OTHERS (incl. Cultivation, Distribution, New species, Postharvest Technologies, Packaging Technology, New technologies/Know How Developed, Book reviews, Forthcoming events)

CULTIVATION

NPARR 4(4), 2013-0422 Effect of Grafting Time and Environment on the Graft Success of Guava (Psidium guajava L.) under Wedge Grafting

The experiment was carried out to appraise the effect of grafting time and environment on the graft success of guava (Psidium guajava Linn.) under wedge grafting in 2009–2010. It was found that controlled environment (when scion shoot covered with poly tube) was best in all the attributes. The observations were recorded on days taken to graft sprouting, per cent graft sprouting, per cent graft survival and per cent graft mortality. It was found that maximum per cent graft sprouting and per cent graft survival was in 15th February grafting under controlled environment and minimum days taken to graft sprouting in 15th April under open field condition and mortality percentage was minimum in treatment seventh [Beer Karma A*, L Yadav and Akhilendra Verma (Department of Horticulture, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, (U.P.), India), Trends in Biosciences, 2013, 6(6), 770-772]

NPARR 4(4), 2013-0423 Stevia rebaudiana Bertoni as a source of bioactive compounds: the effect of harvest time, experimental site and crop age on steviol glycoside content and antioxidant properties

This study was aimed at identifying the effect of harvest time, experimental site and crop age on the no-calorie sweetener steviol glycosides (SG) and on the antioxidant properties of stevia leaf extracts. The experiment was conducted over two growing seasons at two sites in the northeastern plain of Italy. The results showed that all analysed factors played an important role in defining the SG profile and the antioxidant properties of stevia extracts. A high level of phenols (78.24 mg GAE g⁻¹ DW by Folin–Ciocalteu method) and high antioxidant activity (812.6 µmol Fe²⁺ g⁻¹ DW by FRAP assay) were observed. The inhibition of DPPH free radicals was evaluated and an IC₅₀ mean value of 250 µg mL⁻¹ was obtained. Significant relationships among the total antioxidant capacity and the analysed compounds were found. The results showed the possibility of obtaining, in the tested environments, very high SG yields thanks to the long-day conditions during the spring/summer season. The harvest time played a key role in determining the stevia quality, influencing the rebaudioside A/stevioside ratio. The strong antioxidant properties make very interesting the possibility of using stevia extracts to improve functional food properties [Silvia Tavarini and Luciana G Angelini* (Department of Agriculture, Food and Environment, The University of Pisa, Via S Michele degli Scalzi 2, I-56124 Pisa, Italy.) Journal of the Science of Food and Agriculture, 2013, 93 (9), 2121-2129].

NPARR 4(4), 2013-0424 Effect of chromium on root morphology of leafy vegetables: Spinach and cabbage

The effect of chromium (Cr) supplemented irrigation water on particular root morphological characteristics of two leafy vegetables, namely spinach and cabbage were studied in a pot culture experiment. The results showed that at 7.5 mg l⁻¹ Cr level in irrigation water, the spinach did not survive inspite of germination. In spinach, root fresh weight was reduced from 26.9 (control) to 8.02 g plant⁻¹ (0.5 mg l⁻¹ cv), although it was reduced in cabbage from 26.3 (control) to 19.1 g plant⁻¹ (0.5 mg l⁻¹ cv) prior to 15.23 g plant⁻¹ (7.5 mg l⁻¹ cv). The presence of 0.1 mg l⁻¹ Cr in irrigation water,
marginally increased root surface area, root volume and root tips in spinach, but in cabbage, these were significantly reduced. In both the crops, root morphological parameters in response to higher level of Cr exposure were significantly decreased. It is suggested that spinach being slightly tolerant as compared to cabbage could be grown in irrigation water with low level Cr (< 0.1 mg l\(^{-1}\)) [Kumari Savita, Singh Anil Kumar*, Verma Ashok K. (Department of Botany, MMH College, Ghaziabad-201009, Uttar Pradesh), Indian Journal of Horticulture, 2013, 70 (4), 603-605].

**NPARR** 4(4), 2013-0425 *Vernonia amygdalina* Delile (Asteraceae) – An African medicinal plant introduced in India

The present paper deals with *Vernonia amygdalina* Delile, an African medicinal plant belonging to the family Asteraceae which has been found in cultivation in different places of Central and Eastern India as well as an escape from cultivation. The aim of this paper is to report its availability in India, facilitate identity of the species with detailed description and photo-plate and to explore the scope of commercialization of *V. amygdalina* in the country as health supplement and medicinal plant [Bandana Bhattacharjee, P. Lakshminarasimhan, Avishek Bhattacharjee*, D.K. Agrawala and M.K. Pathak (Central National Herbarium, Botanical Survey of India, P.O. – Botanic Garden, Howrah 711103, West Bengal), ZOO’S PRINT, 2013, XXVIII (5), 18].

**NPARR** 4(4), 2013-0426 Domestication of pink pleurotus (*Pleurotus eous*) collected from the forest of Wayanad, South India

A pink coloured oyster mushroom, later identified as *Pleurotus eous* was found growing on the dead decayed woods of *Jatropha curcas* and *Erythrina indica* in the forest of Wayanad in Kerala, India. A pure culture of this fungus was isolated from the pileus region and maintained in Potato Dextrose Agar (PDA) slants. The conventional substrate namely paddy straw was used for cultivation and it produced pink coloured sporocarps within 10-12 days of inoculation. The substrate was pasteurized with steam and the yield performance of this species grown on paddy straw was compared with that of *P. sajor- caju* and *P. citrinopileatus*. The spawn run period of *P. eous* was completed in 10 days and it produced a yield of 570g with a biological efficiency of 69.9% on paddy straw. The total cultivation period for *P. eous* was 32 days, whereas *P. sajor-caju* and *P. citrinopileatus* took 48 and 42 days respectively. A comparative sensory evaluation of *P. eous* with *P. sajor- caju* and *P. citrinopileatus* revealed that *P. eous* has got an excellent edibility and acceptability among mushroom growers and house wives [K. Madhusudhanan*, V. Balakrishnan and Ratheesh Narayanan (Department of Botany, St. Albert’s College, Ernakulam, Cochin Kerala, MS Swaminathan Research Foundation, Kalpetta, Kerala), Journal of Nature and Life Science, 2013, 1(1), 37 - 41].