

Title Oxidative stress and superficial scald of apple fruit.
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Abstract

This paper presents an overview of alpha -farnesene biosynthesis and oxidation in apple fruit in relation to the longstanding hypothesis that oxidation products of this sesquiterpene are directly involved in the induction of superficial scald. The progress towards understanding regulation of alpha -farnesene synthesis in apple by specific genes and enzymes is reviewed, and strategies for molecular genetic suppression of alpha -farnesene synthesis are discussed. In addition, an alternative hypothesis that apple scald is caused by more general oxidative stress and the inability to detoxify reactive oxygen species and free radicals is briefly elaborated.