

**Title** Study on the antifungal effect of fennel and summer savory essential oil on postharvest life of golden delicious apple and comparison of its effect with carbendazim and thiabendazole fungicide

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### **Abstract**

In order to investigate the antifungal effect of medicinal plant Essential oil on postharvest life of golden delicious apple and comparison its effect with chemical treatments this experiment was conducted in complete randomized design ( CRD ) with 13 treatments and 3 replications. Treatments consists: control (inoculated with penicillium fungi without any treatments ), dipping in solutions Thiabendazole and Carbendazim at three concentration range ( 1000, 1500,2000 mg/lit) for 3-5 min and medicinal plant extract ( Fennel and Summer savory) 400,800 and 1200 mg/ lit ). Treated fruits were stored under ambient storage for 3 month. At the end of experiment decay amount TSS, juice pH, total acid (TA) TSS/TA ratio, weight loss, increasing the percent of TSS, pH were measured. Results showed that quality and quantity of golden delicious apple during storage, but this change was different depending on treatment type. Data showed that minimum percentage of weight loss and decay, high value of TSS and TSS/TA ratio was in Fennel extract treatment ( 800 mg/lit ). However in treatments as Fennel (400 mg/lit) the percentage of decay had significant differences with Fennel extract ( 800 mg/lit ). The TSS of golden delicious apple had increased from beginning to the end of experiment in storage. As level of medicinal plant extract (Fennel and Summer savory) were increased the percentage of decay and TSS were decreased and weight loss was increased. The maximum ofTSS/TA amount was observed in Fennel extract ( 800, 400 mg/lit ).