

Abstract

The recent increase on organic apple production requires new strategies to extend the storage life of those products. Plant it, as effective alternatives to DPA and ethoxyquin for reducing the physiological disorders and decay of apple, may be highly beneficial to the fruit industry. This study was conducted in Khorasan Agricultural and Natural Resources Research center in 2002 with the prime purpose to reducing fungal decay and maintaining quality of apples (*Malus pumila* 'Golden delicious' and 'Red delicious'). In this experiment two apple cultivars were treated by 3 types of plant oils (peanuts, corn and sunflower) at 6 levels of oil concentration (0, 0.25, 0.5, 1, 2 and 3%). After (0, 45, 90, 120, 150 and 180 days) storage life, fruit qualitative characteristics (flesh firmness, total soluble solids, pH, titrable acidity, maturity index and decay) and sensory attributes (taste, odor, color, texture and overall acceptance) were registered. A factorial experiment was laid out adapted completely randomized design with 4 replicates. All data were subjected to analysis of variance and Duncan's multiple range tests were used to compare the treatments means. Results of fruit quality evaluation revealed that the effect of plant oil concentration on pH, total soluble solids, maturity index (total soluble solids/ titrable acidity), fruit flesh firmness and decay was significant. In addition pH and decay were significantly affected by plant oil type. Results of sensory evaluation showed that oil type had significant effect on fruit odor and taste. Furthermore the effect of oil concentration, on fruit texture was significant. Overall results indicated that corn oil at 2% had the best effect on qualitative characteristic, and sensory attribute, of apple 'Golden' and 'Red delicious' during 6 months storage.