Establishment of Tissue Culture Plants -

Several growers have been using this system with good success.

1. Tissue culture plants rooted or unrooted, are stuck into soil boxes.

   - Stick cuttings in soil about 1/2 way deep. Mat cuttings + label.
   - Seal box with Glad plastic wrap (don't use Saran wrap). Tape shut for a tight fit.
   - Clear plastic shoe box (the type they sell at Walmart, Target, KMart, etc.) You won't need the plastic lid.
   - Most perlite layer about 3/4" thick.
   - Peat/perlite - 50/50 mix layer. About 1 1/2" thick. Moist, but not wet.

2. You should be able to get 150-400 cuttings stuck into 1 shoe box. If the soil is wet, you'll need to drain off the water. It's important that the boxes are moist, but not full of water.
3. The boxes—when filled with cuttings and sealed with clear plastic wrap—are then placed on a shelf with a shop light over the boxes.

![Shop light diagram]

Keep the shelf in a room that stays at room temperature (70-80°F) all the time. This is important!

The lights can be hooked up to a timer, giving the plants 16 hours of light per day.

4. The plants will stay in the boxes until you see rooting and/or new shoot growth. To acclimate the plants to lower humidity, just poke holes in the plastic (a few more each day for 5-7 days).

5. The plants can then be moved to the greenhouse and transplanted to pots or plug trays. You'll need to shade them for a few days. It's nearly 10 times brighter light in the greenhouse than under the shop lights.
6 Problems?

- Botrytis (grey mold) - occurs if temperatures fluctuate in the room that the boxes are kept. If it occurs use Medallion fungicide.
- Plants looked wilted - cuttings need to be misted when being stuck in boxes (a hand pump spray bottle works well). Also be sure that the plastic wrap is secure to the box side wall.
- Plants look stressed
  - is the soil mix too dry or too wet?
  - the mix shouldn't contain fertilizer
  - are the lights too close or too far from the cuttings in the boxes
  - is it too warm or too cold in the room where the plants are kept?

7 This method has worked really well for many growers that I have worked with. They like it because it doesn't require a lot of work and attention! It doesn't tie up greenhouse space.