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S02.202
The Effects of Blanching on Biological Value of Endive (*Cichorium endivia* L.)

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Endive (*Cichorium endivia* L.), a leafy vegetables species widely grown in Western Europe countries, characterized by considerable nutritional value and a distinctive, slightly bitter taste, is still a minor crop in Poland. Introducing this species into cultivation will allow to extent the assortment of leafy vegetables in Polish market. The aim of the field experiments carried out in 2008-2009 was to assess the effect of blanching on biological value of two endive cultivars: de Meaux and Kalinka. For plants blanching there were used the following materials: Rollo foil, whitening caps and black agrotextile put over the plants for 7, 10 or 14 days prior to planting in order to exclude the light. In samples of leaves collected at the harvest time the content of vitamin C, chlorophyll and P, K, Ca and Mg was evaluated. Cultivars de Meaux and Kalinka considerably differed in content of investigated compounds. Irrespective of the investigation factors, in both years of the study de Meaux cv. characterized higher content of vitamin C, carotenoids, chlorophyll and all evaluated macronutriens. Regardless of the method and period of blanching, a substantial decrease of biological value of both evaluated cultivars was observed under influence of this factor. This effect however was lower in the case of the use of Rollo foil and the whitening caps in comparison to the black agrotextile cover. Excluding the light for 14 days caused a higher reduction of nutrients content than after 7 or 10 days of the cover. Blanching of plants was associated with the increment of nitrates content in both cultivars, especially when the agrotextile was used.

S02.203
Effect of Eight Rootstocks on Fruit Size and Internal Quality of 'Salustiana' Sweet Orange Grown in Hot and Dry Climate of Southern Saudi Arabia

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In recent years, the Kingdom of Saudi Arabia had made significant efforts to utilize the available agricultural resources to reach self sufficiency in several agricultural products thus contributing to national food security. As an example, interest in citrus production begun in early 1970's but major breakthroughs were accomplished with the establishment of The National Centre for Horticultural Research and Development in 1981 to accompany the growing interest in citrus cultivation in the Najran region located in the Southern part of the country. Since then, the Centre has introduced and tested several citrus rootstocks and varieties to select scion/rootstock combinations that are most suitable for the region. The present work is a report of a study carried out to evaluate fruit quality of 'Salustiana' sweet orange (a mid-season variety) as affected by 8 rootstocks ['Carrizo' citrange, US-812, Citrus macrophylla (CM), 'Volkamer' lemon (VL), Smooth Flat Seville (SFS), Gou Tou, Sun Chu Sha (SCS) and 'Cleopatra' mandarin] and grown in the desert conditions of this region. The trees were planted in 2004 and cultural practices that are optimal for the region were used. Fruit size, peel thickness, fruit juice content, and juice sugar and acid levels were measured over the maturation period. Fruit size was largest for VL, SCS and CM and was smallest for 'Cleopatra' mandarin. Juice content was lowest for VL and highest for 'Carrizo'. Juice sugar content was lowest for CM and VL and highest for 'Carrizo' and US-812. Acidity was lowest for 'Cleopatra' mandarin and greatest for 'Carrizo and US-812. Overall, by mid-October, fruit from all of the combinations had an acid content of 0.7-0.9% with a maturity index (sugar/acid contents) of more than 12. 'Data will be discussed in relation to the agroclimatic conditions of the region and to the consumer preferences.

S02.204
Post Harvest Performance of Peach and Nectarine Grafted on Six New Rootstocks

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Peaches and nectarines grafted onto six new rootstocks were evaluated during the 2008-2009 growing season with the objective of discerning possible effects on fruit quality and post harvest performance. The scion varieties used in this trial were 'Rich Lady' and 'Ryan Sun' peaches, and 'Venus' and 'Ruby Diamond' nectarines. The rootstocks included Cadaman-Avimag, Viking, Atlas, GxN-15, GF-667, MRS 2/5 and Nemaguard (as a control). The trial was done using 8 yr-old trees from the Univiveros orchard, in Paine (Metropolitan Region, Chile). Fruit quality parameters including flesh firmness and soluble solids content were measured at harvest. Flesh firmness, palatability, mealiness and internal browning were measured after 15 and 30 days of cold storage at 0 °C, plus 4 days at room temperature (20 °C). For fruit quality at harvest, using data averaged from the four scion varieties, Viking had the highest accumulation of soluble solids (11%) with respect to the control, while GxN 15 had the lowest (9.8%). The GF 667 rootstock produced the firmest fruit and MRS 2/5 the softest. After 15 days of post harvest cold storage, GxN 15 had the firmest fruit, and MRS 2/5 had the softest, with both trends continuing after 30 days of storage. Viking had the highest incidence of mealiness at both 15 and 30 days post harvest. However, GF 667 was the rootstock with the highest incidence of internal browning at 15 days and MRS 2/5 at 30 days. Atlas had the lowest incidence of mealiness and internal browning at both 15 and 30 days post harvest.

S02.205
Evaluation of a Box Transporter System Developed to be a Harvest Aid in Some Specific Fruit and Vegetable Production Areas of Brazil

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In Brazil fruits and vegetables are frequently harvested using package boxes, filled while they are manually pulled across the plant line. The procedure is weary for the boxes, tiring for the workers and bad for the product that is contaminated with dirty particles from the crop and from the soil. Next, after over filling the workers handle these boxes some packaging or support point at the production site, sometimes with aid of precarious wheelbarrows. In this protected area some additional repacking usually occurs, a factor which adds new mechanical damages. In order to keep the product and the boxes clean while, at the same time, increasing the harvest efficiency, a box transporter to be used as a harvesting aid was developed to attend some particular Brazilian vegetable production systems. The value of this transporter for harvest and handling was assessed in terms of a walking distance index, in terms of an actual harvesting productivity and by means of qualitative questionnaires prepared to investigate the benefits of this harvest aid system among for the users. It was observed that the harvest using this box transporter increase the harvesting velocity, in average, 16.7%, reduced the total distance walked by the workers in 48.6% and increased the total harvested mass in 8.97%. Additionally, in an evaluation made using a crescent qualitative acceptance scale ranging from 1 to 9 the transporter ranked 6.7 considering the users impression about the box transporter size fitness, ranked 6.6 for the impression about the transporter shape and ranked 8.3 from the maximum of nine for the impression about the system overall performance. For marketability potential the buy/use intention was evaluated in a crescent acceptance scale ranging from 1 to 5 and in this scale the average score of 4.1 was also considered to be very interesting perspective.

S02.206
The Use of Crates Diminishes Postharvest Quality Losses of Butterhead Lettuce

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