



# HELLEBORE



*Liner Size:* 72-Cell and 32-Cell

*Availability:* Weeks 1-15 for 72-Cell | Weeks 35-40 for 32-Cell

*Hardiness Zone:* 5-8

*Growing Temps:* 40-50°F in fall for flower initiation, 32-40°F through winter

*Exposure:* Part Sun-Shade

*Average Finishing Time:* 40-52 Weeks using 72-Cell and 18-26 Weeks using 32-Cell for 1 gallon

## PROGRAM SPOTLIGHT

**Trade Name:** Hellebore Frostkiss® | **Scientific Name:** Helleborus x hybridus  
**Liner Specs:** 72-Cell Growcoon and 32-Cell Deep

## PROGRAM AT A GLANCE

\*Growers should use the information presented here as a guideline only. Flower times might vary due to winter temperatures. Colder growing temperatures will lead to later flowering.

<i>Frostkiss® Varieties</i>	<i>Habit</i>	<i>Flower Color</i>	<i>Flowering Time</i>
<b>ANNA'S RED</b>	Large, less branching	Burgundy Red	December till March
<b>BAYLI'S BLUSH®</b>	Large/Vigorous	Two-toned Violet Blush with Creamy White	January till April
<b>CHARMER</b>	Compact/Well-branched	Raspberry Pink	December till March
<b>CHERISA</b>	Compact/Vigorous	Greenish-White with Magenta-Purple Edging	February till April
<b>CHERYL'S SHINE®</b>	Medium	Light Pink	January till April
<b>COSMIO</b>	Medium/Well-branched	Smokey Pink	January till April
<b>DANA'S DULCET®</b>	Compact	Two-toned Smokey Pink with Greenish White	February till April
<b>DOROTHY'S DAWN®</b>	Large/Vigorous	Light Pink	February till April
<b>ELEMENTAL</b>	Compact	Bubblegum Pink with Deep Pink Streaking	January till April
<b>GLENDA'S GLOSS®</b>	Large, less branching	White with Magenta-Purple Edging	December till March
<b>ILLUMI LIME</b>	Compact	Chartreuse-Lime Green	January till April
<b>MAGICO</b>	Compact	White with Magenta-Purple Edging	January till April
<b>MOLLY'S WHITE</b>	Compact/Vigorous	White Fading into Green	January till April
<b>MOONDANCE®</b>	Large/Vigorous	White Fading into Green	January till April
<b>PENNY'S PINK</b>	Medium	Mauve Pink	January till April
<b>PIPPA'S PURPLE®</b>	Medium	Smokey Pink with Burgundy Flecking	January till April
<b>VIBEY VELVET</b>	Compact	Dark Red with Burgundy Flecking	January till April

## QUICK GROWER TIPS

- Hellebores grow most vigorously in spring and fall; these are the ideal seasons for potting. Growth slows significantly in summer, so avoid planting liners during hot months.
- Use a very well-drained, coarse substrate with excellent aeration. A peat-based mix with decomposed bark is ideal, and pH should be maintained around 5.5.
- Provide 30–35% shade during summer to prevent overheating and leaf scorch.
- Water in the early morning or late evening—Hellebores do not tolerate irrigation during the hottest part of the day.
- Unlike many crops, Hellebores require increased fertility in fall to support flower initiation.
- Keep plants actively growing year-round. If growth stalls due to low fertility—especially in summer—development may be delayed by 2–3 months.
- Maintain a 1:3 phosphorus-to-potassium ratio for optimal shoot and flower development. Flower initiation is triggered by shortening days and cooler fall temperatures (40–50°F).
- Keep plants frost-free in winter, ideally 32–45°F, to prevent flowering delays.
- To intentionally delay flowering, hold crops at temperatures just below freezing; this can postpone bloom by a month or more.



