

Starting The Garden With Transplants¹

James M. Stephens²

Starting vegetables such as peppers and tomatoes in the garden as transplants rather than seeding directly in the garden row is a common practice.

Advantages

When you use plants as starts, you realize these main benefits:

1. **Avoid adverse weather**—Sow seeds indoors during cool weather, then move outdoors, when weather warms up.
2. Transplants give higher early yields, and, in the case of watermelons, give larger fruits.
3. **Choose the best plants**—Since the seedbed produces many more plants than needed, only the very best plants may be planted in the garden.
4. **Obtain a small number of plants**—Where only a few plants are needed, these may be purchased from a nursery or grown in a seedbed. The cost of expensive seeds may be saved in this way.
5. **Reduce seedling decay**—The disease-free, precise environment of a planting pot is more ideal for seed germination and seedling growth than is the garden soil.
6. Seedlings thinned from over-crowded areas may be moved to fill in bare spots.

Which Vegetables to Transplant

Certain vegetables may be transplanted with ease, others require more care to transplant successfully, and some may not be transplanted except in containers. Table 1 indicates ease of transplanting.

Table 1. Which Vegetables to Transplant Without Container

Easily survive transplanting	Transplant well, but require care	Difficult to transplant
Beet	Carrot	Bean
Broccoli	Celery	Corn
Brussels sprouts	Eggplant	Cucumber
Cabbage	Kale	Cantaloupe
Cauliflower	Kohlrabi	Mustard
Chard	Leek	Peas
Collards	Onion	Squash
Endive	Pepper	Turnips
Lettuce	Salsify	Watermelon
Tomato		

Growing Transplants

Start your transplants by any of the following methods:

1. **Plant pot**—Sow seed directly into a plant band, peat pot, or peat pellet. The peat pellet is a compressed mixture of peat and nutrients about the size of a jar lid. When placed into water, it expands to form a planting pot soft enough to insert a seed. Many of those listed above in the “Difficult to transplant” category may be started and transplanted in a plant box.

1. This document is HS507, one of a series of the Horticultural Sciences Department, UF/IFAS Extension. Original publication date April 1994. Revised May 2011. Reviewed March 2014. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. James M. Stephens, professor, Horticultural Sciences Department, UF/IFAS Extension, Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

2. **Seedbox**—Sow seed into a container filled with soil or soil mixture. Use sterilized soil where possible. Most good grade commercial potting soils are sterile.
3. **Seedbed**—Sow seed into a well-prepared hotbed, cold-frame or open seedbed.

The Seedflat or Seedbox

A seedbox, or flat, is about the most practical way for a home gardener to start a small number of plants. In miniature, the seedbox serves the same purpose as a hotbed. Any small, shallow, wooden or plastic box can be used as a seedbed; however, one 3–5 inches deep, 12 inches wide and 18 inches long is most convenient. It should not be too heavy to move easily when the soil is moist. Small cracks in the bottom provide drainage. A newspaper may be placed in the bottom to prevent soil from dropping through the cracks.

Many manufactured potting flats are available for gardeners to purchase (often called “cell-paks”). These feature ideally-shaped individual plant cubicles. Take a loose, fertile garden soil from an area where vegetables have not been grown. Better yet, prepare a mixture of one part soil, one part perlite, and one part peat, or use ready prepared potting mix. Stir in 1 to 2 tablespoons of 6-8-8 fertilizer if garden soil is used. Prepared potting mixes already contain fertilizer in the right proportion, so are ideal.

Fill the container to within ½ inch of the top of the box or container, firm the soil and level with a board.

Moisten the filled flat with water and let drain.

Seeding the Flat

Broadcast tiny seed over the surface and press them gently into the surface with a board. No need to cover them. For larger seeds, make furrows in the seedbed ¼ inch deep and two inches apart; cover seed and press until firm with a board. Place a newspaper or plastic material over the box until seedlings begin to emerge. Do not let the soil dry out.

Thin plants to 2-3 inches apart when they are about 2 inches high, and transplant them to another flat, paper cups, or plant pots. Before setting plants in the garden, place them where they will be hardened by the sun and wind. Increase the time the box has full sunlight each day until plants are thoroughly hardened.

Transplanting Suggestions

Most vegetables are ready to set in the garden when they are 4-6 weeks old. Set only the best plants that are strong, stocky, vigorous and disease free. Tomato plants 4–5 weeks old grow and yield better than older transplants.

Avoid disturbing roots when transplanting. Where seedlings are to be removed from boxes or flats, block out the soil by cutting into squares. If individual plant containers are used, moisten the soil and remove from the container before placing in the garden. Some containers such as the peat pellet may be inserted into the soil.

Transplant when conditions are best—soon after a rain, when cloudy, or in the late afternoon. Protect plants 2–4 days after transplanting with something like a palmetto fan, brush or board.

When setting the plant into the soil, do not compress the soil around the roots; gently pour water into the hole to settle the soil around the roots. After the transplanting water has dried a bit, cover the wet spot with dry soil to reduce evaporation.

Starter Solution

While transplanting, a starter solution helps get the plants off to a quick start. Special starter solutions may be purchased, or one can be made by dissolving 1–2 tablespoons of 6-6-6 fertilizer in one gallon of water. A better solution would be one with a high content of phosphate such as 10-50-10. Mix at the same rate as above. Pour ½ pint of the solution into the transplant hole as the plant is set; then cover the moist soil with dry soil.