

# Technical Guide

## *Echinacea hybrid*

### 'Cheyenne Spirit'

#### TRANSPLANT LINERS

**Pot Size:** Quart or 1-gallon with 1 ppp

**Media:** Porous soil with good drainage

**Vernalization:** Vernalization trials are executed by putting cell flats in a cold greenhouse set at 38° F (3° C). Fluctuations in temperature occur based on natural day and nighttime temperatures and conditions in Lancaster, PA.

**Vernalization Trial Results:** Vernalization is not required for flowering. According to PanAm, vernalized plants will flower about 2 to 3 weeks earlier after 10 weeks of cold.

#### GROWING ON

**Media pH:** 6.0-6.5 according to PanAm

**Media EC:** 1.5-2.0 mmhos/cm. Avoid high salts.

**Moisture:** Grow evenly moist. Do not allow to wilt.

**Fertilizer:** Constant liquid feed of 100-150 ppm N sufficient while actively growing.

**Supplemental Lighting:** According to PanAm, several weeks of long days are required for flowering (at least 13-14 hours). Daylength of 16 hours or longer, including night interruption lighting causes flowering to be more sporadic or unpredictable. Once plants have been flowering, they will keep blooming under any daylength.

**Temperature:** 50-60° F night and 60-75° F day is sufficient.

**Common Pests:** Eriophyid mites, Aphids, Fungus gnats

**Common Diseases:** Aster yellows, Powdery mildew.

**Pinching:** Not required. Beneficial to pinch any stray or early flower stems.

**Crop Maintenance:** None

**Growth Regulators:** Not required. According to PanAm, plants are responsive to tank mix of B-Nine of 2500 ppm and 500-750 ppm Cy-cocel. Apply at the start of stem elongation. If necessary, repeat application 2 weeks later. For branching, Configure applied at 300 ppm two weeks after transplant and again 2 weeks later (4 weeks after transplant) is recommended.



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## SCHEDULING RECOMMENDATIONS

Transplant unvernalized liners in March-April for flowering plants for early summer sales. In our trials, unvernalized liners transplanted in April were in full flower in late June-early July.

## SPECIAL FEATURES

A mix of deep red, orange, purple, scarlet, cream, yellow and white. Particularly striking in mass plantings. Green Leaf Plants liners will have multiple colors per liner. These plants are first-year flowering from seed and are excellent growers with a compact habit and good branching structure.

## CONTAINER STATISTICS

**Light:** Full sun

**Flowering Container Height:** 18 to 24 inches (46 to 61 cm)

## GARDEN STATISTICS

**Light:** Full Sun to Part Shade

**Height:** 18 to 30 inches (46-76 cm)

**Spread:** 24 inches (61 cm)

**USDA Hardiness Zone:** Z4-10

**AHS Heat Zone:** H12-1



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