Package and Practices of Chrysanthemum

1. Common name- Chrysanthemum Botanical namenthemum morifolium. Family- Asteraceae Chromosome
number- 2n=36,45,47,51 Basic chromosome number- X= 9 They are mostly diploid, tetraploid, hexaploid. •
ORIGIN- Asia and North- East Europe. Most species have its native place Asia

2. • Chrysanthemum is also called as the ‘Queen of the autumn’. • It is short day plant. • It is a
partly woody erect perennial herb or sub shrub upto 1m in height with alternate thick leaves. • The
inflorescence consists of many flower heads. Each flower head has numerous florets – the disk florets
and ray florets. • It belongs to family Asteraceae. • The species of chrysanthemum have fibrous root
system (shallow rooted plant), herbaceous perennial plant growing to 50-150 cm tall, with deeply lobed
leaves and large flower heads, white, yellow or pink
3. . • Area under Chrysanthemum flower cultivation is 4000 ha land. • Productivity- For loose
flower the productivity is 9- 10 tonnes/ha for main crop and 4-5 tonnes/ha for Ratooned crop. • For cut
flower in spray type 1-1.2 lacs stems harvested in 1 ha area
.
4. . • The chrysanthemum is one of the most important flower crops commercially grown in different
parts of the world. • The Netherlands, Italy, Colombia, Spain, Germany and USA are the important
countries where it is mainly grown under greenhouse conditions

5. • Commercial cultivation of Chrysanthemum is being done in Maharastra, Rajasthan, MP, UP and
Bihar. • Its cultivation in Delhi, Kolkata, Lakhnow, Kanpur and Allahabad is mainly for the sake of
decoration of surrounding and participating in flower source with the help of pot grown plant.

6. . • There are many uses of Chrysanthemum flower and have great economic importance are as: i.
Garden display. ii. Garland making. iii. Flower arrangement. iv. Small flowered varieties are grown for
cut flower, making garland, wreaths, and religious offerings. v. Natural insecticide is also obtained
called as Pyrethrin.

7. . • It is cold season crop which is grown throughout the world. • The most important environmental factors influencing the growth and flowering of these plants are light and temperature. •
The optimum temperature of 15.6° C is Chrysanthemum requires long days for good vegetative growth and
short days for flowering. • The optimum temperature of 15.6° C required. • The relative humidity of 70
to 90% is suitable for the plants. • Chrysanthemum is a short-day plant, meaning that long nights (11
to 12 hours of darkness or longer, depending on cultivar) are required for rapid flower initiation and
development.

8. . • Chrysanthemums will grow very satisfactorily in most well-prepared garden soils, if it is
well-drained. A well- drained soil is a must, particularly if the plants are to be retained over
winter. • They also respond best if the soil is slightly acid (pH 6.5) and if it contains considerable
humus in the form of peat, leaf mold, or well-rotted manure. • The ideal soil for chrysanthemum growing
is a well drained, sandy loam of good texture and aeration. • Good amount of organic matter and pH of
6.5 is essential. It is a shallow fibrous rooted plant and is very sensible to water logged conditions.

9. LARGE FLOWER 1. Incurved- The ray florets are incurved or overlapping. Florets are not twisted
ane blooms are compact and globular when fully developed. Varieties- Snowball(white flowers),
Sonarbangla, Chandrama, Graoe bowl. 2. Reflexed- It is just opposite to incurled. Ray florets are
reflexed outside and overlap one another. Varieties- Creota, Dorothan, Citybeauty, Sweetheart.

10. . 3. Spider- ray florets are large and tubular and usually curved. Varieties- Riresibangla,
Bidhan’s best, Mahatma Gandhi. SMALL FLOWERS 1. Korean single- The ray florets are flat, strip like and
blooms are flat. Number of whorls of ray florets are 5 or less than 5 and disc is open. Varieties-
Cardinal, Chairman. 2. Korean Double- Similar to Korean Single but whorls of the ray florets are more
than 5 and disc is open. Varieties- Jauntal wells, flirt, Manbhawan.

