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Evaluation of coconut (*Cocos nucifera* Linn.) cultivars for age of tender nuts in different season

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ABSTRACT

Evaluation of coconut (*Cocos nucifera* Linn.) cultivars for age of tender nuts in different seasons were subjected to various treatments with seven coconut cultivars as Dwarf Green, Dwarf Orange, West Coast Tall, T × D (Mangrol), D × T (Mangrol), NCD, Dwarf Yellow selected for evaluation at three maturity stages suitable for tender nut (6th month, 7th month, 8th month aged) and three season (*Kharif*-2004, *Rabi*-2004, summer-2005). The experimental findings suggested that the cultivars 'Dwarf Orange', 'T x D (Mangrol)' and 'D x T (Mangrol)', 8th month age of tender nut and summer season were found to have considerable amount of TSS, Total sugar, Reducing sugar, Acidity and maximum acceptability due to orgenoleptic evaluation.

Key words : Bio-regulators, Etheral, CCC, Sex reversion

Coconut (*Cocos nucifera* L.) is the 'Tree of Heaven' belongs to the family Arecaceae. It is well known as a "Kalpavriksha" because each and every part of the palm may be useful to mankind as a number of ways, right from birth to death. In Gujarat, coconut is grown in 15969 hectare area. Total production of coconut in India is 111722 thousand nuts and productivity is 6996 nuts per year per tree during 2003 (Anonymous, 2003). The tender coconut is very popular as a refreshing natural drink, especially in the big cities and supplies a satisfactory beverage. Tender coconut water is found to be one of the value added by-products from coconut with vast commercial potential for the reasons that it is a nutritious, sterile, natural drink containing mineral content well acceptable, gentle flavour and taste and consumed by all age groups. In addition to sugar, the important constituents are protein, fat, minerals, lipids, sodium, potassium, calcium, magnesium, iron, copper, phosphorous, sulphur and chlorine along with vitamins of B group and vitamin C. It has caloric value of 17.4 per 100gm. At tender nut stage (7 to 8 months), coconut water that is technically a liquid endosperm was reported to contain an average of 2.2 to 3.7 mg ascorbic acid, 105 mg copper, and 24 mg sulphur and 183 mg chlorine per 100 ml and was acidic in reaction with a pH of 4.8 to 5.3 (Thampan, 1981). Although several studies have been made to estimate the changes in the chemical composition of nut water in relation to maturity, no systematic study has been made to identify the best cultivars for tender nut purpose in the Gujarat state. Also the information on the evaluation of coconut cultivars for tender coconuts, their age in different season is very scarce.

MATERIALS AND METHODS

The study was carried out in the Department of Horticulture, College of Agriculture, Junagadh Agricultural University, Junagadh and at the Fruit Research Station, Mangrol, Gujarat state (India) during the year 2004-2005. The nuts of seven different coconut cultivars were picked at 3 different stages of development from the palms of uniform age and vigour grown under confirm cultural practices in the experimental garden in different season. Seven coconut cultivars *viz.*, Dwarf Green, Dwarf Orange, West Coast Tall, T × D (Mangrol), D × T (Mangrol), NCD, Dwarf Yellow were selected for evaluation at three maturity stages suitable for tender nut (6th month, 7th month, 8th month aged) and three season (*Kharif*-2004,*Rabi*-2004, summer-2005). The observations were taken on TSS, total sugar, reducing sugar, acidity and orgenoleptic evaluation of coconut cultivar for age of tender nut in different season. For chemical analysis, methods described by Ranganna (2000) were followed. All the data were analysed statistically using Factorial Complete Randomized Design with pooled analysis in three replications.

RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

T.S.S., total sugar, reducing sugar and acidity:

Non-significant difference was observed in different