



T06PP06

## DIVERSITY OF LOCAL GERMPASM OF JASMINE UNDER COASTAL HUMID ECOSYSTEM OF GOA

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Jasmine is one of the most important ornamental flowering plants widely cultivated and esteemed for its attractive fragrant flowers, belonging to the family Oleaceae. The genus *Jasminum* comprises 300 species distributed throughout the warm parts of Europe, Asia, Africa and Pacific region. About 40 species are native to India and are widely distributed in Sikkim, West Bengal, Assam, Khasia and Jaintia Hills, tropical north-west Himalayas, Kashmir, Deccan peninsula from Konkan to Travancore, Malabar Coast, Western Ghats, Nilgiris, Palani hills, Coonor and South Anadaman in the tropical forests. Jasmine contributes substantially to the national economy and annually more than 20 crores worth of jasmine flowers are produced and sold in India and also exported to neighbouring countries. Jasmine flowers are preferred for making special type of flower strings called veni, garlands, floral decorations, extraction of essential oil which is used in preparing high grade perfumes, colognes and flavouring the beverages etc. apart from their medicinal uses which has growing demand in India as well as in many developed countries. Goa is a very promising state so far as the potential of jasmynes are concerned. Main strength of Goa lies in its rich genetic resources and moderate weather condition throughout the year. Goa forms a typical part of the west coast ecosystem and is endowed with a wide range of landforms including Ghats, Marshy lands and Coasts. Goa enjoys a warm humid tropical climate which is very much promising for cultivation of jasmine. The most common species of Jasmynes found in Goa are *Jasminum sambac*, *Jasminum auriculatum*, *Jasminum grandiflorum* and *Jasminum multiflorum* locally called as mogra, jai, jui and kunda respectively. Due to the advent of cut flowers and impact of Western culture, the demand and popularity for traditional loose flower crops like jasmine has come down in the state of Goa. Goan ecosystem has a rich diversity in jasmine which have domestic, national and international potential in flower market. But these are not properly conserved and developed to a sustainable utilization level due to the lack of scientific management. Therefore, priority needs to be given for conservation, proper management and research in jasmine. The local jasmine germplasm of Goa have a tremendous potential for economic upliftment of the State and sustainable development, however need appropriate management practices. Hence efforts should be made in ensuring conservation of local species and utilising them for the sustainable development of floriculture industry. In order to conserve and attain sustainable utilization of local jasmine germplasm in Goa, proper research support is very essential. For resolving major constraints in jasmine production and for making cultivation of jasmine as a highly profitable enterprise in Goa, the present investigation was undertaken at ICAR Research Complex for Goa to collect, conserve and evaluate Goa's precious local jasmine germplasm for their morphological characters. Field surveys were conducted in different talukas of Goa for collection of local accessions of Jasmine. These were evaluated with respect to various morphometric traits and floral quality attributes for further utilization in crop improvement programmes to meet the future demand of floriculture industry. The field study for evaluation of the collected local jasmine accessions was carried out in replicated trials under open field conditions at the Experimental Farm of ICAR Research Complex for Goa. The material used for the study consisted of twelve local accessions of jasmine viz., J-1, J-2, J-3, J-4, J-5, J-6, J-7, J-8, J-9, J-10, J-11, J-12 belonging to *Jasminum sambac*, *Jasminum auriculatum*, *Jasminum grandiflorum* and *Jasminum multiflorum* collected from different parts of Goa. Uniform package of practices was adopted



for all the genotypes studied. The different genotypes were tested for various morphological parameters such as leaf length, leaf width, diameter of the flower bud, total flower bud length, length of the flower bud, diameter of the flower, number of petals per flower, corolla tube length etc. Data recorded on various morphological and flowering parameters were analysed statistically. There were significant differences among the accessions for various morphological and flowering components. Results revealed that among the accessions evaluated, J-6 had the longest length of leaf (12.5 cm) followed by J-2 (10.26 cm). Similarly J-6 recorded maximum leaf width (5.93 cm) which was closely followed by J-2 (5.78 cm). Maximum diameter of the flower bud (1.14 cm) was noticed in accession J-8 whereas shortest (0.264 cm) was noticed in J-5. Maximum and minimum bud lengths were recorded in J-8 (4.7 cm) and J-7 (1.84 cm) respectively. Flower diameter was recorded the maximum (6.2 cm) in J-8 while it was minimum in J-5 (1.9 cm). The accession J-7 produced maximum no: of petals per flower (34.2) whereas the lowest (5.0) was found in J-1. Flowers of J-6 had longest corolla tube length (2.54 cm) while it was shortest (0.86 cm) in J-7. Local jasmine accessions thus exhibited an incredible range of diversity for various traits studied. Goa has rich diversity of Jasmine and there is lot of scope for its mass multiplication for commercial purpose. Moreover, there is always the danger of losing most of the valuable wealth of jasmine, unless scientific conservation measures are taken along with proper utilization. The study indicates the presence of considerable diversity among the local jasmine accessions of Goa for most of the characters which may be useful in further crop improvement programmes. This study further help in developing strategies for conserving local jasmine germplasm and sustainable utilisation.

**Key words:** accesions, diversity, floriculture, germplasm, local