

Abstract:

Onions (*Allium cepa* L.) are grown in different parts of the Brazilian territory and are considered the third most important vegetable crop cultivated in the country, only behind potatoes and tomatoes. The present work was carried out aiming to evaluate the postharvest quality of twelve different onion cultivars grown in the Southeast of Brazil. Onions of the cultivars 'Adocicada', 'Branca', 'Picante' and 'Roxa' were harvested in commercial fields and the cultivars 'Princesa', 'Serrana', 'Bulbo duplo', 'Granex 33', 'XP 6803', 'XP 8418', 'RP 6010' and 'Superex' were obtained in experimental fields. After harvest, bulbs were taken to the postharvest laboratory and evaluated for total soluble solids, titratable acidity, and pungency (alliinase activity). For total soluble solids 'Superex' had the lowest sugar content (5.4°Brix) whereas the cultivar named 'Picante' showed the highest Brix (11.0°Brix) among the studied materials. For titratable acidity, it was verified that 'Serrana' had the lowest acid content (0.094 g piruvic acid.100 g⁻¹ FW) whereas 'Branca' showed the highest content of organic acids. When pungency was evaluated it was verified that aliinase activity varied from 1.37 µg piruvic acid.100 g⁻¹ FW for 'Adocicada' to 12.18 µg piruvic acid.100 g⁻¹ FW for 'Roxa', which was considered to have "hot pungency" (high aliinase activity and low TSS/TA), whereas 'Bulbo duplo' was evaluated as "pungent" (high aliinase activity and TSS/TA). The combination of the studied characteristics indicated that an onion with high pungency must have high aliinase activity and titratable acidity, whereas "sweet onions" shall have high soluble solids contents and low aliinase activity. Based on this information, 'Branca' bulbs were considered "acids" (weak pungency and high acidity), whereas 'Adocicada', 'Princesa', and 'Serrana' bulbs are "sweet", due to low aliinase activity and titratable acidity. 'Superex', 'XP 6803', 'Granex 33' and 'Picante' had a "moderately pungent" flavor (alliinase activity intermediate and low TSS/TA), but 'XP 8418' and 'RP 6010' flavor was evaluated as "lightly pungent" (low aliinase activity TSS/TA).