

# Basic Management Practices For Tobacco Float Systems



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Tobacco transplants grown in the float system offer several advantages over plants grown in traditional ground beds. The float system allows more control over plant growth, better uniformity of plants, easier transplanting, and less transplant shock. However, more overall management is required in the float system. Below are some basic management practices for new transplant growers, and “reminders” for more experienced growers.

**Float bed and tray sterilization**

Prior to laying new plastic for float beds, remove all trash and debris from the float bed area and sanitize all surface space with a greenhouse disinfectant containing quaternary ammonium chloride salts according to the product

**Fertilization**

There is really no need to apply fertilizer to float water until seeds germinate, which is usually 7 to 10 days after seeding. Fertilizer added at seeding increases risk of soluble salts injury, increases algae growth, and is inefficient since nutrients aren't used until germination and root emergence anyway. Nitrogen levels should be maintained near 100 parts per million (ppm) nitrogen for at least the first 6 weeks or so after seeding. Nitrogen levels can be dropped to around 75 ppm for the last week or so prior to transplanting to help “toughen” the plants before going to the field. Water-soluble fertilizers that contain mostly nitrate nitrogen should be used. Common fertilizer sources used in float beds include 20-10-20 or 15-5-15. For 100 ppm nitrogen, apply 4.2 pounds of 20-10-20 per 1000 gallons of float water or 5.6 pounds of 15-5-15 per 1000 gallons of float water. A simple formula for calculating water volume in a float bed is to multiply the number of trays the bed will hold X depth of water in inches X 1.64 (ex-



ample: 200 trays X 4 inches of water X 1.64 = 1312 gallons).  
Apply fertilizers to float water through an injection system or other circulation system to insure even distribution of the material throughout the float bed. An injection or circulation system should also be used when applying Terramaster 4EC to float water for pythium soft rot control.

**Disease control**

Monitor transplants daily to look for signs of disease and other problems on foliage and roots. Use pesticides that are registered for use on tobacco transplants grown in the float system and follow recommendations for application rate, timing, method, and any restrictions given on the product label.

**Clipping**

Mechanical clipping increases uniformity, stem diameter, and general health of transplants. Clip regularly (at least 4 to 5 times) before transplanting. Begin clipping when plants are 3 to 3.5 inches tall and remove about 0.5 to 1 inch of foliage at each clipping, being careful not to damage the terminal bud of plants. Remove all clippings and dispose of clippings outside and away from float beds. Disinfect mower with 10 percent bleach solution after each use.

It generally takes about 8 weeks to produce a transplant that is ready to go to the field. Avoid trying to “push” plants with high nitrogen levels in order to have plants ready quicker. High nitrogen levels (over 125 ppm) can result in more disease problems in the float bed, and can also increase risk of other problems in the field. For more detailed information on tobacco float systems, see the 2009-2010 Kentucky & Tennessee Tobacco Production Guide, which is available online at <http://www.ca.uky.edu/agc/pubs/id/id160/id160.pdf>.

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