The Asian Journal of Horticulture; **Vol. 6 No. 1; (June, 2011) : 236-240**

Received : March, 2011; Accepted : May, 2011

Research Paper

Seasonal variation and changes in nitrogen levels in off season bearing mango varieties

P. ANUSUYA, **A. JAYA JASMINE**, P. NAINAR **AND** D. JAWHAR

ABSTRACT

One of the special feature of mango cultivation in Tamil Nadu is the availability of main crop during April to August and an off season crop in southern districts like Tirunelveli and Kanyakumari. Mango cropping is seasonal and varies with location, variety and cultural factors. An added dimension to the regular flowering is the off season flowering and fruiting in Tirunelveli and Kanyakumari districts of Tamil Nadu. During January-February, these off-season mangoes fetch better prices than the normal season crop as demand for mango fruits and even for unripe mango in the market are very high. The present study was initiated to investigate the variation in Nitrogen levels in induction of off season bearing in the mango varieties *Viz.*, Neelum, Bangalora and Kalepad during 2009 – 2010 at State Horticulture Farm, Kanyakumari, Tamil Nadu. The nitrogen level was studied in leaves and shoots of fruited and non fruited shoots. Leaf nitrogen content in the fruited flush decreased from1.07 per cent in September to 1 per cent in October and gradually increased to 1.43 per cent in December and decreased thereafter. The flower bud initiation was during October and development was during December. The non bearing flushes showed higher concentration of nitrogen in leaves (1.26 per cent) and shoots (1.15 per cent) when compared to the bearing flushes (1.19 per cent and 1.07 per cent in leaves and shoots, respectively). The shoot nitrogen content in the fruited terminals followed a similar trend as that of leaf nitrogen content but the quantity of nitrogen content in shoots was lower than the leaves. Among the varieties the highest nitrogen content was observed in Kalepad (1.22 per cent).

See end of the article for authors' affiliations

Correspondence to:
A. JAYA JASMINE
Department of Horticulture, T.N.A.U., Agricultural College and Research Institute, Killikulam, Vallanad, THOOTHUKUDI (T.N.) INDIA
Email: jayajasmine2004@yahoo.co.in

Anusuya, P., Jasmine, A. Jaya, Nainar, P. and Jawhar, D. (2011). Seasonal variation and changes in nitrogen levels in off season bearing mango varieties, *Asian J. Hort.*, **6** (1) : 236-240.

Key words : Mango, Off season, Nitrogen Kanyakumari

Mango is an important tropical fruit of the world and is called the 'King of fruits'. It is one of the most important fruits in India accounting for 37.60 per cent of area (1.3 million hectares) and for 22.21 per cent of total fruit production (14.0 million metric tonnes) in the country and India's share in the world production of mango is 54.2 per cent (APEDA, 2008). In Tamil Nadu it is generally grown under rainfed condition in a total area of 1,28,221 ha with a production of 7 lakh tonnes (TNSTAT, 2008).

Tamil Nadu has the advantage of main crop during April to August and an off season crop in southern districts like Tirunelveli and Kanyakumari. Off season flowering is observed during September- October months in these districts with the fruiting period during January - February when no fruits are available in the market.. Among nutrients, nitrogen has the great influence on growth and development of plants by providing essential components for production of branches, leaves and fruits. An essential ingredient of chlorophyll, proteins, growth hormones and enzymes, nitrogen is a building block for fruit production (Davenport). Therefore, a better understanding of the nutritional status of mango trees might provide a basis for interpreting the variations in flowering and fruiting of different growth flushes in different periods of the year. The nutrioperiodical studies further may serve as a platform to charge the physiology of the tree by cultural and chemical means to induce flowering at any part of the year thus boosting the income of the mango growers.

However, no information is available in the nitrogen status of off season mango in relation to flowering, the storage or internal redistribution of nutrients or whether the reserves, if any, serve as a buffer against seasonal vicissitudes affecting uptake of nutrients. Hence, an investigation on effect of periodical changes in foliar N status on off season mango varieties on flowering, yield