

Title Effect of BTH on antioxidant enzymes, radical-scavenging activity and decay in strawberry fruit

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Abstract

The effect of benzo-thiadiazole-7-carbothioic acid S-methyl ester (BTH), at 0.2 g/l, on antioxidant enzymes, radical-scavenging activity and decay development in strawberry (*Fragaria × ananassa* Duch.) fruit, was investigated. The results showed that BTH treatment enhanced the activities of antioxidant enzymes, including superoxide dismutase, ascorbate peroxidase, and glutathione reductase. The treatment increased the contents of phenolic and anthocyanin in strawberry fruit, as well as radical-scavenging capacity, expressed as 1,1-diphenyl-2-picrylhydrazyl and superoxide radical values and reducing power. The treatment also decreased the development of decay compared to control fruit. These results indicated that BTH might increase the disease resistance of strawberry fruits by enhancing their antioxidant systems and their free radical-scavenging capabilities.