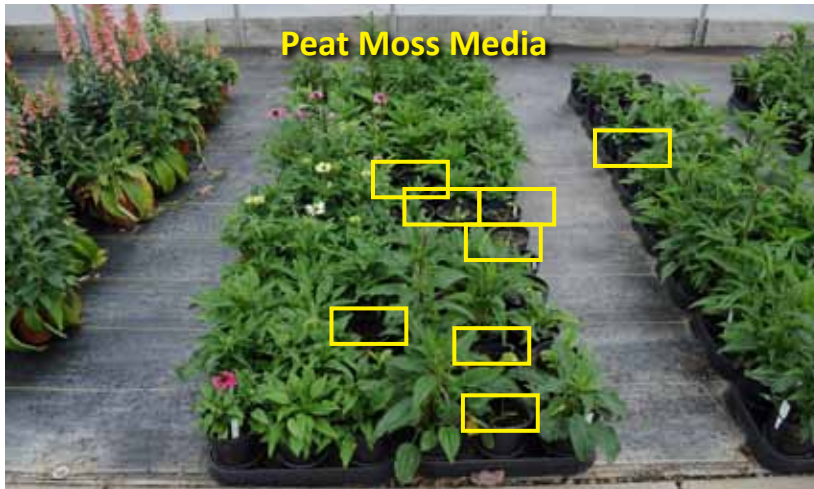


## Culture Research

# Water Management for Echinacea Overwinter Production



## Peat Moss Media vs. Bark Media



Echinacea do not tolerate excessive amounts of water. Plants are very susceptible to root rots when grown under moist or wet conditions. Keep plants on the dry side or use a well-drained media, such as bark media.

The photos above show that plant mortality was significantly reduced in bark media during overwinter production. The yellow boxes in the photo on top show plant mortality in the peat moss media.

## Culture Research

# Schedule PowWow Echinacea for Uniform Flowering



Non-uniform flowering caused from sowing too late

PowWow is an intermediate-day plant; daylength of 15 hours or longer will cause non-uniform flowering. The following sowing dates are recommended for different regions to ensure uniform flowering:

Latitude lower than N35°: no limits

N36° – N40°: no later than Week 9 (e.g., Charlotte, NC; Los Angeles, CA)

N41° – N45°: no later than Week 8 (e.g., Chicago, IL; Denver, CO)

N46° – N50°: no later than Week 7 (e.g., Portland, OR; Toronto, ON)

N51° – N55°: no later than Week 6 (e.g., Seattle, WA; Vancouver, BC)

The earlier the sowing, the bushier the plant you will produce.

If sown later than the latest sowing date above, treat the plants with short days (10 hours) for about 6 weeks after transplanting to improve flowering uniformity.

## Culture Research

# PowWow Echinacea Branching in Response to Configure



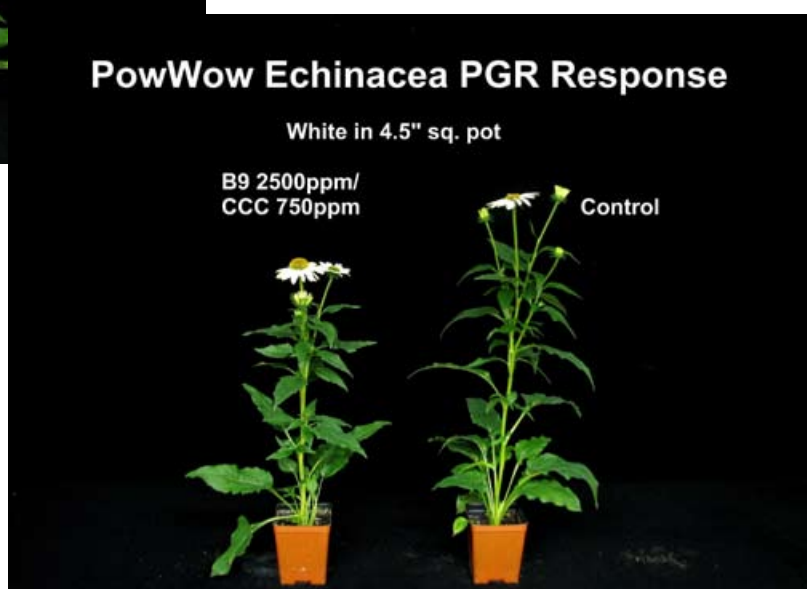
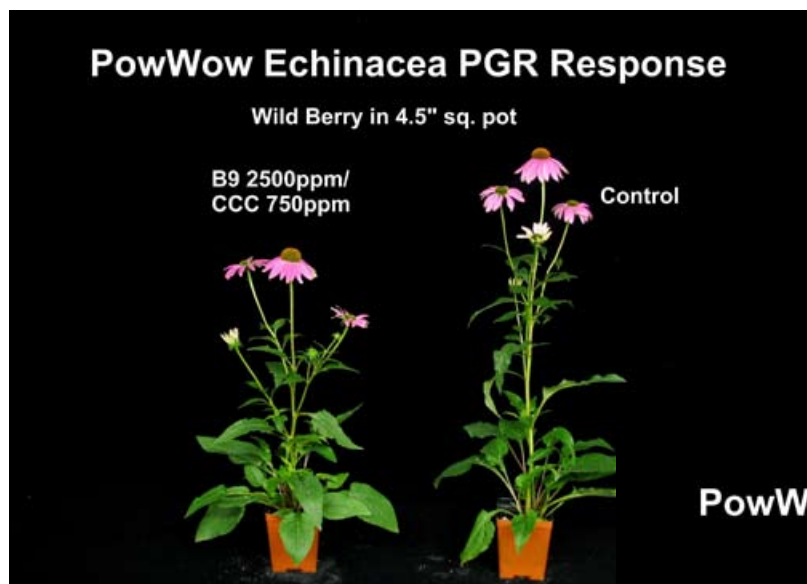
**Configure 2X 300 ppm Spray**

