# Heuger Helleborus Growing Notes

## Schedule

For Helleborus production, starting with a plug size that will produce a full container is important.

**72 cells and 40 cells** are 6-month-old young plants, sold in the spring to be planted into the finished container in **March or April.** Depending on the variety, location, plant dates, climate, and cultivation, these plug sizes can fill out 1-quart, 6", 1-gallon, or 1.5-gallon pots and should flower November – March.

**18 cells** are usually 10 – 12-month-old young plants, sold in the fall to be planted into the finished container in **September or October**. Depending on the variety, location, plant dates, climate, and cultivation, these plug sizes can fill out 1-qu art, 6", or 1-gallon and should flower from January – March. This schedule is only recommended for growers in warmer climates that cannot grow Helleborus over the summer.

## Planting

Planting Helleborus **weeks 10 – 16** from a 72 cell into the finished container directly outside, in a ventilated greenhouse, or hoop will result in well-developed flowering plants the same year, depending on variety, Nov – March.
Plant liners right at soil level without burying the crown too deeply or leaving it exposed.
Plant during cool temperatures and water thoroughly to avoid stress and protect from late frost if necessary.

## Soil and Fertilizer

Use a **well-draining soil mix**, for example, peat and extra perlite.
**PH 5.8 – 6.4** should not drop during the crop time.

If slow-release fertilizer is incorporated in the soil, use a low to mid-rate, cool season release that lasts throughout the crop and supplement with liquid feed.
Fertilize during the main growing season in spring and fall with **1 – 1.5 EC** and reduce fertilizer applications during hot weather conditions. During vegetative growth, use higher N content, later reduce N, and switch to more potassium.
The EC level in pots should **not exceed 1.8** at any time; regular soil analysis is recommended.

## Water Management

Water management is most important; extremely dry or wet conditions will damage the plants.
On a 1 - 5 watering scale, Helleborus should stay between 2 – 4.
Helleborus should never be exposed to standing water. Greenhouse floors or outside growing areas need to be leveled and well-draining; any low spots can lead to root or crown rot.
Monitor root development regularly; preventative applications against root or crown rot or EM (effective microorganisms) are beneficial.

Extreme dry down can lead to permanent root damage, which might not be visible right away.

## Temperature

Helleborus thrive in cooler temperatures, especially the roots are heat sensitive.

During hot days, Helleborus should be covered with shade cloth to keep the soil from heating up.
If roots get too hot, they can die, often seen in pots facing south.
**If temperatures rise above 84 F for longer periods**, especially during the summer months, **shading or cooling needs to be provided.**

The shade cloth is not used to reduce light levels but to keep root temperature cooler.
A shade cover cloth pulled directly on top of the plants can reduce the temperature.
Shade structures or hoop houses work as well.

If growing inside, whitewash for greenhouse walls and shade curtains are important; fog or boom irrigation could also be used for cooling.

If grown outside, frost protection might be necessary, and plants should be moved inside over the winter to protect flowers.

## Spacing

Spacing should be done when plants get crowded and stretch, but **not prematurely**; foliage can help to keep the soil temperature cool.
Avoid spacing during hot weather conditions to reduce stress.

## Growth Regulator

Growth Regulators (e.g., daminozide or paclobutrazol) can be used depending on the variety to avoid petiole stretch.
Helleborus often produces just one leaf at a time, which will continue to grow as long it is unfolded, so timely sprays are important.

Helleborus may produce early flowers depending on the variety, age of the plants, and temperatures; they should be removed so the plant does not waste energy.
If the removal is not possible, old flowers can be cut off later during shipping.

## Pest and Diseases

Regularly scout for pests and diseases and treat them if necessary.
Thrips can damage the flowers; also, check for aphids and mites.

Preventative treatments against root or crown rot are recommended.
Pythium
Phytophthora
Rhizoctonia
Fusarium

Monitor for Botrytis, leaf spots, Downy Mildew and treat accordingly.
Helleborus are susceptible to slugs.