## CULTURAL CONDITIONS, FERTILIZATION, & IRRIGATION

### EXPOSURE

Hellebores prefer consistently cool root zones and perform best when protected from direct sun. Preventing sunlight from striking the pots is essential—keep containers spaced tightly so the foliage can naturally shade the pot surface. During warm months, provide additional protection with 30–35% shade cloth. If overwintering under cover, use white poly rather than clear to reduce light intensity and prevent leaf burn on bright winter days.

### TEMPERATURE

Ideal fall temperatures for Hellebores range from 40–50°F, which promotes strong flower initiation. Depending on region, this occurs between September and December. During winter, maintain plants in a frost-free greenhouse at 32–40°F. Plants will bloom naturally when frost is absent; prolonged frost delays flowering. In summer, apply 30–35% shade when temperatures exceed 80°F to help maintain plant quality.

### FERTILIZATION & NUTRITION

The key to producing high-quality Hellebores is to keep plants actively growing throughout the year—fertility should never be interrupted. Maintain a steady feed with a substrate EC of 1.2–1.5, measured directly in the soil. For spring-planted crops, an 8–9 month controlled-release fertilizer is recommended. In fall, when flower initiation begins, plants require additional nitrogen (N) and iron (Fe). Provide these with a liquid feed while continuing to hold EC at 1.2–1.5.

Maintain a **1:3 phosphorus-to-potassium ratio** for optimal shoot and flower development.

### SOIL FERTILITY GUIDELINES    pH: 5.5    EC: 1.2–1.5

<i>Macro-elements</i>	<i>PPM</i>	<i>MMOL</i>	<i>Micro-elements</i>	<i>PPB</i>	<i>UMOL/L</i>
<b>NH4</b>	<1.9	<0.1	Fe	558	10
<b>K</b>	47	1.2	Mn	110	2.0
<b>Na</b>	<58	<2.5	Zn	131	2
<b>Ca</b>	40	1.0	B	108	10
<b>Mg</b>	7.3	0.3	Cu	44	0.7
<b>NO3</b>	155	2.5	Mo	<9.6	<0.1
<b>Cl</b>	<89	<2.5			
<b>S</b>	58	0.6			
<b>HCO3</b>	<6.2	<0.1			
<b>P</b>	15	0.5			
<b>K/Ca</b>	1:2	1:2			

*Note: These values serve as guidelines, not fixed targets.*

### IRRIGATION

Proper irrigation is essential to avoid stress. Drip irrigation provides the best consistency, but overhead irrigation with fertilizer can also be used. Avoid irrigating during the hottest part of the day—leaf temperatures can reach 105°F while water temperatures often sit near 75°F. This sharp difference causes temperature shock and plant stress, increasing susceptibility to Pythium, Rhizoctonia, and Phytophthora. When using overhead irrigation in warm conditions, water only in early morning or late evening.

