

Abstract:

The effect of polyvinyl chloride (PVC) stretch film thickness (12, 16 and 23 μ) on modified atmosphere (MA) storage of strawberry (*Fragaria x ananassa* 'Tioga') fruits in polystyrene trays (250 g/tray) was investigated. The fruits were stored at 0 °C and 90% relative humidity (RH). Shelf life after harvest and during storage was studied at 20 °C and 75% RH. Fruit parameters (quality, weight loss, firmness, soluble solids) were examined during storage. PVC films at 16 and 23 μ maintained the fruit quality better than 12 μ . Effect of MA with 16 μ PVC was studied on 6 cultivars ('Tioga', 'Douglas', 'Chandler', 'Aliso', 'Pajora' and 'Dorit'). The effect of PVC film was compared with P-Plus polypropylene (PP) films at different permeability on 'Tioga' and 'Yalova-15'. In 'Yalova-15', MA packaging (MAP) reduced the weight loss to 2.5% with PVC film, and to 0.2% with PP film compared to 8% in control after 3 days at 20 °C. The weight loss reached 20% in control fruits, reduced to 3.5% in MAP with PVC and 0.2% in MAP with PP after 3 weeks of storage at 0 °C. MAP reduced the weight loss similarly in 'Tioga'. Therefore, MAP significantly prolonged the storage and shelf life of strawberry fruits by maintaining the fruit quality.