
SEASONALITY

- Tropics
- Temperate climates
- Northern versus Southern Hemisphere
 - Seed production
 - Growing and dormant crops

Typically stock plants will produce at high levels when the cutting material is needed the least. For this reason we look to the opposite hemispheres on many of the products that we grow. If peak usage of cuttings is in the spring we can some times tailor-make the stock to produce high yields when they are needed the most. Seed production from South America is opposite North America. We are therefore able to utilize fresh seed year round, thus improving our yields, consistency, quality, and dependability.

TRANSPORT LOGISTICS

- Temperature-controlled post-harvest using precoolers, temperature controlled trucks.
- Airlines for quick transport.
- Working closely with U.S.D.A. to meet all requirements.
- Live computer control for shipment status.

Epimedium: Back to Basics®

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INTRODUCTION

Propagating a new plant is just as challenging as remembering how to produce more familiar plants on a daily schedule. When learning a new plant, I try to keep the concept basic and true to how the plant grows in nature.

In Spring 1995 we started growing *Epimedium*. It was not until 1996 that we started experimenting with the idea of propagation. Early production of 1-qt material was purchased in from an outside source and potted for final sale. We decided to try propagation as a means of reducing price and servicing our customer with a better quality product.

Early propagation was successful by division, but the total yields were low and the cultivars were few. We needed a project for our winter propagation schedule, and *Epimedium* was just the kind of project that could fill a greenhouse in a 2-week timeframe. Propagation and production usually occurs in late November just prior to our *Anemone* and *Astilbe* crop production in early December.

Our experimenting over the years has given us insight into which cultivars grow the best in our Mid-Atlantic location. In response to our success, landscapers have been purchasing *Epimedium* selections that will flourish and perform for many years to come in the Mid-Atlantic region.

Wholesale suppliers are very important to achieving our production goals. Quality fresh bare-root plants definitely make the best propagation material. Setting the

product arrival date is also important; our goal is late November. When the plants arrive, we count all material and immediately place the product in our cold storage unit. We hold the plant material at 38 °F until we start production.

Processing begins as soon as possible. We work on one selection at a time. The plants are unpacked in our production area, rinsed twice to rehydrate and remove the excess peat moss, and placed in crates to drain.

Epimediums are easy to divide when you know the cultivars. Here are some of my notes for identifying each taxon.

- 1) *Epimedium grandiflorum*. Pale green leaves, white flowers, tight division, 5 to 10 per clump, compact vigorous growth, May.
- 2) *Epimedium grandiflorum* 'Lilafee'. Dark green leaves, lavender flowers, tight division, 5 to 10 per clump, compact vigorous growth. May.
- 3) *Epimedium rubrum*. Small heart-shaped leaves trimmed in red, rose-red flowers, tight division, 3 to 8 per clump. Compact vigorous growth, May.
- 4) *Epimedium* × *perralchicum* 'Frohneiten'. Red foliage, yellow flowers, loose divisions 2 to 5 per clump, slow growth. May.
- 5) *Epimedium* × *versicolor* 'Sulphureum'. Large robust division, soft yellow flowers pale green foliage, 3 to 5 divisions per clump, vigorous growth, May.
- 6) *Epimedium* × *youngianum* 'Niveum'. True green leaves, white flowers, tight division 3 to 8 per clump, compact vigorous growth, May.

PRODUCTION

The following planning and plants' portions I use as a checklist for the production crew.

Planning.

- Ordering takes place in July, 500 to 700 of each.
- Choosing the most vigorous and reliable taxa is very important.
- Shipments are due to arrive in late November and early December.
- Set aside at least 2,000 ft² of greenhouse space.
- New cell pack materials on hand, 72's and 128's.
- At least 80 3-ft³ bags of Sunshine LP5 mix will be needed.
- Prepare last year's records for yield comparison.
- Confirm if liquid shade is in stock at the nursery.
- Call broker 2 weeks in advance and confirm the arrival date of the stock plants.

Plants.

- Receive plants, late November or early December.
- Immediately place in cold storage.
- Inventory boxes.
- Gather labels.
- Select first plant.
- Unpack as soon as possible.
- Rinse with water to rehydrate.
- Place into crates for processing.

- Gather proper tools.
- Refresh crew's memory on proper techniques and handling of plant material.
- Divide.
- Trim roots to fit into the cell (leave as much root as possible for plant health).
- Size and separate divisions.
- Rinse and cover till transplanting.
- Transplant into 72's and 128's.
- Cover with at least 2 inches of soil and as much as 4 inches of soil to protect all woody tissue and eyes of the plant.
- Place in a cool greenhouse, nights 38 °F and days 52 °F.
- Stock plant order minimum is 500, depends on availability.
- Each crop yield is at least 5,000 cells. This depends on the stock received.
- Every part of the plant is used; depending on the selection even the small eyes are placed in 128's (such as 'Lilafee' and 'Niveum').

Production.

- Total production usually takes 2 weeks with an average of three people working.
- Labels should be stored under the cell pack and colored labels used to identify each separate plant type.
- Gradually allow the greenhouse to warm up with the outside temperatures.
- Airflow and ventilation is very important.
- First application of shade is the last week in March, depending on the weather.
- New foliage usually occurs 2 weeks after the first crop has been finished.
- Allow for even drying of soil and spot water depending on the weather.
- Maintain a layer of shade on the house as the days increase in length and temperature. Cool soil temperature is very important.
- First application of feed usually occurs at the end of March (9N-45P-15K at 90 ppm).
- One application of Clearly's 336 to prevent disease.
- Final application of feed occurs mid April (21N-8P-18K at 120 ppm).
- First plant out of crops occurs in mid May.