YIELD AND QUALITY OF NET MELON CULTIVATED IN SAND UNDER GREENHOUSE CONDITIONS

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The productivity and the quality of net melon in fertirrigation system in sand conditions were evaluated. The experiment was carried at FCAV-UNESP, Jaboticabal, SP. Two hybrids were used in this study: 'Don Carlos' and 'Bonus no. 2'. Structures of cement amianthus type canalete were used, which conditioned the spaced plants of 0,30m and of 1,0m among canaletes. 'Don Carlos' hybrid presented medium weight of fruit significantly superior in relation to the 'Bonus no. 2'. Regarding to the total soluble solid amount, 'Bônus no. 2' showed better results. However, there was not significant difference for the two hybrids evaluated in terms of productivity.

POSTHARVEST POTENTIAL LOSSES IN ARRACACHA (Arracacia xanthorrhiza) ROOTS RELATED TO THE HARVEST TIME

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Arracacha roots are one of the most perishable vegetables grown in Brazil. Its shelf life is only 3-4 days, contrasting with an unusual large growing period for a vegetable crop (8-10 months). Most of the arracacha roots are commercialized without any postharvest treatment (packaging or refrigeration), contributing for its perishability. Since the 60s, a postharvest root breakdown known as "mela" ("sticky soft rot") is responsible for great losses, causing rapid disintegration of the root tissues and leakage. Reports of arracacha losses in the retail market range from 30 up to 100%. The occurrence and the magnitude of the losses were investigated in a survey carried out during summer (Dec-Feb) and winter (Jun-Aug) in São Paulo state, where most of the arracacha packinghouses are concentrated and also the most important wholesale market of vegetables in Brazil. In previous experiments, it was determined that Erwinja chrysanthemi was the major pathogen involved in the roots soft rot. Ten samples were taken at random during the two seasons in different packinghouses to evaluate the loss potential due to this bacterium. Each sample had 100 roots, divided in four parcels (25 roots each), and left at environmental conditions (21-25°C, 95-100% RH), highly conducive for the development of the disease. Roots showing one or more soft rot lesions larger than 0.5cm of diameter were considered as diseased, and the soft rot incidence was evaluated daily during three days. In summer, loss potential was 64.7%, ranging from 31.8 to 100%, and in wintertime was 24.7%, ranging from 0 to 56.8%. The results match the informal reports of losses among wholesalers, retailers and consumers. The prevalent high temperatures and relative humidity in the most important areas of production, trading and consumption in Brazil (south and southeast regions) led to higher losses since the bacteria population increases naturally in the field. The handling system used for arracacha roots also increases soft rot due to washing roots without proper drying and the high incidence of mechanical injuries during transportation in closed 27kg wood boxes, which also maintain the roots excessively wet.

GROWTH DYNAMICS AND OCCURRENCE OF CRACKS IN KOHLRABI TUBERS (Brassica oleracea VAR. gongylodes L.)

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Cracking of kohlrabi tubers (Brassica oleracea var. gongylodes) is a serious problem, occasionally affecting up to 80% of this crop. Thus, the objective of the overall studies was to examine the effects of climatic as well as endogenous growth factors on cracking of kohlrabi tubers, whereas this contribution is focussed on growth characteristics as an endogenous factor-influencing tuber cracking. Growth dynamics were characterized in daily observations of tuber diameters of representative kohlrabi plants and expressed as daily relative growth rates, RGR (g g⁻¹ day⁻¹). Descriptive growth models were used to evaluate long term growth characteristics, because these results were overlaid by ontogenetic influences, which make interpretation difficult. Based on the Goudriaan-Monteith expolinear model, we evaluated the long-term influence of growth patterns on occurrence of tuber cracks. The three main parameters of the expolinear model are maximum relative growth rate (rm), maximum absolute growth rate (Cm) and 'lost time' (X intercept of the linear growth phase, t_b). We found the long term pattern t_b related to the symptoms. This relationship was obvious in comparing different kohlrabi cultivars as well as different planting dates. Thus, the influence of environmental factors was linked to the occurrence of tuber cracks by the 'lost time' (t_b). This means that the earlier the moment at which the linear phase effectively begins the higher the risk of tuber cracking. Results are discussed with respect of cell division and cell expansion of kohlrabi tubers.