

CROP NAME	BOTANICAL NAME & FAMILY	PROPAGATION METHOD	PLANTING				FERTILIZER	INTERCULTURE OPERATIONS	HARVESTING	YIELD	IMPORTANT VARIETIES	
			SEASON	TIME	METHOD	SPACING						SEED RATE
ROSE	<u>Rosa</u> sp. Rosaceae	T-Budding, soft wood cutting	Rainy	Oct-Nov	Pit	1) Hy. Tea: 120x120 2) Floribund 90x90 3) miniatue 30x60 4) climber 90x120	7-14 plants/m ²	1) Veg. growth 80:50:60 2) Flowering 100:60:80 3) Harvesting 80:50:40	1) Bending. 2) Pruning 3) Pinching 4) Defoliation 5) Deshooting 6) Bud capping	In morning Hours 7-10:00 when 2 petal emergence. with sharp secateur.	250-350 stems/m ² OR 70-90 stems/ plant/yr.	First Red, Kiss, sonia, Mercedes, Queen Elizabeth, Cobra, Lamda, superstar, seapearl, etc.
CHRYSAN- -THEMUM	<u>Chrysanthemum</u> <u>indicum</u> Asteraceae	By suckers cuttings, micro- propagation		April-May	Flat Bed.	30x30	1-1.25 lakh cutting/ha	100:50:50 1/2 dose of N 30 DAP. 0.25% ZnSO ₄ +0.5% MgSO ₄	1) Pinching 2) Desuckering 3) Disbudding 4) Deshooting 5) staking.	5-6 MAP Harvest fully opened flower.	70-80 Qts./ha.	Raja, Co-1, Co-2, Sarali Tara, Pusa dhmdl, Arka Ganga, Ravi Kiran, PKV Shubra (Akola)
MARIGOLD	<u>Tagetes</u> sp. Compositae	By seed Transplanting 30 DAS.	Rainy	June-July of sowing in Nursery & Transplant 30 DAS.	Ridges & Furrows	60x60, 1-1.5 45x45, Kg/ha 45x35.	50:25:25 1/2 dose N 30 DAP	1) Earthing Up 2) Pinching.	1 1/2 month after the Transplanting. Blooming upto 3 months.	100-150 Qts. flower per ha.	star of India, Lemon drops, Happiness, Yellow Supreme.	
GLADIOLUS	<u>Gladiolus</u> <u>tristis</u> Iridaceae	By Corms.	Rainy	Oct - Nov.	Ridges & furrows in Flat Bed	45x15 on Ridge & Furrow. 30x20 in Flat Bed.	1-6 lakh corms/ha	300:200:200 N split in 3 doses.	1) Earthing Up 2) staking.	80-90 DAP. For internal market 1-2 ladder florets opened	2-25 lakh spike/ha & 20,000 Kg corms per ha.	Archana, Sapana, Aarti, Dhiraj, Darshan, Phule Ganesh, Phule Tejas.
GERBERA	<u>Gerbera</u> <u>jamesonii</u> Compositae	By seed, suckers, cutting, Tissueculture or By Division.	Rainy	June- July.	Transpla- nting on a Raised Bed.	40x30, 30x30	100 N. 200:200:150 in 2-3 split doses.	1) Staking 2) pricking 3) Thinning. 4) Pruning.	90 DAP. Harvest after opening of the Bud, -Harvesting upto 3-4 yrs.	200-250 flowers/ sq.m./yr.	Valentine, winter queen, Dusty, Amber, Flamingo, etc.	

