

# Damping Off Control in Tomato Plug Plants

Dr. R.E. Pitblado  
RIDGETOWN COLLEGE University of Guelph

Success in tomato plug planting is related to near perfect seed germination and establishment of the seedlings. This can be accomplished first through the purchase of high “germ” and vigour rated seeds. There are, however, practices that you can do to help in the establishment of the seedlings to avoid losses due to damping off disease organisms.

1. Purchase a disease free commercial soilless mixture.
2. Use an appropriate dibbler to form a depression in the plug cell. This will allow for good seed “pegging” and faster establishment.
3. Top dress with medium to large vermiculite - just to cover. Excessive top dressing will encourage root growth across one cell to the next causing removal problems when transplanting in the field.
4. The use of a water tunnel is recommended to both apply the required water volumes along with applying the appropriate fungicides to control damping off and root rot organisms.

Calibrate the water volume to soak 2/3 of the way through the plug using warm water (24EC).

A suggested water volume of 600 ml per 288 cell tray (25.5 cm x 52.0 cm) is recommended, spread over the number of nozzles used. Three water nozzles may be used in sequence with the first line or nozzle designated for the application of the fungicide drench (200 ml of water per nozzle).

## 5. **USE A FUNGICIDE**

A mixture of Truban 30WP + Easout 70W is recommended

RATE: 300g Truban 30WP PLUS 215g Easout 70W per 75m<sup>2</sup>

## Sample Calculation

Seedling tray size: 288 tray = 25.5 cm x 52.0 cm = 0.13m<sup>2</sup>

Water Volume Applied = let us assume 200 ml of water flows through the nozzle applying the fungicide

Fungicide barrel size (source): 150L of water

Number of trays watered per barrel: 150,000/200 = 250 trays

Truban 30WP - 300g/75m<sup>2</sup> - required  $0.13/75 * 300 = 0.52\text{g}$  per tray  
OR  $0.52\text{g} * 750 = \underline{390\text{g}}$  per barrel

Easout 70W - 215g/75m<sup>2</sup> - required  $0.13/75 * 215 = 0.37\text{g}$  per tray  
OR  $0.37\text{g} * 750 = \underline{277.5\text{g}}$  per barrel

6. A seed germinator allows for both rapid and uniform seed germination. Time and temperature varies considerably. Tomato cultivars respond differently, affecting their length of seed germination. In general 3 days at 24EC plug mixed temperature (air temperature is usually higher) under high humidity can be considered a starting point. High humidity is important. Floors can be wetted using a lawn soaker hose set on a timer.

Inspection is critical. Allow the seeds to imbibe water, breaking the seed coat. Remove the trays once the faster germinating seeds show a white radicle (root). DO NOT ALLOW the radicle to elongate in the germinating room. Seedling will become spindly (carbohydrate depletion) and grow irregularly once placed in the greenhouse.

7. Remove trays and water lightly immediately after trays are placed in the greenhouse - ½ through the plug.