Netherland Bulb Company
Known for producing Premium Holland Bulbs
13 McFadden Rd
Easton, PA 18045
Phone: 1.800.78.TULIP (88547)
Fax: 1.888.508.3762
www.netherlandbulb.com

Early and Valentine's Day Forcing

Forcing bulbs for January and February is becoming increasingly popular. It just requires planting bulbs earlier. Some varieties are better than others for this early crop.

Three easy steps to a Valentine's Day Sellout!

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

Step 2: Cooler Instructions - specific instructions when using a cooler. Outdoor rooting is not recommended for this early crop, coolers are required.

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

Step 4: Valentine's Day - Sellout!

Step 1: Pre-Planting Instructions

Getting off to the right start is important to a successful crop. Start out with quality bulbs, new pots and good soil. All three are necessary to prevent problems down the line. Accurate climate conditions from start to finish are essential.

When to Plant:

Plant as soon as you receive your shipment. We have taken great care to pre-cool bulbs at 9 degrees Celsius(Fahrenheit?) , it is important that these bulbs maintain 9 degrees Celsius(Fahrenheit?) during potting and watering before going into a 9 degree Celsius(Fahrenheit?) cooler.

Potting Soil:

- Plant bulbs in well drained growing mix. The growing mix should be as follows:
- pH level between 5.5 - 6.5
- Low in soluble salts
- Should be moist at planting time
- Leave enough room in the pot for water (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.

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- 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 oxygen levels around the tulip roots which is desirable.

Use New Pots and Good Potting Soil to Prevent Grey Mold:

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:

1. Long extended rooting time at 48 degrees causing excessive root formation at the bottom of the pot.
2. 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.
3. 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:

1. Always use new pots
2. Use the proper growing mix as described above
3. Root tulips until they just hit the bottom of the pot
4. Follow temperature schedule as described below.

Step 2: Cooler Instructions

Cooler or Cellar Production Specific Instructions:

- Make sure the humidity inside the cooler is high (95%)

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- You can wet the floor with water
- If pots are drying out on top because of condensing unit fans, give them water
- Check for roots. If the roots growing out of the bottom of the pot, everything is rooted.
- 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 from September 1st thru October 25th		Temperature from October 26th thru November 5th	Temperature from November 6th to as long as possible
		Temperature when sprouts develop too long			
Tulips	Moist-Wet	48	45	40	32-33
Hyacinths*	Moist-Wet	48	45	40	32-33
Daffodils	Moist-Wet	48	45	40	32-33
Tete a Tete	Moist-Dry	48	45	40	32-33
Crocus	Moist-Wet	48	45	40	32-33
Iris	Moist-Dry	48	45	40	32-33
Prepared Hyacinths	Moist-Wet	48	45	40	35

Step 3: Greenhouse Production

After November 5th, pots are ready to be brought into the greenhouse as necessary to fulfill your orders. Below, find Greenhouse Production guidance for Tulips, Hyacinths, Daffodils and Tete-a-Tete.

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. Therefore, take them out first to be forced in the greenhouse. All other varieties force around the same time. 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

Greenhouse Tips for Tulips

- Tulips like to be acclimated to the daylight, so bring your tulips in to 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

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- 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 degree, hyacinths require about 10 to 14 days in the greenhouse, except varieties like Marconi, Amethyst and City of Harlem; 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 beginning 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 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.

Note: The weeks that the potted bulbs are below 36 degrees is 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
- 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

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- 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

Tulips

We have a detailed spreadsheet outlining the number of cold weeks required for each specific variety of tulip. Please look on our website for this document.

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 tulip 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