Title Cold storage conditions affect the persistence of diphenylamine, folpet and imazalil residues in 'Pink Lady®' apples

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Citation LWT - Food Science and Technology, Volume 42, Issue 2, March 2009, Pages 557-562

Keywords 'Pink Lady®'; Apples; Residues; Diphenylamine; Fungicides and cold storage

Abstract

'Pink Lady®' apples (*Malus domestica*) fruit were harvested at commercial maturity treated with three different agrochemical products, and stored at 1 °C under either air or controlled atmosphere conditions (2.5 kPa O_2 + 3 kPa CO_2 and 1 kPa O_2 + 2 kPa CO_2) for 15 and 28 weeks. Diphenylamine, folpet and imazalil contents in both skin and flesh were simultaneously determined after cold storage plus a simulated marketing period of 1 or 7 days at 20 °C. Results showed that apples stored in 2.5 kPa O_2 + 3 kPa CO_2 retained higher contents of diphenylamine residues in comparison with those stored in 1 kPa O_2 + 2 kPa CO_2 or refrigerated air. Significant differences in imazalil skin contents were found throughout the simulated marketing period at 20 °C after storage for 28 weeks in controlled atmospheres.