Joong-Ho Kwon  
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### **Abstract**

Parts of irradiated kiwifruits were investigated for radiation-induced markers. The DNA comet assay on seeds showed that non-irradiated cells appeared as intact nuclei without tails, while irradiated cells displayed comets with long tails. Tail length of seeds increased significantly up to 1 kGy ( $p < 0.05$ ), showing a positive correlation ( $R^2 = 0.9084$ ) between the irradiation dose and tail length. The triplet signals from cellulose radicals observed in electron spin resonance (ESR) analysis on the core or flesh of kiwi enabled irradiated samples to be distinguished from the non-irradiated samples. The ESR signals increased in correlation with the irradiation doses with  $R^2 = 0.9071$  in the core and  $R^2 = 0.9730$  in flesh. Both methods were found suitable for the detection of irradiated kiwi during the six-week shelf-life period.