

## 热水结合维生素C处理对甜樱桃果实褐变的控制研究

Combination of hot water with or without vitamin C treatment to control browning of sweet cherry fruit(*Prunus avium* L.)

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中文摘要:

在预试验基础上, 甜樱桃果实采用42℃热水及42℃热水添加0.1%维生素C各处理10 min, 在0±0.5℃, 相对湿度为85%~90%的条件下贮藏18 d后, 再置于24±1℃, 相对湿度为65%~70%条件下存放2 d, 对果实的褐变参数及相关酶活性进行检测。结果表明, 热水处理明显抑制甜樱桃果实L\*和H<sup>0</sup>值的下降及苯丙氨酸解氨酶(PAL)、多酚氧化酶(PPO)和过氧化物酶(POD)活性的上升。热水添加维生素C处理强化了这一抑制效果。贮藏后, 热水和热水添加维生素C处理的果实感官综合评分分别为6.9和7.5, 而对照仅为5.7。相关分析表明, 感官综合评分与L\*、b\*和H<sup>0</sup>呈显著正相关, 与a\*、PPO和POD活性呈显著负相关(P<0.05)。

英文摘要:

Based on the preliminary experiments, fresh harvested cherries were immersed in hot water at 42℃ for 10 min with or without combination 0.1% vitamin C conditions. After the treatment, fruit browning parameters and related enzymatic activities were then evaluated after 18 days of storage at (0±0.5)℃ followed by 2 days of shelf life at (24±1)℃. The results indicated that color, flavor and taste of fruits after heat treatments were better than those with non-heat treatment. Hot-water treatment was effective in preventing from declining in values of L\* and H<sup>0</sup> and increase in PAL, PPO and POD enzymatic activities of cherry fruit, and the beneficial effect can be enhanced by addition of vitamin C. The values of overall acceptability after heat treatment with or without combination of vitamin C were 7.5 or 6.9, however, the value of non-heat treatment was 5.7. Overall acceptability was positively correlated with the value of L\*, b\* and H<sup>0</sup>, but negatively correlated with a\* value, PPO and POD enzymatic activity(P<0.05).

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