

Title Electrode configuration and treatment timing effects of electric fields on fruit putrefaction and molding post harvest

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Abstract

The effects of electric field treatment on fruit physicochemical changes, putrefaction and molding were investigated. Electrode configurations i.e. parallel plate and corona discharge (pin and plate) electrode arrangement, electric field characteristics i.e. continuous and intermittent treatments, treatment timings i.e. pre ripe and post ripe treatments (fruit treatment before and after ripening respectively) were considered. In pre ripe treatment, the brix percentage increased more in the treated samples compared with the untreated ones. Weight loss was suppressed due to treatment. The pH value increased in the control (14%) whereas in the treated samples the value remained unchanged for the same period of storage. In post ripe treatment, brix percentage decreased with storage time and the change from initial value was highest in the control samples for the same period of storage. Continuous electric field treatment in corona discharge at 10 kV of graded Fuji apples, honey content 28–30%, at 20 °C showed that decay and mold growth was retarded more in the treated samples than the untreated samples.