Click www.researchjournal.co.in/online/subdetail.html to purchase.

The Asian Journal of Horticulture, Vol. 3 No. 2 : 323-326 (December-2008)

Influence of integrated nutrient management on major nutrients in mullai (*Jasminum auricultatum*)

A. ANBURANI AND M. GAYATHIRI

Accepted : *September, 2008*

See end of the article for authors' affiliations

Correspondence to:

A. ANBURANI
Department of Horticulture, Faculty of Agriculture, Annamalai University, ANNAMALAI NAGAR (T.N.) INDIA

ABSTRACT

Mullai, one of the important commercial flower crops fetches heavy demand for its fresh flowers. Being perennial in nature it removes large amount of fertilizer which can't be offered by an average farmer. Hence, an alternate system of nutrient management is important. Having this idea as background, the present investigation was conducted to study the influence of INM on nutrient status in mullai. The experiment was carried out in FRBD consists of 18 treatments with three replications. The organic manures *viz*. farm yard manure @ 25 t ha^{-1}, press mud @ 25 t ha^{-1} and vermicompost @ 5 t ha^{-1} were applied in soil along with 100% and 75% recommended dose of inorganic fertilizers (120:240:240 kg NPK ha^{-1} and along with bio fertilizers application (B_0 - no bio fertilizer application and B_1-application of *Azospirillum* and phosphobacteria @ 2 kg ha^{-1}). The parameters like nutrient uptake and post harvest soil nutrient status for major nutrients were studied. It was recorded that the plants which received farm yard manure @25 t ha^{-1} along with 100%of the recommended dose of inorganic fertilizers (120:240:240g $plant^{-1}$) combined with bio fertilizers recorded the highest nutrient uptake whereas the maximum post harvest nutrient status was recorded when application of press mud @ 25 t ha^{-1} along with 75 % of the recommended dose of inorganic fertilizers @ 90:240:240 g/plant was applied.

Key words : Bio fertilizer, Jasmine, Inorganic, Organic, Plant nutrient, Post-harvest soil nutrient status.

Jasmine (*Jasminum auriculatum*), a member of family oleaceae is one of the leading loose flower in India. It takes most important position among the commercial flower crops. Tamilnadu is the leading producer of jasmine in the country with an annual production of 77,247 tonnes from the cultivated area of 9360 ha (Anon., 2004). It is especially appreciated for its fragrance in India where most people have a love for fragrant flowers. Fresh flowers are highly valued and are used in making garlands, bouquets, veni, religious offering and ceremonial purpose. It is widely used in the preparation of cosmetics throughout the world and attempt was being made to improve the production of flower and extraction of oil for export. Nutritional requirement is one of the key factors that governs the growth and development of plants. The natural deposits of nutrients in soils are inadequate to meet the demands of the plants in context of increased pressure for maximizing the productivity. Further, continuous growth of crops depletes the fertility of the soil. Therefore, it becomes an essential need to supplement the crop with organic and artificial sources of nutrients in the form of nitrogen, phosphorus and potassium and other micronutrients to the soil.

Integrated Nutrient Management (INM) is one of the most important components to obtain sustainable crop production. The integrated nutrient management associates available, accessible and affordable plant nutrients to increase soil fertility and plant nutrient supply to achieve a given level of crop production, through optimizing the benefits from all possible sources of plant nutrients. It implies the most efficient use and management of organic, inorganic sources of major nutrients to attain higher levels of crop productivity and to maintain the fertility of the soil.

MATERIALS AND METHODS

The experiment was carried out in a farmer's field at C. Mutlur village located 10 km away from Annamalai Nagar during 2004-2005. Three year old bushes already existing in the field were used for the present investigation. Before imposing the treatments they were pruned at a height of 45 cm from the ground level. The soil of the experimental field was sandy clayey loam. The treatment consists of application of various organic manures *viz*., FYM @ 25 t ha^{-1} (O_1), press mud @ 25 t ha^{-1} (O_2) and neemcake @ 5 t ha^{-1} (O_3) applied in the soil as basal application combined with three levels of inorganic fertilizers *viz*., 50 (I_1), 75 (I_2) and 100 % (I_3) of the recommended dose of inorganic fertilizers @ 120:240:240 g $bush^{-1}$. The bio fertilizers were applied in two levels (B_0- without bio fertilizers application and B_1- with bio fertilizers application (*Azospirillum* and phosphobacteria @ 2 kg ha^{-1} each). There were totally 18 treatment combinations in three replications and the experiment was