**Control**

While PowWow echinacea has improved branching compared with other seed echinacea, 2 applications of Configure at 300 ppm spray can significantly increase branching. The first application can be done 2 weeks after transplant and the second done 2 weeks later.

## Culture Research

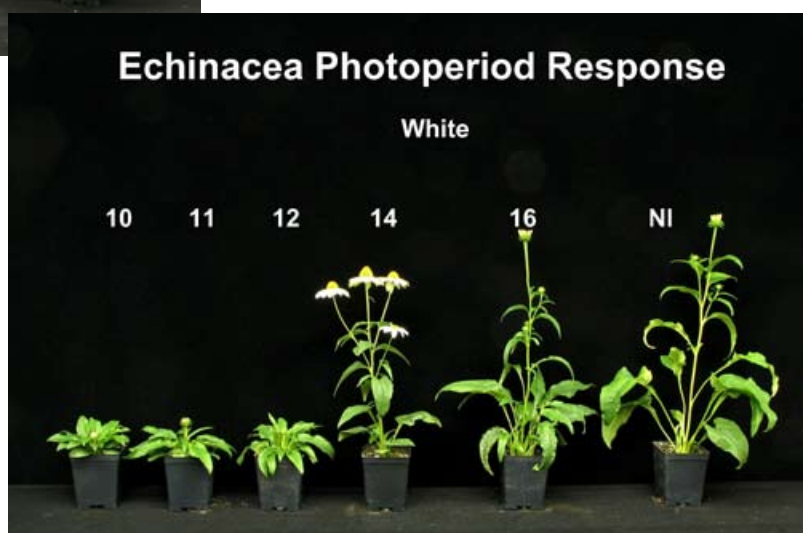
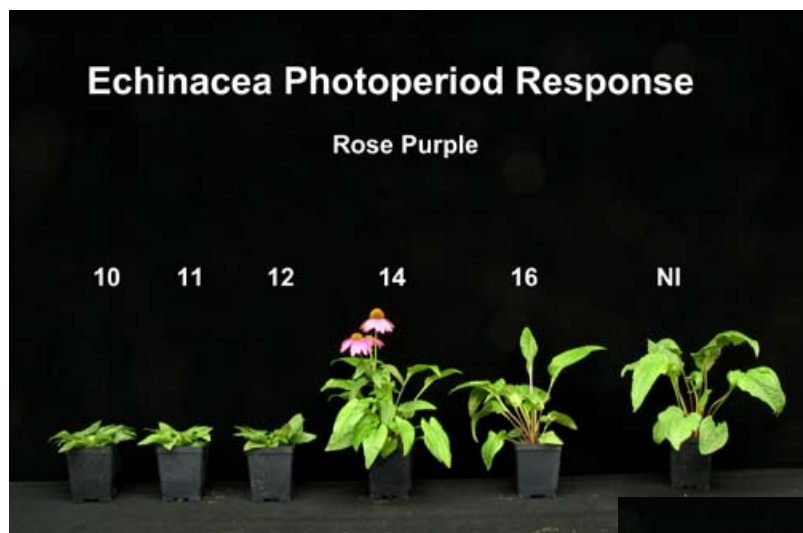
# PowWow Echinacea PGR Response



PowWow echinacea is responsive to 1 to 2 applications of a tank mix of B-Nine 2,500 ppm and Cycocel 500 to 750 ppm. The first application can be done at the point when stems start to elongate, about 4 weeks after transplant. Repeat 2 weeks later if necessary. 1 to 2 applications of B-Nine 3,500 to 5,000 ppm or Sumagic 20 ppm spray also works well.

## Culture Research

# PowWow Echinacea Photoperiod Response



PowWow echinacea is an intermediate-day plant, and flowers most rapidly and uniformly at 13 to 14-hour daylength. Under daylengths of 12 hours or shorter, flowers can be initiated but will not elongate and will develop more slowly. Daylengths of 16 hours or longer including night interruption cause sporadic or less predictable flowering.

# Culture Research

## Echinacea Variety Comparison

From Overwinter Trial



<b>Date of 50% Flowering</b>				
6/28	6/23	6/20	6/6	5/30
<b>Height (inch)</b>				
24	31	23	18	13

Compared with other commercial varieties, both PowWow Wild Berry and PowWow White echinacea have better branching with more flowers per plant, flower earlier, and are more uniform with shorter stems.

# Culture Research

## Echinacea Variety Comparison From Overwinter Trial



PowWow  
Wild Berry

Prairie  
Splendor

Magnus



PowWow  
White

White  
Swan



PowWow Wild Berry echinacea has the richest and most intensive rose color, the shortest stems and the best branching, compared to Prairie Splendor and Magnus. PowWow White is earlier and more uniform flowering with better branching than White Swan.