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Production Technology of Crossandra in Open Condition

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Crossandra is native to East Indies & India; it is an important commercial flower, mainly grown in India, tropical Africa and Madagascar. The plants grow up to a height of 70 cm. The flowers are commonly used for hair embellishment. Though, not fragrant flowers are very popular because of its attractive bright colour, light weight and good keeping quality. These are used for making garland, either alone or in combination with jasmine flowers. Using Crossandra flowers in combination with jasmine is becoming increasingly popular in India, particularly in southern parts, because the jasmine flowers provide colour contrast and the desired fragrance.

Species

In India 20-25 species are grown. The cultivated species are *C. undulifolia*, *C. guineensis*, *C. mucronata* and *C. subaculis*.

Types

a. Orange**:** Tetraploid, bright orange colour flowers, set seeds profusely.
b. Lutea yellow: Tetraploid, orange yellow colour**.**
c. Sebaculis red**:** Tetraploid, hardy, tolerant to nematodes.
d. Delhi Crossandra: Triploid, bright deep orange colour.

Soil & Climate

Well drained sandy loam soils are best for cultivation and grown in tropical regions. it require the temperature range of 25-30 °C. It cannot tolerate low temperature & frost.

Propagation

Propagation is done by seeds or cuttings. 5kg/ha seeds required for optimum plant population fresh seeds are sown during July- October in raised bed at the spacing of 15 cm in lines. Watering should be done daily. The seedlings will be ready in 60 days. For Delhi Crossandra, rooted cutting have to be used for planting (Arka shreeya & Arka shravya do not set seeds. they are propagated by terminal cutting.)

Planting

Seedlings or rooted cuttings, treated with fungicide and nematicide like Emisan (1 g/lit of water), should be planted on the side of ridges at a spacing of 30 cm between plants and 60 cm between the ridges. Planting should be done in moist soil. Providing partial shade is beneficial to maintain the health of plants and obtain higher yield of flowers.
In case of seedlings they are transplanted at 4- 6 leaves stage i.e. 8-10 days old seedlings

Manure and Fertilizers

Application of FYM @ 25 tons/ hectare NPK @75:50:125 kg per hectare is applied. Before planting pseudomonas & azospirillum can be applied About 40 kg N is applied after 30 days of planting. For Delhi Crossandra gypsum@ 100/kg is applied in addition to NPK fertilizers.

Irrigation and Weeding

Irrigation is done once in a week and manual weeding is required.

Harvesting

Crossandra flowers within two to three months after planting and continues to bear flowers throughout the year with a lean production season during rainy months. Fully opened flowers are to be picked early in the morning by pulling the corolla out of the calyx. Harvesting of flowers is to be done on alternate days. The yield of flowers is about 2000 kg of flowers /ha/year can be obtained and Delhi crossendra, 2800 kg of flowers/ha/year.

Pests

Scales, plant bugs and white flies are the important insect pests, which can be controlled by phosalone (0.07%), or methyl parathion (0.01%)
1. Nematode – controlled by soil application of carbofuran @1kg/ha
2. Aphid – controlled by spraying with 0.2% dimethoate

Disease

Wilt caused by *Fusarium solani* will result in yellowing of leaves and death of the plants. The incidence of the disease is found to be more in the presence of root lesion nematode, which can be controlled by application of phorate @ 1 g per plant. Grow resistant varieties viz. Arka Ambra, Araka Kanak, Arka shreeya and Arka shravya are resistant to wilt.

Reference

1. https://ccari.res.in/dss/crossandra.html (Online accessed)
2. Comprenhensive Floriculture by J. Shankaraswami. (Book)