(5.6% of the total citrus area) with a production of 22.000 tons, that represent 3.7% of the whole citrus production. The fruit price of this variety is high compared with imported citrus, as a consequence of FTA recent reduction of customs duties, and domestic consumption is decreasing, and thus, production cost reduction is needed. This research attempted production cost reduction using underground aerial use and an air mixer in plastic film house cultivation. The system maintained a similar temperature than conventional systems that use a heavy oil hot air during the winter period, but CO_2 content was about 5 times higher and the size of the fruit was better. The fruit quality was similar in the two houses. After the annual production cost was compared, the underground aerial use house could reduce the production cost about 50 %. We expect to utilize such production cost reduction technique and to be able to compete with imported citrus.

S06P10

Abscission study during citrus fruit maturation in Corsica: unfavorable environmental conditions for fruit shedding

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Citrus fruit development and ripening are complex processes involving physiological and biochemical changes that are under hormonal, nutritional and environmental control. One of the most evident phenomena in late maturation is shedding of ripe fruit. A previous study on sweet orange abscission supposed that fruit shedding was related to the increase of sugars content of pulp juice. To investigate this potential relationship between fruit abscission and internal maturity parameters we investigated the fruit maturity process of 10 mandarin x clementine hybrids and 9 commercial sweet orange varieties with different maturity time. Morphological and biochemical analyses (acidity, total soluble solids, fruit weight thickness of the flavedo, thickness of the peduncle and external color) were carried out on fruit sets of the different varieties during the maturation process, from December to June. The abscission initiation was evaluated by measuring the force required to detach the fruit of the peduncle. Analysis showed that under our local conditions, abscission was generally not expressed even though fruit maturation was evolving. Therefore, we suppose that even though the local conditions have an important effect, abscission of citrus fruit also results from environmental-genotype interactions. Moreover, evolution of abscission and fruit parameters are not correlated, suggesting the independence in the processing of maturation and abscission.

S06P11

Fruit quality characteristics of very early satsuma mandarin by soil mulching with poly porous reflective sheet

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This experiment was carried out to determine the effect of soil mulching with a porous water-proof sheet (PWPS) on fruit quality of the very early maturing satsuma 'Nichinan I go' at citrus orchards in Jungmun, Seogwipo, Jeju, Korea. Soil was mulched with a porous water-proof sheet on early June and started irrigation when the fruits reached 8.5oBrix. At maturity, soluble solid content was12.8º Brix in the mulching plot and 10.2º Brix in the control, showing a significant increase of mulching of 2.6o Brix . Acidity in fruits of the mulching plot was slightly lower than in the control plot. Peel coloration (Hunter parameters) also was significantly higher in the mulching plot than in the control.