

Title Inhibitory effect of banana polyphenol oxidase during ripening of banana by onion extract and Maillard reaction products

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Abstract

The inhibitory effect of onion extract on banana polyphenol oxidase activity during ripening of banana when stored at room temperature for 10 days was investigated. The addition of the onion extract that had been heated at 100 °C for 10 min exhibited a higher inhibitory effect on the banana polyphenol oxidase activity during ripening of banana than that of the fresh onion extract. When the onion extract that had been treated at a high temperature was added, the banana polyphenol oxidase activity was markedly inhibited. It was found that heat treated onion extract inhibited the banana polyphenol oxidase non-competitively. The MRP synthesized from arginine, cysteine, histidine and lysine significantly inhibited banana polyphenol oxidase. The enzyme activity was inhibited by addition of various anti-browning agents.