Abstract

The principal aim of this study was to investigate the effects of superficial scald control methods having different effect mechanisms on scald formation and 3-farnesene content in Granny Smith apples. It was also aimed to evaluate possible alternatives to diphenylamine (DPA) that has been banned in many countries. By this aim, lovastatin and DPA with combined treatments such as heat + oil and ethanol vapour + heat were used. The experiment was conducted with ‘Granny Smith’ cultivar, very sensitive to superficial scald, grown in Isparta (Turkey). After treatments, apples were stored in normal atmosphere (air) at 0 °C and 90 ± 5% RH for 6 months. In the apples taken from storage in monthly intervals, 3-farnesene content and scald intensity were determined. It was found that all treatments decreased both 3-farnesene content and superficial scald formation compared to control group. However, poor correlation between 3-farnesene content and scald formation during the storage was found. 3-Farnesene contents of lovastatin treated apples were lower than those of DPA during the storage. The methods having different mechanism for control of apple superficial scald should be investigated elaborately.