11. . 3. Decorating- Similar to Korean Double except that the flower is completely

double and
centre of the bloom is not visible. varieties- Arctic, Bluechip, Jublee, Alankar. 4. Anemone- Ray
florets are small or may be twisted or curled but disc florets are well developed and prominent.
Varieties- Calebcox. 5. Pompom- These are now getting popular and produce large crop or small bloom.
Pinching once or twice is very helpful. Varieties- Camoo, Dandy, Eve, Nanakor.

12. . • Commercial varieties are- Kriti, Arka Swarna, Birbal Sahani, Baggi, Basanti, Shanti, Arka
Ganga, Sadbhavna, Appu, Bindiya, Indira, Red Gold, Pankaj, Ajay, Sonali, Swarna, Ravi kiran, Aakash,
Yellow Start, Rakhee. CO-1(Yellow) CO-2(Purple) Mdu-1(Yellow)

13. • Propagation is done by Seeds and Vegetative parts. Generally vegetative propagation take
place. • Chrysanthemum is propagated vegetatively either through root suckers or terminal cuttings.
Suckers : • Suckers arise from the underground stem and these are separated and planted in prepared
nursery beds during January for stock plants. •

14. Chrysanthemum is propagated vegetatively either through root suckers or terminal cuttings.
Terminal Cuttings : • Cuttings of 5-7 cm in length are taken form healthy stock plants in June. The
cuttings are prepared by removing basal leaves and reducing the leaf area of remaining leaves to half.

Thatθ Plant spacing 30 x 30 cm is maintained for the planting of Chrysanthemum species. θ15. .
The suckers are planted during June - July at 30 xθis plant to plant and row to row spacing is 30 cm.
30 cm spacing on one side of the ridges. Pinching is done once in 4 eeks after planting to induce more
branching
.
16. . Chrysanthemum is a heavy feeder and requires large amount of both Nitrogen and Potassium. •
Nitrogen is required at early stage and the plants need P throughout the growth period. As the buds
appear, the proportion of K should be increased and N should be reduced. • As the crop responds well to
manuring, add 8-10 tonnes of well rotten FYM per acre. Apply 50 kg of Nitrogen, 160 kg P_2O_5 and 80 kg

K2O as a basal dose. Spray GA3 at 50 ppm at 30, 45 and 60 days after planting to increase the flower
yield • In Ludhiyana, the recommended dose of fertilizer is – Nitrogen- 400 kg
Phosphorus-400 kg
Potassium- 200 kg

17. . • Chrysanthemum requires frequent and thorough irrigation. • If rains are delayed irrigation
is given twice a week in the first month and subsequently at weekly intervals. • The frequency of
irrigation depends on the stage of growth, soil and weather conditions. • Proper drainage system should
be maintained for chrysanthemum grown both in beds and in pots. • The height and vigour of the
chrysanthemum plant can be influenced by regulating quantity and frequency of irrigation. • In our
country, the method of irrigating the fields is byPinching : • Pinching is one of the most important
operations in chrysanthemum culture. • Pinching refers to the removal of the growing tips of the plant
to induce the growth of vegetative laterals. • It reduces the plant height, promotes axillary
branching, delays flowering and helps in breaking rosetting. Disbudding : • This operation is mostly
performed for large flowered and decorative type chrysanthemum. • Disbudding method vary according to
the type of chrysanthemum grown. Many of the varieties are disbud or standard types, in which the
largest terminal bud is retained and all axillary buds are removed. • Disbudding of spray varieties is
very easy because in this case only the large apical bud is removed and the axillary buds are allowed
to develop

18. . De-suckering: • Duringthevegetativegrowthphase,plantsgrow upwards.New suckers
continuetodevelopfrombaseofplants. • For properandvigorousgrowthofplants,suckersare removedfromtime
totime. Stakingofplants •
Stakingisnecessarytokeepplantserectandtomaintainpropershapeof plantsandbloom.
• Stakesare preparedmostlyfrombamboosticks.Stakingofplantsis
requiredforverticalsupportoftheplants.Onlyonestakeisusedwhena grower
needssinglebloomperplant

19. . • Weeds should be avoided in the greenhouse as well as fields. They deplete moisture and

nourishment from plants. • Shortly after cuttings are established, carefully scratch the ground to
uproot the weeds when they are small. • 2-3 hand weeding are required for proper growth of the plant.
First weeding should be done one month after planting. • Herbicide can also be applied to control weeds
from the field. Weeding and hoeing are yield generally done manually as and when required, normally 8-
10 times yearly. • Crop suffers heavily if timely weeding is not given. Besides, control of weeds the
soil is made loose porous to provide aeration.

