**Dendranthema X grandiflorum**

Florist Chrysanthemum

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**New names for commercially important Chrysanthemums**

- Tanacetum
- Dendranthema
- Leucanthemella
- Leucanthemum
- *Argyranthemum*

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**Chrysanthemum height classification**

- Tall > 15 inches
- Medium = 15 inches
- Short < 15 inches
- Determines
  - Growth regulator treatments
  - When to pinch relative to start of SD

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**Disbud inflorescence**

- Leave only the terminal bud
- as soon as they can be handled
- decorative, incurved, fugi, and spider flower types are mostly disbudded
- large daisy or anemone can be disbudded
- potted and cut mums are disbudded

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**Spray inflorescence**

- Apical flower is removed
- all subtending axillary flowers will develop
- remove terminal bud when the terminal bud shows some color
- results in all flowers opening at the same time
- most common with daisy types

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**Mum propagation**

- Terminal cuttings
- Rooted or unrooted
- Take 1 to 2 weeks to root
- Rooting hormone
- Specialist propagators
  - Yoder Brothers
  - VanZanten
Planting rooted cuttings

- Pot directly into final container
- 5 cuttings per 6-inch pot evenly spaced
- At 45° angle around the rim
- Mist for several days or shade cloth
- Store at 32-37°F for 1-6 weeks with light to hold until potting if needed
- Hold under long day to keep vegetative

Flowering

- Occurs naturally in fall
- Short days trigger flower initiation
- Year round production
- Critical daylength is 12 hours or less
- Response groups
  - 6-8 weeks are garden types
  - 8-11 weeks are potted types
  - 8-15 weeks are cut types

Short days

- Flower initiation and development are more rapid under short day
- Black cloths are pulled at 1700 hr and removed at 0700 hr
- Used from March 15 to September 15
- Complete black out until flower buds begin to show petal color

Short day treatment

Growers blackcloth mums during natural long days
To make them flower

Long days

- Incandescent lamps are used as a night break
- Intensity should be 10 fc (2.2 μmoles/s/ft²)
- For 4 hours
- From 10 pm to 2 am

Long day treatment

Growers light the plants during natural short days to keep them vegetative
General culture

- High light
- Moist, well-drained root substrate
- CO$_2$ injection is beneficial
- 250 - 400 ppm N (heavy feeders)
- Root substrate pH 5.7 - 6.2
- If you are not media testing, you are guessing
- Plants turn yellow for lots of reasons

Temperature

- Floral initiation and development are temperature dependent
- Heat delay when >85°F
- Automatic black cloth can be set to be pulled later in evening to prevent heat delay
- Must be pulled for 12 hours, if pulling later in the evening, leave closed later in the morning

Height control

Use B-nine at 2500 ppm twice at 2 and 4 weeks after pinching
Cycocel is not effective
DIF and DROP are effective

Insects and Diseases

- Aphids
- Caterpillars
- Leaf miners
- Thrips
- Pythium
- Rhizoctonia
- Sclerotinia
- Botrytis

Crown buds:

- Will form under LD after a certain number of leaves have developed on plants
- May occur when flower formation under SD is followed by long daylength or high temperature
- Will cause branching to occur because vegetative shoots develop below it

Postharvest

During the last 2-4 weeks of production:
- High light
- Lower temp
- Lower fertility
Average Size: All Cultivars
In centimeters

Plant dates
- May 14
- June 4
- June 25
- July 16
- Aug 6

Height

Width

0 3 6 9 12 15 18 21 24 27 30

0 10 20 30

May 14 June 4 June 25 July 16 Aug 6