## TECHNICAL GROWING INFORMATION

<p><b>MEDIA</b></p>	<p>Use a well-drained substrate composed primarily of white peat—Canadian or Baltic—with no more than 20% high-quality black peat. Excess black peat shrinks during the crop cycle, reducing aeration and drainage. Hellebores prefer a slightly acidic medium; target a pH of <b>5.5</b>. Maintain a <b>1:3 phosphorus-to-potassium ratio</b> to support strong shoot and flower development.</p>									
<p><b>VERNALIZATION</b></p>	<p>Proper flower development requires cool winter conditions. Maintain temperatures between <b>32–45°F</b> to ensure consistent vernalization and reliable bud formation.</p>									
<p><b>PLANTING</b></p>	<p>Whether planting in spring or fall, pot as early in the season as possible to capture the periods of active growth. Timely planting is especially important in spring, as Hellebores grow only during cooler temperatures—delayed potting can reduce finish size and lower bud count.</p> <p>For growers who prefer a shorter production cycle or wish to avoid over-summering, <b>fall planting is highly recommended</b>, often cutting crop time in half.</p> <p style="text-align: center;"><i>Recommended Planting Windows &amp; Approximate Crop Time</i></p> <table border="1" data-bbox="500 785 1406 926"> <thead> <tr> <th>LINER SIZE</th> <th>PLANTING DATES</th> <th>CROP TIME 2.5 QT-1 GALLON</th> </tr> </thead> <tbody> <tr> <td>72 Cell</td> <td>Weeks 5–15 (Once chance of frost has passed)</td> <td>40–52 weeks</td> </tr> <tr> <td>32 Cell</td> <td>Weeks 35–40 (Once temps start to cool)</td> <td>18–26 weeks</td> </tr> </tbody> </table> <p>Fill pots completely to the rim—leaving a gap increases pot-side heat and can damage roots. When transplanting liners, plant slightly deeper than the soil surface to support stronger flower bud development.</p>	LINER SIZE	PLANTING DATES	CROP TIME 2.5 QT-1 GALLON	72 Cell	Weeks 5–15 (Once chance of frost has passed)	40–52 weeks	32 Cell	Weeks 35–40 (Once temps start to cool)	18–26 weeks
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<p><b>SPACING</b></p>	<p>Frostkiss® varieties are bred for production efficiency and can be kept tight for most of the crop cycle. Their upright habit prevents stretching and allows close spacing without compromising quality. Tight spacing also shades the pot surface, keeping roots cool and promoting larger plants and higher bud counts.</p> <p>Once flowering begins in spring, space plants to approximately <b>12 one-gallon pots per m<sup>2</sup></b> to allow flowers room to develop fully.</p>									
<p><b>PINCHING &amp; HEIGHT CONTROL</b></p>	<p>Hellebores should <b>never</b> be pinched. Each leaf contributes to flower bud formation; removing foliage reduces bud count and overall finish quality. Damaged leaves may be removed prior to shipping.</p> <p>PGRs are <b>not required</b> and <b>not recommended</b> for Hellebore production.</p>									
<p><b>INSECTS &amp; DISEASE</b></p>	<p>Monitor for <b>aphids</b> and <b>spider mites</b>, the most common pests observed in Hellebore production.</p> <p>Hellebores are generally resilient, with few disease issues. The primary concern is <b>Botrytis</b> on flowers. Minimize risk by maintaining good airflow and keeping plants dry, especially during cool, humid periods.</p>									
<p><b>POST PRODUCTION/ GARDEN CENTER CARE</b></p>	<p>Frostkiss® Hellebores can bloom for up to <b>2.5 months</b>, allowing for flexible shipping schedules rather than pushing all product out at once. At retail, keep plants in shaded, cool locations to preserve flower quality, and water as needed to prevent stress and fading.</p>									

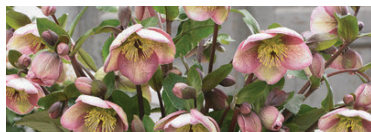


# FROSTKISS<sup>®</sup> HELLEBORE

Categories by  
SIZE × BLOOM TIME



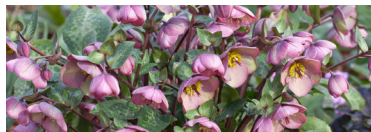
**ANNA'S RED** | PP# 24,720



**BAYLI'S BLUSH<sup>®</sup>** | PP# 27,120



**CHARMER** | PP# 29,873



**COSMIO** | PP# 36,609



**ELEMENTAL** | PP# 35,239

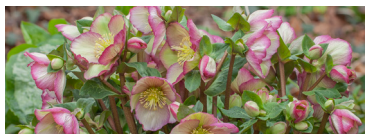


**MAGICO** | PP# 35,383



**PENNY'S PINK** | PP# 24,149

	<i>Bloom Timing</i>	<i>Varieties</i>
COMPACT	Very Early-Early	Charmer
	Early-Mid	Elemental
	Mid	Illumi Lime, Molly's White
	Mid-Late	Magico, Vibey Velvet
	Late	Dana's Dulcet <sup>®</sup>
	Very Late	Cherisa
MEDIUM	Early	Cheryl's Shine <sup>®</sup>
	Mid	Pippa's Purple <sup>®</sup>
	Mid-Late	Cosmio, Penny's Pink
LARGE	Very Early	Anna's Red, Glenda's Gloss <sup>®</sup>
	Early	Bayli's Blush <sup>®</sup>
	Early-Mid	Moondance <sup>®</sup>
	Very Late	Dorothy's Dawn <sup>®</sup>