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CARNATION	<u>Dianthus caryophyllus</u> Caryophyllaceae	By Seed cutting & Layering.	Rainy	Oct-Nov	Raised Bed	15x15 20x20	400-500 gm/ha	200:200:100 at planting 250:80:200 every year in split dose	1) Pinching. 2) Deshooting 3) Disbudding 4) Staking.	120 DAP Atleast two flowers are opened & other bud should colour.	250-300 flowers/sq.m/year. OR 8-10 flowers per plant per year.	Fancy, Master, Celebration.
TUBEROSE	<u>Polianthes tuberosa</u> Amaryllidaceae	By Bulb.	Prior to monsoon	April-May & May-June.		30x30 20x20	50-60 qts. Bulb per ha. OR 1.6-2.5 lakh Bulb per ha.	200:150:200 N split in 2 doses 45 & 90 DAP.	1) Staking. 2) Pricking 3) topping.	90-120 DAP Harvest cut flowers when lower 1-2 florets open & put in water	upto 3 yr. 7-8 lakh spikes/ha. OR 7-7.5 tonnes/ha loose flower	Vaibhav, Dhawal, prajwal, Rajat, Subasini, Bangalore single, Calcutta single.
JASMINE	<u>Jasminum</u> sp. Oleaceae	stem cutting & layering	Rainy	June-Aug.		1) Mogra: 75x100 2) Jai & Jui: 1.8x1.8 m		100:50:50 2. split dose 1 st at time of Pruning 2 nd at Flower bud formation	1) Bahar treatment 2) Pruning (Jan-Feb) 3) Earthing up.	2 Years after planting. Pick unopened bud in the morning.	1) Mogra: 10-12 Ton per/ha. 2) Jai & Jui: 3-4 Ton per ha.	1) Mogra: Bela, Rai, Ramban 2) Jai & Jui: Co-1, Co-2.
ORCHID	<u>Dendrobium</u> sp. Orchidaceae	Division of clumps, Bulbs & Tissue culture			Potting Baskets or in container.			20:10:10 foliar spray @ 0.2% at weekly interval 30 DAP.	1) Staking 2) Repotting	Harvest the spike when 75% opened.	8-10 spikes/plant/year.	Sonia 17, Sonia 28, Emma white, Pravit white.
LILIUM (LILY)	<u>Lilium candidum</u> Liliaceae	By Bulbs				20x15, 15x15, 15x10.	3-6 lakh Bulbs Per ha.	CaNO ₃ @ 1kg/100m ² 21 DAP.	staking	After cutting stage 8-10 cm above growth. lower bud should colour.	3-4 lakh stems/ha.	1) Asiatic Hybrids: Dreamland, Novena. 2) Oriental Hybrids: Star Gazer, Neurostar 3) Eastern Lily: Snow Queen, white.

CROP NAME	BN & F	CHEMICAL CONTENT	PLANT PART USED	PROPAGATION	PLANTING				FERTILIZER	HARVESTING	YIELD	VARIETY	USES
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PERIWINA	<u>Catharanthus roseus</u>	Alkaloids <u>Vinblastine</u> & <u>Vincristine</u>	leaves, seeds, Roots, Flowers.	By Seed. Direct sowing or Transplanting	Flat Beds.	June - July	45X45, 45X30	Direct sowing: 2-3 Kg/ha Transplant: 0.5 Kg/ha	Mixture of NPK 40:40:40 in split dose.	For Roots 1 Year after planting & for leaves 6 MAP.	Root: 0.75 stem: 1 leaves: 1.2 Flower: 1.2	alba, Roseus, Ocillata	cure Blood cancer, control Blood pressure, Hypertension, Diabetes, etc.
	<u>Apocynaceae</u>										Tonnes/ha		
ISABGOL	<u>Plantago ovata</u>	Xylose, Arabinose, galacturonic Acid.	Seeds & Husks.	By seed.	Flat Beds.	Nov - Dec.		4-6 Kg per ha.	25:25:0 Half dose of N 30 DAS.	110-130 DAS crop turns yellowish & spike turn brownish	1 Ton, seed/ha	RRL-011, IR-89, GI-1, GI-2.	Anti diarrhoea property, ayurvedic, Unani & allopathic medicines.
	<u>Plantaginaceae</u>												
ALOE	<u>Aloe vera</u>	Glycosides	Leaves, Roots & seeds.	Root suckers or Rhizome cutting.	Flat Beds or Ridges & Furrows		60X30		50:25:25 Half N 30 DAP.	From 2-5 yr. leaves cut manually by sickle.	Fresh leaves: 100-120 g/ha.	IC-111266, IC-111267, IC-111271, IC-111273.	skin diseases, uterus disorder, abdominal tumor, chronic ulcer.
	<u>Liliaceae</u>	<u>Aloin</u> & <u>Borbaloin</u>					60X45						
OCIMUM	<u>Ocimum sanctum</u>	<u>Eugenol</u> , <u>eugenol methyl ether</u> , <u>carvacrol</u> .	leaves, seeds & Roots.	By seed.	Ridges & Furrows	June - July.	60X45, 60X60.	125-200 gm/ha.	40:40:40 Half N 30 DAP.	90-95 DAT Harvesting Interval 65-75 Day. cut plant 15-20 cm.	15-20 Ton/ha. & 65-70 Kg oil/ha	RRL-02, RRL-07, RRL-08 RRL-011.	Anticancer, antibacterial, antifungal, gastric disorder, ulcers.
	<u>Labiatae</u>												
VETIVER	<u>Vetiveria zizanioides</u>	Vetiverol	Roots.	Tillers & slips.	Ridges & Furrows	June - July	22.5X22.5 60X25		80:50:50 Per year. N split in 4 dose.	16-18 MAP. Roots get Hardy & Bitter taste	5-6 tonnes Fresh roots/ha 15-20 Kg oil/ha	Gulabi, Hy-7, Hy-8, KH-8, KH-40.	Blood diseases, perfumes, soaps; attar, skin products.
	<u>Gramineae</u>												
COSTUS	<u>Saussurea costus</u>	Diosgenin & steroidal saponins	Roots.	Seeds, stem cutting, Rhizome cutting.	Ridges & Furrows		50X50	20-24 Qts. Rhizome per ha.	45:30:30 Half N 30 DAT.	2-3 years after planting roots are Harvested in Sept.-Oct.	2-3 Qt roots/ha & 28-30 Ton Fresh rhizome/ha		antibacterial, antiseptic, tonic jaundice, asthma.
	<u>Compositae</u>												

