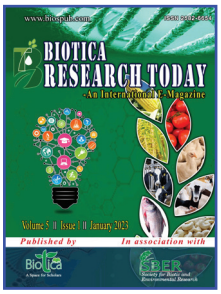
Article: RT1196



Biotica Research Today Vol 5:1 2023

48/49

How to cite this article?
Karthik and Ganga, 2023. *Ixora - Needle Flower*. Biotica Research Today 5(1):48-49.

Ixora - Needle Flower

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Keywords
Foliar spray, Ixora, Loose flower, Micronutrients

Abstract

Cultivation of traditional flowers such as Jasmine, Tuberose, Marigold, Chrysanthemum and Nerium is a flourishing commercial floricultural venture in India, particularly in the southern states including Tamil Nadu, Karnataka and Andhra Pradesh. In recent days, besides the above said widely popular flower crops, numerous other flower crops including Hibiscus, Ixora and Tabernaemontana are also gaining considerable importance for their use as loose flowers since they have the added advantages of producing flowers throughout the year and long shelf life of the flowers. Ixora is grown commercially as a loose flower in some parts of Tamil Nadu, particularly in Karur, Tiruchirapalli and Dindigul districts. Ixora crop needs sufficient quantity of micronutrients for proper vegetative growth and regular blooming.

Introduction

India has diverse agroclimatic regions that are ideal for growing a wide variety of flower crops. Following deregulation, floriculture companies made significant strides in the export sector. In India, floriculture is a prominent and emerging industry. Production of commercial goods has dynamically shifted in this era, overtaking production of food. As per the data published by National Horticulture Board, the area under floriculture production in India during 2021-22 was 267 thousand hectares with a production of 2095 thousand tonnes loose flowers and 791 thousand tonnes cut flowers.

Flower crops are now commercially cultivated in several states with Andhra Pradesh (19.1%), Tamil Nadu (16.6%) and Madhya Pradesh (11.9%) having gone ahead of other producing states like Karnataka, West Bengal, Mizoram and Gujarat. In 2021-2022, India exported 23,597 MT of floricultural products, which is equivalent to around Rs. 771.41 crores. USA, Netherlands, Germany, United Arab Emirates and United Kingdom were the main importers. In India, there are more than more than 300 export units. More over half of the floriculture businesses are located in Tamil Nadu, Andhra Pradesh and Karnataka.

To increase the production, productivity and income of flower growing farmers, various schemes are being implemented by the Government of India and the state governments. The Department of Horticulture and Plantation Crops of Tamil Nadu is involved in promoting cultivation of potential flower crops including Jasmine and Ixora under the Mission for Integrated Horticulture Development Programme.

Ornamental Use

Ixora (*Ixora* spp. L.) is a perennial shrub belonging to the family Rubiaceae. It is native to Asia. The genus *Ixora* contains more than 500 species. Ixora is one of the most popular and widely used ornamental plants used in gardening,

Article History
Received on: 28th December 2022
Revised on: 16th January 2023
Accepted on: 17th January 2023

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owing to its evergreen nature, attractive plant architecture, glossy leaves and brightly coloured blooms of varying shades borne in clusters. Ixora makes a fine specimen plant and is also used as borders, hedges and screens. The dwarf forms are ideal pot plants. Ixora shrubs attract many birds, butterflies and other insects. The plants are woody evergreen shrubs with a wonderfully exotic and tropical look. Flowers are numerous and are borne in clusters. They are sessile, corymb form and dense-flowered cymes. Fruits are globose, fleshy, two-seeded berries, dark purple to black in colour.

The plant has a high horticultural value due to its huge flower clusters, which vary in colour from red to orange to yellow to pink depending on the variety (Figure 1). Due to introduction and hybridization efforts, new Ixora hybrids with different flower colours, leaf sizes, and plant height have come on the market in recent years. It has become one of the most important horticultural crops in recent years, and its commercial value as a loose flower is growing.

Cultivation Aspects

Ixora is densely branched and tolerates hard pruning. The plant requires very little maintenance. The flower colour varies from red, red-orange, white, yellow and pink. It can tolerate a certain amount of shade. Ixora prefers full sun and performs well on moist, well-drained, acidic but organically rich soils. It can tolerate a certain amount of shade. Though Ixora flowers throughout the year, the peak flowering season is April-May.

Micronutrients at present are quickly getting prominence among flower producers due to their good nutritional support and simultaneous assurance of greater harvest and returns (Ganesh *et al*., 2013). B, Cu, Fe, Mn, and Zn are some of micronutrients that plants need in very little amounts but yet undoubtedly play a crucial role in their growth and development.

The growth parameters of Ixora are considerably influenced by foliar application of Zinc Sulphate, Ferrous Sulphate, and Boric acid at monthly intervals (Karthik *et al*., 2022).

Value Addition and Other Uses

In some regions of Tamil Nadu, particularly in the districts of Karur, Tiruchirapalli, and Dindigul, Ixora is grown commercially as a loose flower. Bandhura, Lan Casteria, Magnifica, New Pink, and Pilgrimii are some of the named cultivars of Ixora. For loose flowers, genotypes with red and orange-red colours are now being developed, and the blooms have been discovered to have a high market and customer preference. The flowers are used as loose flowers as well as value added products such as garlands in combination with jasmine, tuberose and Tabernaemontana (Pin wheel jasmine) flowers for religious offerings and floral decorations (Figure 2 and 3).

Figure 1: Various genotypes of Ixora (Red, Pink, Orange and Yellow)

Figure 2: Table top arrangement

Figure 3: Garland

The stems, leaves, flowers and roots of Ixora have medicinal properties. The leaves of *Ixora* spp. are found to have anti-inflammatory, anti-diarrheal, anti-asthmatic, and anti-ulcer. The plant is also known to possess anti-carcinogens and prove to be an effective remedy against Tuberculosis (Malathy and Pai, 1998). They are also used to treat skin diseases, colic, flatulence, diarrhoea, indigestion, wounds, and used as antiseptic.

Conclusion

Even though there are many species, hybrids and cultivars their use is limited because the majority of these are vulnerable to nematodes and lack of certain micronutrients. As soil, sand and FYM *etc*. cannot provide the necessary micronutrients required for growth and productivity, a regulated foliar spray of Boron, Iron, Zinc and other micronutrients at predetermined intervals help to solve this problem and improve the yield and quality of Ixora genotypes.

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