

Title ABA effects on ethylene production, PAL activity, anthocyanin and phenolic contents of strawberry fruit

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Abstract

Effects of exogenously applied abscisic acid (ABA) on ethylene production rate, phenylalanine ammonia-lyase (PAL) enzyme activity, and anthocyanin and phenolic concentrations in harvested strawberry cv. Everest fruit were evaluated. Colouration and firmness were also assessed on fruit held for 3 days at 20 °C. ABA treatment accelerated fruit colour and softening. Treatment with 10^{-5} or 10^{-4} mol ABA l⁻¹ stimulated ethylene production. Anthocyanin and phenolic contents and PAL activity increased during storage, but more rapidly in ABA-treated fruit. As a result, red colour development was accelerated. Endogenous ABA may play a role in strawberry fruit colour development during ripening through up-regulation of ethylene production and PAL activity.