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Easter and Mother's Day Forcing

Forcing bulbs for the Easter Holiday and Mother's Day is easy, provided you follow our advice based on over fifty years of growing experience. Below are the steps necessary to grow your own successful crop. Three easy steps to an Easter and Mother's Day Weekend Sellout!

Step 1: Pre-Planting Instructions - what to do when your bulbs arrive and recommended supplies for potting

Step 2a: Cooler Instructions - specific instructions when using a cooler

Or

Step 2b: Outdoor Rooting Instructions - specific instructions when using cold frames

Step 3: Greenhouse Production Instructions - specific instructions and time once bulbs are taken out of the cooler or ground and brought into the greenhouse

Next Steps - > Easter Weekend Sellout! Mother's Day Weekend Sellout!

Step 1: Pre-Planting Instructions

Getting off to the right start is important to a successful crop. Prior to planting, begin with:

- quality bulbs
- new pots and
- good soil

All three are necessary to prevent problems down the line in the forcing process.

Before Planting

Store bulbs at 60 to 70 degrees Fahrenheit in a well-ventilated area with plenty of fresh air. Do not let the temperature drop below 60 degrees for Hyacinths and Daffodils as this will create penicillium on the rooting plate and cause rotting. In addition, the lower the temperature, the increased risk of mold, mildew and botrytis.

If you receive your shipment of bulbs in cardboard boxes, open the boxes immediately for additional ventilation.

When to Plant

Remember - Accurate climate conditions from start to finish are essential! For optimal results, plant bulbs from mid to late October, so that, regardless of when Easter is, they will get the optimal amount of cold weeks.

Growing Mix

Plant bulbs in well-drained growing mix. The growing mix should be as follows:



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- pH level between 5.5 - 6.5
- Low in soluble salts
- Should be moist at planting time
- Leave enough room in the pot for you to water them (leave an inch of room from the top rim)
- Growing mix should contain the following:
 - 20% clean top soil or sand - this is very important to avoid botrytis
 - 60% peat moss
 - 20% Styrofoam or vermiculite for added drainage and to increase oxygen in the pot for increased air to your tulip's roots
 - Do not use perlite, this releases fluoride and causes leaf damage on tulips

The growing mix can greatly influence the quality of your tulip crop. A ph of 5.5 - 6.5 versus 6.5 - 7 will lessen the amount of roots. Should your ph be at the level of or close to 7.0 bring it down to a less neutral level. The sand in your mix will naturally fight off bacteria and will increase the drainage and oxygen levels around the tulip roots which is desirable.

Use new pots and good potting soil to prevent grey mold.

Grey Mold

What is it and how to avoid it

What is grey mold?

Grey mold or botrytis cinerea is a bacterial root disease that will develop on tulip roots and attack the bulb itself. Grey mold will then attack the stem and plant during the greenhouse phase.

Symptoms:

- Grey mold can be seen in the cooler during the winter months
- Grey puffy or fuzzy mold growing on drainage holes
- Slimy glazy roots in the bottom of the pot

Caused by:

- Long extended rooting time at 48 degrees causing excessive root formation at the bottom of the pot
- Ethylene gas build-up - Make sure your bulbs are stored in a well ventilated area or room. Your bulbs need to breath, otherwise your flowers may abort or dry up when in the greenhouse phase
- Too clean or sterile potting mix - The growing medium used by most growers is a straight artificial growing mix. These steamed and sterilized growing mixes are too clean. Tulips need a mix of sand and good quality top soil mix capable of fighting infection

Take Steps to AVOID GREY MOLD BY:

- Always use new pots
- Use the proper growing mix as described above
- Root tulips until they just hit the bottom of the pot
- Follow temperature schedule as described in the Cooler Instructions



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Step 2a: Planting in a Cooler

Cooler or Cellar Production Specific Instructions

1. Make sure the humidity inside the cooler is high (95%)
2. Wet the floor with water if necessary
3. If pots are drying out on top because of condensing unit fans, give them water
4. Check for roots. Varieties such as Tulip Coeur Cardinal are the last to root. If the roots are growing out of the bottom of the pot, everything is rooted
5. Maintain high humidity, this avoids roots from drying out and therefore lessens the risk of forming Botrytis Cinerea (grey mold)

Specific Cooler Temperature Chart (degrees are in Fahrenheit)

| Variety | Pot Moisture Content | Temperature before planting | Temperature from Nov 6th onward | Temperature when sprouts develop too long |
|--------------------|----------------------|-----------------------------|---------------------------------|---|
| Tulips | Moist-Wet | 65 | 40 | 32-33 |
| Hyacinths* | Moist-Wet | 65 | 40 | 32-33 |
| Daffodils | Moist-Wet | 65 | 40 | 32-33 |
| Tete a Tete | Moist-Dry | 65 | 40 | 32-33 |
| Crocus | Moist-Wet | 65 | 40 | 32-33 |
| Iris | Moist-Dry | 65 | 40 | 32-33 |
| Prepared Hyacinths | Moist-Wet | 65 | N/A | N/A |

*See forcer's guide book for more specific instructions as temperature for Hyacinths should only be dropped when the bulbs have fully vernalized (# of cold weeks.)

