

Title           Effect of nitric oxide on ethylene production in strawberry fruit during storage  
Author         Shu-hua Zhu and Jie Zhou  
Citation       Food Chemistry, Volume 100, Issue 4 , 2007, Pages 1517-1522  
Keywords      ACC oxidase; ACC synthase; Ethylene; Nitric oxide; Sodium nitroprusside; Strawberry

### **Abstract**

Strawberry is a non-climacteric fruit, with low ethylene production rate after harvest. Its response to nitric oxide (NO), which can be released from sodium nitroprusside (SNP), was studied. We have examined the effect of 1.0, 5.0 and 10.0  $\mu\text{mol l}^{-1}$  SNP aqueous solution on ethylene production, respiration rate, 1-aminocyclopropane-1-carboxylic acid (ACC) content and the activities of ACC synthase and ACC oxidase in post-harvest strawberry ("Fengxiang"). The most remarkable effect was obtained with 5  $\mu\text{mol l}^{-1}$  SNP aqueous solution, which significantly inhibited ethylene production, respiration rate, the activity of ACC synthase and reduced the content of ACC, but did not significantly affect the activity of ACC oxidase. SNP at 10  $\mu\text{mol l}^{-1}$  harmed the fruits; 1  $\mu\text{mol l}^{-1}$  SNP was too low to significantly extend strawberry storage life. It was suggested that NO could decrease ethylene output, through inhibiting ACC synthase activity reducing ACC content.