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STORABILITY AND QUALITY IMPROVEMENT OF WASHINGTON NAVEL ORANGE FRUIT (CITRUSSINENSIS OSBECK) BY SAFE PRE- HARVEST TREATMENTS

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ABSTRACT



Organic sources have received much attention from growers and researchers during the last two decades. Field and laboratory trials suggest that these organic substances have the potential to provide the plant with necessary nutrients, and to improve soil physical and chemical properties as well as to suppress plant disease pathogens and particularly fungal infections. This study was carried out during 2010 and 2011 at Kafr El-Sheikh, Egypt. The effects of pre-harvest foliar sprays with compost tea (CT) or filtered biogas slurry liquid (BSL) at 50% and 100% on storability of Washington Navel orange fruits at room temperature [21 ^ 28C, 65–75% relative humidity (RH)] for 45 days and refrigerated (78C, 90–95% RH) for 75 days were studied. Most of the four organic spray treatments had a significant effect at most sampling times in reducing fruit decay and weight loss, and maintaining fruit quality. The most effective treatment(s) and the significance of differences between spray treatments varied with parameter measures, season, and storage conditions and time. However, at room temperature, CT 100% was most frequently statistically the best or one of the best treatments followed in order by BSL 100%, CT 50% and BSL 50%. In cold storage, the difference between the organic spray treatments was less clear with all four treatments being statistically the best or equal best for several parameter/season/storage time combinations. Generally, using CT and BSL as natural components to maintain fruit quality and extend storability of Washington Navel orange is more favourable to the consumer.