Planting in an outdoor rooting bed? Follow Step 2b: Outdoor Rooting Instructions.

Step 2b: Planting in an Outdoor Rooting Bed

Outdoor Rooting Instructions

1. Plant bulbs in October
2. Use a well-balanced growing mix (as outlined in Step 1: Pre-Planting Instructions)
3. Place rooting bed in a well-drained area
4. Place rooting bed in an open area or field, not between greenhouses. Otherwise the sun will reflect excessive heat onto the rooting bed
5. Water all pots before placing winter cover over pots
6. Cover all pots with 2 to 3 inches of sand



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7. Cover sand layer with 3 to 4 inches of straw salt hay immediately after planting. This is the winter cover
8. Spot check rooting bed for well rooted pots
9. To avoid loss and shrinkage due to freezing weather make sure that the perimeter pots are covered with sand
10. On top of the 2 to 3 inches of sand, cover your bulbs with an additional 4 to 6 inches of straw or salt hay. Do not use leaf compost or fresh cut grasses. This material will rot and decompose and create a heat insulated cover that will stretch up your hyacinths and tulips



Step 3: Greenhouse Production

Tulips

Tulip forcing time in the greenhouse depends on the temperature in the greenhouse. Some varieties like Nico Vos and Palestrina take 6 weeks at 60 degrees to force in the greenhouse. So therefore, take them out first to be forced in the greenhouse. All other varieties force around the same time, and if a variety comes in too early, you can always move them to a cool area or back in the cooler at 32-34 degrees. Use the following rule of thumb for most tulip varieties:

- If the average temperature is 60 degrees both day and night tulips require 4 weeks of forcing time
- If the average temperature is 50 degrees both day and night tulips require 5 weeks of forcing time
- If the average temperature is 40 degrees both day and night tulips require 6 weeks of forcing time



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Tulips like to be acclimated to the daylight. Bring your tulips in the greenhouse at the end of the day, or on a cloudy overcast day. Water tulips right away, and make sure during the course of forcing that when you water, water thoroughly. Roots of the tulips are in the bottom of the pot, and that is where you need the water. The roots should never be dry. Once a tulip is tight and is showing a little color, you can stop watering. To avoid botrytis, do not water on cloudy days. Water on sunny days early in the morning only. Maintain a well ventilated greenhouse.

Hyacinths

At an average temperature both day and night of 50 to 60 degrees hyacinths require about 10 to 14 days in the greenhouse, except varieties like Marconi, Amethyst and City of Haarlem; they need an additional 7 days.

Avoid a big temperature change in the beginning of the forcing period. Otherwise your hyacinths will split. To avoid hyacinths splitting we suggest you proceed as follows: (especially on early Easters)

- Slowly bring your cooler temperature up to 40 degrees for a week.
- Do not water hyacinths for the first 4-5 days in the greenhouse.
- If need be, cover your hyacinths with a couple of sheets of newspaper, this will enable the hyacinth and the flower inside to be drawn up.
- In the start phase of forcing hyacinths; Force at low temperatures in the greenhouse 40-45 degrees.
- When the hyacinths are in the greenhouse, water normally and force just like the tulips in a well ventilated greenhouse.

Why do hyacinths split?

Detachment of the flower stem occurs especially when Easter is early. It is caused by not enough cold weeks or vernalization, as well as, trying to force them in a warm greenhouse with roots drinking applied water.

What are enough cold weeks?

It is the number of weeks your planted bulbs in pots are in the cooler running between 36 and 48 degrees. The weeks that the potted bulbs are below 36 degrees are not considered to be part of a cold week.

How do I know if my hyacinths have enough cold weeks?

- Know plant date and count the number of weeks that the cooler ran between 48-36 degrees.



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- If you are short on the number of weeks required than raise the temperature in the cooler after you have placed the tulips in the greenhouse.
- When you see that your hyacinths are reacting to the increase of the temperature inside the cooler by a lengthening sprout development, you have reached full vernalization.
- Use the following chart for specific hyacinth varieties:

| Hyacinth Variety | Required weeks between 36 and 48 degrees |
|------------------|--|
| Blue Jacket | 17 weeks |
| Carnegie | 14 weeks |
| Pink Surprise | 16 weeks |
| Marconi | 18 weeks |
| Amethyst | 18 weeks |
| Pink Pearl | 14 weeks |
| Delft Blue | 14 weeks |

We have a detailed spreadsheet outlining the number of cold weeks required for each specific variety of Tulip. Please contact us or download it from our website.

Daffodils and Tete a Tete:

Like hyacinths, daffodils will force quickly in about a two week period. When growing daffodils, keep them in the greenhouse and watered. Also just like tulips and hyacinths, once the flower is starting to show color, do not water as heavily because the roots of the plant will only drink and absorb the water, therefore the stem will only grow taller.

Storing forced bulb crop in the cooler:

- Be sure that the foliage is dry and the growing medium is moist to wet
- A tight green plant versus an open flower plant in color will store longer and better in the cooler
- Run the cooler at between 32 and 33 degrees