perennial solutions

By Paul Pilon

Helleborus x hybridus

This 2005 Perennial Plant of the Year will catch the eyes of consumers at retail.

With its robust evergreen foliage and impressive late winter to early spring blooming display helleborus has caught interest from gardeners, landscapers and perennial enthusiasts everywhere. It has gained such popularity that the members of the Perennial Plant Association have voted *Helleborus x hybridus* the 2005 Perennial Plant of the Year.

When blooming, helleborus creates an eye-catching display in the landscape and the retail garden center at a time of the year when color is naturally sparse. The Lenten rose forms attractive evergreen mounds of foliage, reaching 18-24 inches tall and 24-30 inches wide. It performs best in shady locations throughout USDA hardiness Zones 4-8. Helleborus is a member of the ranunculaceae (buttercup) family, which also contains several commercially grown perennials including aconitum, anemone, aquilegia, cimicifuga, clematis, delphinium, ranunculus and trollius.

Photo courtesy of Terra Nova Nurseries

PROPAGATION

Helleborus x hybridus is usually propagated by seed. Germinating helleborus seed can be challenging and time consuming. Best results are obtained when using freshly harvested seed. Helleborus seed is commonly harvested in May and June and should be sown no later than August. I recommend growers sow helleborus in open flats, covering the seeds lightly with growing medium. To overcome natural seed dormancies, growers will have to provide stratification after sowing.

The first step of stratification entails keeping the growing medium moist (not water-logged or too dry) and within the temperature range of 60-85° F for 6-12 weeks. During the second step, temperatures are reduced to 25-40° F for the next 10-12 weeks. These temperatures are often achieved naturally during the cool late fall and early winter months. Seeds should be protected from exposure to extremely low temperatures. The temperatures should be raised slightly to 40-50° F during the third step. Germination will begin at these temperatures. Increasing temperatures above 50° F or increasing them too fast will delay germination and may cause a second seed dormancy to occur.

Generally, helleborus takes 6-18 months to germinate. Seed that is old, dry or improperly stratified can take an additional 6-18 months since it usually requires a second stratification treatment. Following germination, helleborus seedlings can be transplanted from the open flats into 72-cell or larger plug flats. Since germination is not uniform, growers often transplant seedlings over an extended period of time until germination is no longer occurring. Transplanting should occur while the seedlings are still in the cotyledon stage. Transplanting becomes challenging the more it is delayed, as the roots rapidly become elongated.

Once transplanted, it often takes 6-8 months for these slow-growing seedlings to reach a finished size. To prevent seedling death, growers should maintain good irrigation practices. Do not allow the seedlings to dry out ➧

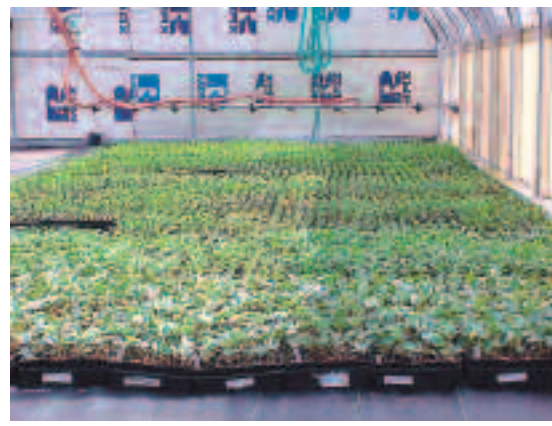
or become overly wet. They should be produced in an area that is shaded, such as under a 50-percent shade cloth. Finished plugs are commonly sold or transplanted to quart-sized or larger containers.

Many growers are unwilling to wait up to 18 months just to achieve germination and an additional eight months to finish the plug. For most growers, it is probably most economical to purchase in finished plugs of helleborus varieties.

PRODUCTION

When transplanting into the finishing container, plant helleborus even with the soil line of the plug or pot it was previously produced in. It performs best in a media with both good water-holding characteristics and, more importantly, adequate aeration. Maintain a media pH between 5.8 and 6.8 throughout the production cycle. Helleborus are light feeders, requiring either a controlled-release fertilizer at a rate equivalent to ¾ lb. of nitrogen incorporated per yard of growing medium or constant liquid fertilizer with nitrate levels of 50 ppm. Helleborus require an average amount of irrigation, as they do not tolerate really wet or overly dry conditions.

The maximum light intensity for production is 5,000-6,000 footcandles. I would recommend producing helleborus under 35- to 50-percent shade cloth during the summer months. When transplanting from a 72-cell plug, it typically takes 10-12 weeks to finish a non-blooming quart-sized container or 12-16 weeks for a gallon-sized pot. Helleborus grow best when day tempera-



Photos courtesy of John Seidler

tures are 50-65° F and night temperatures are 45-55° F. Higher temperatures will slightly reduce the rate of growth but rarely become problematic unless irrigation is irregular.

To produce blooming plants for early spring sales, it is necessary to transplant plugs during the late summer of the previous year and overwinter plants in coldframe structures. In early winter, after the temperatures are consistently below freezing, it is recommended to cover with a frost blanket. During warm spells, the covers should be removed to let in fresh air and reduce the likelihood of unwanted diseases such as Botrytis. Be sure to provide extra ventilation during these warm spells by opening the doors to the coldframes. The covers should be replaced again when the temperatures drop below freezing.

When spring-like conditions arrive, space pots out in the coldframe. Any time the outdoor temperatures are above 35° F, keep the coldframe doors open to reduce the temperature inside the structure and to prevent excessive plant development and early flowering. In our zone (Zone 5) it is not uncommon to have flowering plants ready for sale by mid to late March. Keep in mind that every spring and every location will produce flowering helleborus at different times, depending on the conditions.

The occurrence of insect pests and diseases is usually rare. The primary insect pest of helleborus is aphids, and the most common diseases are Botrytis, powdery mildew and root rot. Routine scouting should be sufficient to determine the presence of any pests or diseases. There are a number of good products on the market for controlling these problems once they are detected.

AVAILABILITY

Helleborus seed is available from Jelitto Perennial Seeds, Ivy Garth Seeds and Plants, Inc., and various seed distributors across the country. Most growers purchase plugs or small pots of *Helleborus x hybridus* from various reputable perennial propagators including Siskiyou Greenhouses and Walters Gardens. Finished containers can be purchased from many finished growers or garden centers throughout the country. GPN

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