

Effects of location and genotype on some quality characteristics of heads in globe artichoke during harvest time

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Abstract

Further developments in artichoke cultivation in south Italy could be achieved by extending the use of new genotypes which might broaden and better organize the harvest period of heads and differentiate the quality of the product. During the harvest period weather conditions change and could influence the quality characteristics of heads. This research aimed at studying the effects of location, harvest period and genotype on some quality characteristics of heads. A field experiment was carried out including two typical locations for globe artichoke cultivation in Sicily, three harvest periods (December, February and April) and three genotypes ('Violetto di Sicilia', 'Violet de Provence' and 'Tema 2000'). Head quality characteristics were affected by location, harvest period and genotype. Heads from Caltagirone compared to heads from Ramacca showed higher fresh weight (+8%), incidence of receptacle on whole head (+4%) and bracts anthocyanin content (+24%) but lower L/D ratio (-9%) (shorter shape), dry matter content of head (-8%) and of receptacle (-7%). Heads harvested in December showed the highest fresh weight and incidence of receptacle on whole head, whereas heads harvested in February showed the highest head thickness, lightness and colour intensity, bracts anthocyanin content, dry matter content of head and of receptacle. Heads of 'Violet de Provence' and 'Tema 2000' showed in comparison to 'Violetto di Sicilia' lower L/D ratio (on average -6%), lightness (L^*) (on average -19%), chroma (C^*) (on average -28%), and dry matter content of head (on average -11%) and of receptacle (on average -16%), but higher fresh weight (on average +16%) and bracts anthocyanin content (on average +108%).