

Grower 101: Handling Unrooted Perennials

Last month's Grower 101 outlined how to handle bare root perennials; this month goes a little farther back in the process and describes how to handle unrooted perennials.

By John Friel

Unrooted cuttings, from domestic or offshore suppliers, are a standard product form for annuals and herbs. Now, perennial growers are using that same strategy.

Unrooted perennials are a hot topic, generating a lot of buzz at trade shows and seminars. Some growers are excited by the possibilities of a lower-priced format that slashes their input costs. Others see this new resource as a means to use more plants per pot, for a fuller look and faster bulk-up. Still others want to add more hardy plant varieties to their offering without losing valuable growing space to stock plants. Whichever scenario fits, growers must consider some very important factors before starting down the rootless road.

DO YOUR HOMEWORK

Assess your infrastructure. Are your facility and staff equipped to handle unrooted perennial cuttings? If you've been relying on cell-pack liners or bare-root clumps to finish pots, you probably haven't had to invest in mist lines, a shade cloth or coolers. You will need them to succeed with unrooted perennials.

Choose your supplier carefully. Select a supplier with a proven track record in perennials, a wide variety of offerings and a commitment to clean, healthy plants. Unit price is an important factor, but not the only consideration. Be sure to calculate the true "landed" cost to your door. Shipping, handling and customs charges vary widely between suppliers — from less than \$35 to almost \$150 per box, depending on your location and the origin of the cuttings. Ask about volume and/or early order discounts.

Sweat the details. As with any unfamiliar procedure or product, if you are new to unrooted perennial cuttings, start slow. Order minimum quantities. Monitor results carefully until you gain confidence. Keep good records of mist schedules, chemical applications, rooting hor-



mone rates and other inputs so you can refine your processes for uniform results.

BEAT THE CLOCK

On receipt of cuttings. Check box count against the packing list. Report missing boxes to the carrier or your sales representative promptly. Open all boxes immediately and check the count of cuttings against the packing list. Inspect cuttings for dehydration, heat or freeze damage, breakage or rot. Report any missing or damaged items promptly.

Most suppliers strictly limit the acceptable time for reporting problems and/or claiming credit. In most cases, this time is shorter than allowed for claims and complaints on rooted plants. Never leave boxes in sun, heat or below-freezing temperatures.

Stick cuttings ASAP. As soon as possible after you receive them, stick cuttings into a pre-moistened, well-drained, soilless medium with a pH between 5.5 and 6.5. Stick cuttings just deep enough that they are anchored by the medium, normally ¼-½ inch deep.

If you cannot stick them immediately, unrooted cuttings can be held for several days in a cooler at 35-45° F. Cuttings will deteriorate rapidly in warmer temperatures and will suffer freeze damage if held colder.

Remember, unlike liners, unrooted perennial cuttings are not self-sufficient plants that can wait patiently, with occasional watering, until you're good and ready to plant them. The clock started ticking when the cuttings were taken from the mother plant, thousands of miles from your greenhouse.

ROOTING

Use appropriate rooting hormone. Most growers use IBA (potassium salt of indole-3-butyric



Top: As roots develop, gradually increase feed for healthy green foliage; Bottom: Newly planted *Salvia* 'May Night' rooting up under mist.

acid). Application rates vary according to species and variety. *Phlox subulata* and *Salvia greggii*, for example, typically require no IBA, while *Phlox paniculata* and *Salvia* 'May Night' respond well to 1,000 ppm. There are two principal methods of application: 1) Apply as a light, uniform spray to cuttings within 24 hours after sticking. For best results, apply to dry plants and wait until spray ►

crop cultivation



Open boxes immediately, and stick cuttings promptly upon receipt.

dries to resume mist. This can be done at the end of the day as mist is reduced.
2) Dip ends of cuttings into hormone prior to sticking.

Watch light and temperature levels. During high-temperature times of the year, shade rooting benches to approximately 50 percent light levels. Maintain greenhouse temperatures of 65-75° F. Provide good air circulation to forestall fungal growth. Cooler temperatures will inhibit root growth and set the stage for Botrytis. Warmer temperatures place undue stress on cuttings. Bottom heat (root zone heating) is generally preferred over other methods.

Minimize wilting during rooting. High humidity levels must be maintained in your rooting space to keep cuttings from dehydrating. This requires frequent misting, not just watering.

INSECT AND DISEASE CONTROL

Practice good sanitation. The high humidity level required to keep cuttings turgid while they are rooting can also create ideal conditions for fungal and bacterial growth. Good cultural practices and a clean, well-ventilated growing space is your best defense against disease. Botrytis, the chief fungal threat, thrives in moist, stagnant environments. Provide good air circulation and adequate light. For additional disease protection, apply a broad-spectrum fungicide, such as Heritage, within 48 hours of sticking. Apply at the end of the day when mist is reduced. Rotate weekly with other fungicides, such as Chipco 26019, Cleary's 3336, Medallion or Pathguard.


Insects. Fungus gnat larvae pose the biggest threat to good root development. If you see adult fungus gnats around your cuttings after sticking, their larvae are probably in your medium, feeding on emerging roots. When necessary, drench with appropriate larvicides such as Adept, Citation, Distance, Duraguard and Gnatrol.

Aphids can also occur during rooting. Useful pesticides include Azatin, Botaniguard, Decathlon, Duraguard, M-Pede/Insecticidal Soap, Marathon II, Mesurool and Talstar GH.

Before using any pesticide, be sure it is registered for use in your state, and always follow label instructions.

FINISHING

As plants develop root hairs, usually within 7-10 days, gradually increase the intervals between mistings. Most varieties are rooted within two weeks. Apply liquid fertilizer once or twice weekly, at 125 ppm total nitrogen.

When root systems are self-sufficient, your new plants are ready to transfer into finished containers. Fertilizer and light levels should be increased. A good all-around guideline for most perennials is a 20-10-20 fertilizer at 300 ppm. 

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