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LEMON GRASS	<i>Cymbopogon flexuosus</i> Gramineae	Citral	leaves	seed & slips	Ridges & Furrows	June-July	60X45		100:50:50 N split in 2-3 equal doses.	90 DAP. Harvesting Interval 50-60 days.	Oil: 80-100 kg/ha. Pragati, CKP-25, RRL-16, SD-68.	cosmetics, Perfumes, Flavours, insect repellent.
CITRONELLA	<i>C. nardus</i> Gramineae	Citronellol, Geraniol, Citronella, geranyl acetate.	leaves	Slips	Ridges & Furrows	June-July	60X90, 60X60.		200:80:80 N split in 4 doses.	6 month after planting 3 cuttings in a year.	25-30 Tonnes leaves/ha. 200 kg oil/ha. Manjusha Mandakini Bio 13, IW 31243	detergent, Soap, cosmetics, Perfumery.
PALMAROSA	<i>C. martinii</i> Gramineae	Geraniol	Tender stem, leaves & flower stalk.	seeds & rooted slips.	Ridges & Furrows.	June-July & Aug-Sept	60X45, 60X30, 45X45.	2.5 kg/ha	60:50:40 N split into 3 equal doses	6 month after planting Harvesting Interval of 3-4 months.	Oil: 1 year 20 kg/ha & 2 year 50 kg/ha Trishna, Vaishnavi, CIMHana	soap, Perfumes, Flavouring Tobacco.
GERANIUM	<i>Relbunium graveolens</i> Geraniaceae	Geraniol, Citronellol.	Terminal stem.	Terminal stem cutting.	Ridges & Furrows.	June-July & Dec-Jan.	60X60, 45X45.	30,000 Cuttings per ha.	40-60 kg N, P ₂ O ₅ , K ₂ O as Basal dose 200 kg N in 6 doses	First Harvest 4-6 months after planting	20-30 Tonnes/ha Herbage & 20-30 kg oil/ha. Kunti, Hemanti, Egyptian.	soap, Perfumes, Tannins, cosmetics.
ASPARAGUS	<i>Asparagus officinalis</i> Asparagaceae	Asparagusic Acid.	Tuberous Roots	seeds, Division of rhizomatous disc.	Ridges & Furrows	June-July.			Use FYM, Vermicompost and Green manure.	Harvested 40 months in winter. by dugout roots.	Dry roots 5-7 Ton/ha.	Urinary, cancer, low blood pressure, jaundice.
CINNAMON	<i>Cinnamomum Verum</i> Lauraceae	Eugenol, Cinnamate, Cinnamic acid, Cinnamaldhyde	Bark & Leaves.	seed, cutting & Air layering	Pit	June-July	3X3 m.		150:75:150 g/m per plant per year from 3 rd yr.	2-3 year after planting Time-Sept-Oct	1 Ton/ha leaves OR 1-1.25 kg oil/ha Kokan Tej, Navaree, Nilayaree	digestive system, Diabetes, Fungal infections.
MINT	<i>Mentha sp</i> Lamiaceae	Menthol	Roots & leaves	By stolons or suckers	Flat Beds, Ridges & Furrows.	Jan-Feb	40X10, 45X15.	400-500 kg/ha (stolons/suckers)	50:75:37 as basal & 75 kg N as Top dressed in 3 doses	Harvest at Flowering. Time-Sept. to Dec.	25-30 Ton/ha Herbage & 150-200 kg oil/ha. Himalaya Kushal, Kaci.	cough syrup, cigarettes, aerosols, cosmetics.

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