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Effect of maturity stages and 1-MCP on postharvest quality of apricot

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This study focuses on the effect of maturity stage and 1-MCP treatment on quality of 'Zebra' apricot. Samples were harvested at mature-green, yellow and orange maturity stages. Fruit was treated with 1-MCP at 1 °C for 24 h, after that all samples were stored at 1 °C for 6 weeks. Non-destructive measurements were used to evaluate the quality changes of apricot during storage. The results showed that the maturity stages effected the weight loss of fruit during storage. The weight loss of orange ripeness stage fruit increased rapidly compared to others during storage. Both maturity and 1-MCP affected the stiffness of apricot. The 1-MCP could delay the softening of fruit. The green and yellow maturity stages obtained higher values in stiffness compared to others. No significant difference in hue angle values was observed between 1-MCP treated and control fruit, however hue angle value decreased strongly in mature-green harvested fruit. The maturity stages and 1-MCP treatment had effect on quality changes of apricot over storage. Maturity stage was important factor in the effectiveness of 1-MCP treatment to slow down apricot softening after harvest.

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Effects of cold storage on the freshness of egg and microcracks of eggshell

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In this study, eggs were investigated in cold storage (5-15 °C and room temperature) for four weeks. The changes of the freshness of egg were evaluated using internal quality parameters, such as Haugh unit, yolk index, weight loss and air cell. The significance of effects on quality changes induced by different storage conditions was tested using two-way ANOVA. The presence of eggshell microcracks was detected using scanning electron microscopy (SEM) technique. Based on the results, both storage time and temperature had significant effects on the freshness of eggs ($P < 0.001$). The highest influence of storage time was recorded on yolk index (F = 2786.3), whereas Haugh unit was the least affected parameter (F = 558.1). Storage temperature showed the highest impact on weight loss (F = 3895), whereas air cell underwent the lowest influence (F = 716). Moreover, significant interaction effects of storage time and temperature were observed at all quality parameters. The lower temperature resulted in better egg quality. Eggs stored at 5 °C showed the best freshness during the whole experiment. The rise of microcracks on eggshell was observed with increasing storage time and temperature.