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*Shaping Lives...
Empowering Communities...*

LECTURE -11

PRODUCTION TECHNOLOGY OF JASMINE



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Jasmine

- ✓ It is one of the oldest fragrant, important commercial flower cultivated in India.
- ✓ They are mainly grown as climbers, shrubs and rarely as pot plants.
- ✓ Garlands are being used for personal adorning by women, making garland, veni preparation and in religious offerings.
- ✓ Production of perfumed oils and *attars*.
- ✓ India exports flowers to Sri Lanka, Singapore, Malaysia and Gulf countries





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Important Species

1. *Jasminum auriculatum*: Mullai
2. *Jasminum grandiflorum*: Spanish Jasmine
3. *Jasminum sambac*: Arabian / Tuscan jasmine
4. *Jasminum pubescens (multiflorum)* – Kakada

Soil and climate

- ✓ Jasmine prefers mild tropical climate.
- ✓ Loamy (or) Red loamy and well drained garden soil is the best suited.
- ✓ Since jasmine is commercially grown in India under open field conditions
- ✓ The ideal requirements for successful cultivation of these plants are mild winter, warm summer, moderate rainfall and sunny days.



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Varieties

J. auriculatum

- ✓ Parimullai
- ✓ CO-1 Mullai
- ✓ CO-2 Mullai
- ✓ Others - Long Point, Long Round, Medium Point etc



J. grandiflorum

- ✓ Arka Surabhi
- ✓ CO-1
- ✓ CO-2



J. sambac

- ✓ Ramanathapuram
- ✓ Gundumalli
- ✓ Khoya
- ✓ Others - Ramabanam, Single Mogra, Kasthurimalli





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Propagation and planting material

Jasmines are commercially propagated by cuttings

- ✓ *J. auriculatum* - Semi-hard wood
- ✓ *J. grandiflorum* - Terminal cutting
- ✓ *J. sambac* - Terminal and Semi-hardwood cuttings.
- ✓ IAA (or) IBA treated at 1000 ppm for terminal cuttings and 2500 ppm for semi-hard wood cuttings.
- ✓ The treatment is quick dip method of the basal cut end before planting in the medium.
- ✓ Best rooting medium is sand: Vermiculate: moss at 1:1:1 ratio.





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Plant spacing, density and season

Species	Spacing	Density (P/ha)	Season
<i>J. auriculatum</i>	1.5 x 1.5 m	4400	Jun to Nov
<i>J. grandiflorum</i>	2.0 x 1.5 m	3350	--do--
<i>J. sambac</i>	1.25 x 1.25 m	6400	--do--

Planting

- ✓ Land with proper drainage, irrigation facilities and sunny location are essential.
- ✓ Pits of 45 cm³ are dug at least one month before planting and exposed to sunlight.
- ✓ A few days before planting, pits are filled with 2 parts of FYM and one part each of fresh earth and coarse sand.
- ✓ Pits are to be watered to settle the mixture.
- ✓ Well rooted, healthy and strong plants are planted one in each pit.



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Nutritional requirement

Species	Quantity(g/plant)			Method
	N	P ₂ O ₅	K ₂ O	
<i>J. auriculatum</i>	60	120	120	Six split doses at bimonthly interval
<i>J. grandiflorum</i>	100	150	100	In two split doses first June-July and second dose at December after pruning
<i>J. sambac</i>	60	120	120	Two split doses first at June-July and second at November after pruning

Foliar nutrition

- ✓ Spraying of zinc 0.25% and magnesium 0.5% before flowering increases the yield of flowers.
- ✓ Spray FeSO₄ at 5g/lit. at monthly intervals until the chlorotic symptoms disappear.



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Irrigation

- ✓ Sufficient amount of moisture in the soil is necessary for proper growth and flowering.
- ✓ Jasmines can be irrigated once in ten days depending on the soil and climatic conditions.

Weeding

- ✓ Commonly done manually but is expensive.
- ✓ Chemical weed control is effective and economical.
- ✓ Spraying with Oryzalin 1 or 2 application is effective.
- ✓ Mulching also reduce weed population.



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Harvesting

- ✓ Jasmine gives economic yield only from the third year and upto 12-15 years and then starts declining in their yield.
- ✓ For fresh flowers, fully developed unopened flower buds are picked in the early morning
- ✓ While for extraction of concrete only fully opened fresh picked flowers are required.

Yield

Species	Yield (kg/ha)	Concrete recovery (%)	Shelf life
<i>J. auriculatum</i>	4636- 9022	0.28-0.36 (13.44 -28.24 kg/ha)	28-30 hrs
<i>J. grandiflorum</i>	4329-10144	0.25-0.32 (13.85 -29.42 kg/ha)	24 hrs
<i>J. sambac</i>	739- 8129	0.14 – 0.19 (1.18 -5.44 kg/ha)	28-30 hrs



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Plant protection

Pests

- ✓ Bud worm
- ✓ Red Spider Mite
- ✓ Blossom midge



Diseases

- ✓ Leaf Blight
- ✓ Wilt
- ✓ Nematode
- ✓ Root rot



Yellowing of leaves: It is caused by 3 factors viz., iron deficiency, nematode infection and root rot disease.

Iron deficiency: It can be rectified by spraying ferrous sulphate 5 g/lit at monthly intervals until the chlorotic symptoms disappear.