

# Effect of monooxygenase purified from *Mycobacterium JS60* combined with sodium alginate on the preservation of banana

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Postharvest Biology and Technology, Volume 161, March 2020, 111079

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## Abstract

The effect of monooxygenase combined with sodium alginate on the shelf life of banana was studied. Monooxygenase was purified from *Mycobacterium JS60* and combined with sodium alginate to form MOs@SA solution. The banana was immersed in MOs@SA for 10 min and air dried, then stored at 25 °C, 70 % humidity for twelve days. The results indicated that the activity of the purified monooxygenase was more than  $3.67 \text{ mmol kg}^{-1} \text{ s}^{-1}$ . Compared with sodium alginate treatment, MOs@SA treatment extended the time of banana to get yellow for 3–4 d and banana softening, increased the accumulations of phenolics and the activities of POD and SOD. Also, the MOs@SA treatment maintained the low level of reducing sugar content, MDA content, PPO activity and ethylene production. The results showed that the shelf life of banana treated by MOs@SA coating could be extended for approximately 30 % compared to the sodium alginate treatment.