20. . • The correct stage of harvesting depends upon the cultivar, marketing and purposes etc. •
The flowers are harvested 3 months from the date of planting at an interval of 4 days. • For floral
decoration and garlands, fully opened flowers are plucked with or without the peduncle. Flowers are
packed loose in bamboo baskets or gunny bags and sent to retail markets for sale. Harvesting of
Cutflowers: • Generally harvesting is done early in the morning. The stems are cut 20 cm from the
ground and are collected in trays or buckets containing cold water (15-18°C) and a floral preservative
(Silver nitrate 25 ppm). • Alternately, the harvested stems are kept in 1000 ppm Silver nitrate, for 10
seconds-10 minutes followed by placing in deionized water to prevent the blockage of xylem by the
microorganisms

21. . • The yield of flowers varies according to types of cultivars, growing region, plant density
and other management practices. • The average yield of loose flowers varies widely from 8- 15 tonnes/
ha. • In southern states, the crop remains in the field for about ten months if it is ratooned (six
months for plant crop an four months for ratoon crop). • Ratooning is seldom done now days. Improved
varieties like CO.1 and CO.2 yields upto 1 t/ha in Tamil Nadu. • One can harvest the flowers around 15
times. The yield ranges from 9 to 10 tonnes of loose flowers per acre.

22. • Chrysanthemums are graded based on the stem length, flower appearance, number of flowers,
stem straightness, colour and freshness of flowers. • Standard Chrysanthemum are graded into Blue, Red,

Green and Yellow, whereas spray types are graded into Gold, Silver and Bronze based on the quality
parameters. • In Dutch market, spray chrysanthemums are graded into extra grade and shorter grade. •
The • Loose flowers are packed in bamboo baskets or gunny bags for marketing. • The capacity of bamboo
baskets ranges from 1 to 7 kg while gunny bags can accommodate 30 kg of loose flowers.

23. • The storage is an important aspect of flower cultivation and marketing industries. It is
stored under the protected condition so that it can be exported in distant countries. Some pre-
requisite of storage of Chrysanthemum species are as follows- 1. It is kept under low pressure and low
oxygen condition. 2. The place where flowers are stored must have low temperature condition. 3. The
flowers must be placed vertically putting flower axis at the top. 4. In case of loose flower value it
is stored or packed in bamboo basket or gunny bags.

24. . • Transporting of flowers is done through train, trucks, ships (refrigerated) etc. • Before a
long day transport, it is better to keep flowers in water for at least 4 hours in a cold store. • Among
the cut flowers chrysanthemum are amongst the top three best selling flower in all most all major
flower consuming countries. • Few striking features which have made this flower commercial in the
international market are: i. The standard type flowers fetch higher price though their share is less.
ii. Spray types have smaller flower size and has major share in the world market. iii. Maximum imports
from European nation are from June to October.

25. . • Pests:- Aphids (sucking type) - Thrips - Leaf miners - Mites • Diseases:- Sarcospora leaf
spot - Alternaria leaf spot - Fusarium wilt - Powdery mildew - Chrysanthemum stunt - Puccinia rust.

26. . • Several physiological disorder are seen in the species of Chrysanthemum flowers due to
uneven climatic condition and seasons like- temperature change (high or low temperature than required),
humidity i.e, moisture content in air ,and other plant function disorders , nutrient

deficiency and
toxicity , various symptoms are observed- a. Rotting of root b. Fading of colour of petals of
Chrysanthemum flower c. Improper growth of plant and flower d. Chlorophyll deficiency in the leave
region thus yellowing of plant

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