**CHERISA** | PP# 36,161



**CHERYL'S SHINE<sup>®</sup>** | PP# 28,009



**DANA'S DULCET<sup>®</sup>** | PP# 27,970



**DOROTHY'S DAWN<sup>®</sup>** | PP# 28,010



**GLENDA'S GLOSS<sup>®</sup>** | PP# 28,008



**ILLUMI LIME** | PP# 30,807



**MOLLY'S WHITE** | PP# 25,685



**MOONDANCE<sup>®</sup>** | PP# 27,969



**PIPPA'S PURPLE<sup>®</sup>** | PP# 27,121



**VIBEY VELVET** | PP# 34,456



# HELLEBORE TROUBLESHOOTING GUIDE

<i>Problem</i>	<i>Likely Causes</i>	<i>Solutions</i>
<b>FLOWERING TOO EARLY</b>	<ul style="list-style-type: none"> <li>• Winter temps too warm</li> <li>• Clear poly allowing excess light</li> <li>• High fall fertility</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain 32–45°F</li> <li>• Use white poly</li> <li>• Reduce late-fall fertilizer</li> </ul>
<b>FLOWERING DELAYED</b>	<ul style="list-style-type: none"> <li>• Frost exposure below 32°F</li> <li>• Inadequate fall cooling</li> <li>• Low fall fertility</li> </ul>	<ul style="list-style-type: none"> <li>• Keep frost-free</li> <li>• Ensure 40–50°F in fall</li> <li>• Boost N + Fe, maintain EC 1.2–1.5</li> </ul>
<b>PALE / YELLOW FOLIAGE</b>	<ul style="list-style-type: none"> <li>• pH above 6.0</li> <li>• Low iron</li> <li>• Overwatering / poor drainage</li> </ul>	<ul style="list-style-type: none"> <li>• Correct pH to 5.5</li> <li>• Apply Fe chelate</li> <li>• Improve drainage</li> </ul>
<b>STALLED GROWTH</b>	<ul style="list-style-type: none"> <li>• Low fertility</li> <li>• Heat stress over 80°F</li> <li>• Warm root zone</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain constant feed</li> <li>• Provide 30–35% shade</li> <li>• Keep pots tight &amp; filled to rim</li> </ul>
<b>LOW BUD COUNT</b>	<ul style="list-style-type: none"> <li>• Late planting</li> <li>• Low fall fertility</li> <li>• Liners planted too shallow</li> </ul>	<ul style="list-style-type: none"> <li>• Plant earlier in spring or switch to fall</li> <li>• Increase N + Fe in fall</li> <li>• Plant liners slightly deeper</li> </ul>
<b>ROOT DISEASE</b>	<ul style="list-style-type: none"> <li>• Midday watering</li> <li>• Poor drainage</li> <li>• Stress from low fertility</li> </ul>	<ul style="list-style-type: none"> <li>• Water AM/PM</li> <li>• Improve aeration</li> <li>• Maintain steady feed</li> </ul>
<b>LEAF BURN</b>	<ul style="list-style-type: none"> <li>• Direct sun on pots</li> <li>• Clear poly in winter</li> <li>• Midday watering</li> </ul>	<ul style="list-style-type: none"> <li>• Keep pots tight</li> <li>• Use white poly</li> <li>• Avoid midday irrigation</li> </ul>
<b>WEAK / STRETCHY PLANTS</b>	<ul style="list-style-type: none"> <li>• Spaced too late</li> <li>• Low light in fall/winter</li> <li>• Warm winter temps</li> </ul>	<ul style="list-style-type: none"> <li>• Space just before flowers open</li> <li>• Follow shade guidelines</li> <li>• Maintain 32–45°F in winter</li> </ul>

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# PLANTHOLOGY

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