



Program and Book of Abstracts

Innovation and advanced technologies
for managing postharvest pathogens

**VI International Symposium
on Post-harvest Pathology**

29 May - 02 June 2022

Limassol, Cyprus



PP-33**Effect of postharvest treatment on physiological disorders of new apple varieties**

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Abstract

Traditional apple varieties are still in demand, but growers are weeding them out in favor of varieties which they say taste better, have crunchier texture and sell for a higher price. The success of new varieties will depend on its distinctiveness, consistence of quality and the efforts of those growing, packing and marketing it. New varieties offer enhanced quality often coupled with unique attributes but there are still many aspects that need to be investigated. Generally, apples are stored many months at low temperature under controlled atmosphere (CA) in order to reduce the metabolic rate. The storability of several new introduced varieties is, however, limited by physiological disorders occurring naturally during storage which seem to cause the main postharvest fruit losses. Here, we focused on new promising apple cultivar developed in different countries and grown in Trentino Alto Adige region (northern Italy). Little is known about their storage features. In our trials performed in 2019 and 2020, a complex of different physiological disorders were observed: superficial scald, flesh browning and browning of the skin and underlying flesh (soft scald & soggy breakdown). Here, we present the results of different postharvest treatments applied in order to avoid fruit injury, including ultra-low oxygen atmosphere conditions (ULO), 1-methylcyclopropene (1-MCP) application and management of storage temperature.

Keywords: Apple, storage, damages, disorders