

Title Effect of 1-MCP on postharvest physiological diseases of kidney beans
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Abstract

1-MCP (1-Methylcyclopropene) combine with ethylene receptor specifically, interrupting the normal combination of ethylene with its receptor, inducing the insensitivity of plant tissue to ethylene, thus prevent the synthesis of the endogenous ethylene and the inducement of exogenous ethylene. In order to discuss the mechanism of anti diseases ability of kidney beans induced by 1-MCP, the variety “Jiangjun” was used to study the effect of 1-MCP on the postharvest diseases and relevant enzymes. The results showed that 1 μ l/L 1-MCP inhibited the rotting of kidney beans effectively during the whole storage, 1 μ l/L and 2 μ l/L 1-MCP inhibited crust spots during late storage; 0.5 μ l/L and 1 μ l/L 1-MCP increased the activity of PAL, 1 μ l/L and 2 μ l/L 1-MCP inhibited the increase of the activity of PPO in late storage, 0.5 μ l/L and 1 μ l/L 1-MCP increased the content of whole phenol during the whole storage. Based on the experiment, 1 μ l/L 1-MCP can prevent the diseases of Kidney beans effectively during storage, increasing the preservation effect.