

Title Process challenges in applying low doses of ultraviolet light to fresh produce for eliciting beneficial hormetic responses

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Abstract

A considerable body of evidence has been steadily accumulating pointing to the benefits of postharvest exposure of fresh produce to low doses of shortwave ultraviolet light (UV). This type of treatment was originally proposed as a method of reducing postharvest losses through fungal attack and premature senescence. UV has been shown to elicit a range of chemical responses in fresh produce ranging from antifungal enzymes to phytoalexins. Moreover, there is evidence to show that some of the induced compounds have beneficial effects on human health. By contrast to the extensive biochemical studies conducted, little attention has focussed on how such treatment may be realized in practice. In this review, therefore, consideration is given to how treatment of produce on a large scale with UV might be designed to offer maximum benefits.