

gpn

GREENHOUSE PRODUCT NEWS

Exceptional Echinacea

Inside:

National Poinsettia Trials

**Incorporating Biological
Pest Controls**

Research: Substrate Testing



gpn

The business magazine
for commercial growers

GREENHOUSE PRODUCT NEWS

20th
Anniversary

FEATURES

2010 NATIONAL POINSETTIA TRIALS

12 New Poinsettia Varieties for 2011

Which introductions will you add to your poinsettia program this year?

By John Dole and Jim Barrett

RESEARCH

16 A New Method for Root Substrate Testing

Experts test the Rhizon Soil Moisture Sampler system and compare it to other common methods of extracting solution from greenhouse root substrate

By Paul Nelson, Kay Jeong and Jonathan Frantz

GROWER 101

21 Keeping Young Plants Clean

Maintaining clean cuttings and plugs is a must for any solid pest management program

By Ronald Valentin

CROP CULTIVATION

25 Introducing Early Color at a Low Cost

Growers and retailers can benefit from an early spring color program

By Joli A. Hohenstein



ON THE COVER

An exquisite coneflower, echinacea 'Secret Joy' boasts fragrant double flowers that work well in landscapes and mixed beds. They also make excellent cut flowers. To learn more about the Secret series, turn to page 34. (Photo: Terra Nova Nurseries)

IN EVERY ISSUE

6 EDITOR'S REPORT

Echinacea Secret Series

By Dan Heims One of America's favorite natives, echinacea continue to be a necessity in any perennial collection, and new breeding has brought wonderful improvements to the straight species.

Echinacea is an All-American prairie flower that rewards its growers with an incredibly long bloom period, drought resistance, excellent hardiness, few diseases and cut-flower possibilities.

By being sterile, plants can bloom till frost. Through the selection process and tissue culture, only the best, well-branched forms are selected. These cultivars leave the old varieties in the dust, and excite the consumers with exceptional colors like hot oranges, deep magentas, corals, melon shades and an assortment of yellow shades. These are hot plants — in high demand at nurseries across the United States and Canada.

Variety Information

Some of the hottest-selling coneflowers on the market today have double flowers. All the plants of the Secret series produce large, 3½-inch double blooms on strong plants with a medium habit. The color doesn't fade like other echinacea on the market. With a compact, multi-branched habit, you get more flowers per plant, which makes the

growers happy with a fuller pot and the consumers happy with a great show. The double, anemone-like flowers have long-lasting color and can be used as a fragrant, cut flower.

The series has the following traits:

- 'Secret Desire' — 26-inches tall with multi-colored blooms (peach, orange, pink)
- 'Secret Joy' — 28-inches tall with light-yellow blooms
- 'Secret Lust' — 21-inches tall with red-orange cones and carrot-colored rays
- 'Secret Passion' — 27-inches tall with salmon blooms with lighter rays
- 'Secret Pride' — 28-inches tall with a light-yellow cone and white rays
- 'Secret Romance' — 29-inches tall with a salmon-pink cone and lighter rays

Plug Culture and Finishing

Growers are legitimately concerned over the cost of premium, virus-indexed plugs, but by following a careful, formulaic program, success can be had. Problems with overwintering older varieties have to



'Secret Pride'

do with overwatering or overpotting. It is imperative that some varieties have a dormancy period before blooming to build up reserves. Once past the critical first winter, plants will give the grower and the consumer excellent results. It is always recommended to plant echinacea plugs as soon as possible once they arrive at your nursery. Although they are not as sensitive as most seed grown or vegetative propagated annuals, holding them in plug trays too long may result in stunted, prematurely budded plants.

Echinaceas tolerate a wide range of soil types, but all soils must have good porosity and a pH over 5.0 (5.8 to 6.3 would be best). Avoiding regular use of ammonium-based formulations, liquid-feed regimens of 50 to 150 ppm in a 15-0-15 formulation are good for growing plants. Please note that this is quite a low rate. If you use time-release fertilizer, use it in a soil mix at 1 pound nitrogen per cubic yard of mix. Overwatering is probably the number-one cause of death in echinacea plants; they must dry out between waterings.

Plants started in the fall (September or October)

from a 72-cell size would need to be bulked up for over-wintering (in a 41° F house) in a 2½- to 3-inch container size or equivalent cell pack. Do not bury the liner below the soil line at transplant — this will result in crown rot and more than likely will destroy the plant. We recommend rooting the liners into gallon containers at a temperature range from 60 to 70° F. Once the roots reach the sides of the pot, the ideal growing temperature for growing/holding is 65 to 68° F. Night temperature can drop 10 degrees.

A vernalization period of at least 10 weeks of temperatures below 41° F is required for best flower production. Flowers will appear when day lengths of 14 hours occur. No pinching is required.

Light levels should be in the 2,500+ foot-candle


range. These can be quickly finished when potted on, after growth starts in the spring. This is not recommended for Northern growers without heated overwintering facilities. Plants started in the spring or summer during rapid growth can go directly to their full-size container as long as careful attention is paid to the planting depth and crowns are not buried. Normal cautions will apply to overwatering small plants in large containers. Caution is also needed when applying slow release fertilizers as a top dress to ensure that the fertilizer does not settle around the crown of the plant. Don't use a quick-release form as it can damage the roots. Use your EC meter to determine if levels are too high. EC of 0.5 to 1.0 is preferred. Plants grow best at 65 to 68° F. Growers need to allow 14 weeks from vernalization to full flowering. Plants grown in the high 70s will suffer from stretching and non-uniformity. Echinacea are intermediate day plants preferring 14 hours of light to bloom. Night interruption or supplemental light can achieve this period.

The echinacea Secret series were bred to be full, landscape-sized plants. In the event that PGRs are required, our customers have had success with

B-Nine (daminozide) or Alar Cycocel (chlormequat chloride). Label rates are sufficient. PGRs are applied about a month after plugs are transplanted.

Pests & Diseases

Echinaceas are relatively pest and disease free. In poor conditions, they can be susceptible to foliar pathogens like powdery mildew and Botrytis. Since echinacea should be grown relatively dry, the best defense against these pathogens is to constantly monitor your irrigation practices, always making sure to lean towards the dry side. Having a healthy growing environment complete with good air circulation is highly recommended. Root rots have been addressed by good cultural practices.

Aphids and mites are drawn to echinacea but can be treated with insecticidal soap sprays, applied three times at a five to seven day interval. Some growers use Marathon or Flagship 25G systemic insecticides as a preventative during active growth. 

Dan Heims is president of Terra Nova Nurseries. He can be reached at dan@terrannovanurseries.com.



'Secret Lust'