

**All Gardens  
Great & Small**  
by  
York Co.  
Horticultural Agent  
**Tom Becker**



### STARTING VEGETABLE TRANSPLANTS INDOORS

Vegetable growers starting their own vegetable transplants need to follow four steps: choose the proper seeding date, choose a potting soil or mix, know your plant's light requirements, and last but not least, what temperature do transplants require.

Transplants are often started from seed far too early. Twelve to fourteen weeks before the ideal planting date is way too long. Most vegetables only require four to six weeks. Tomatoes and eggplant require six to eight weeks. Plants sowed too early outgrow the cell pak container. As a result, two undesirable conditions occur, plants that are potbound with the roots throughout plus completely encircling the outer edge of the potting soil in the cell pak. This causes tops to become spindly and weak due to crowded compe-

tion for light.

Here's an example. It's safe to set out tomato plants in our area about May 10. Then your tomato seeds should be sown 1/4" deep in the containers about the last week of March. This will provide a young, actively growing transplant, not yet overcrowded in the container and with a rootball still expanding and growing downward.

For starting seeds indoors, avoid using soil from the garden. In its place, use a lightweight "artificial soil" that is uniform and already sterilized. Commercially prepared soilless mixes consists of peat moss, vermiculite, perlite, and pine bark. They are lightweight, free from plant pests, including soil borne diseases, nematodes and insects, and drain very well. The result is far superior to your own sterilized garden soil when placed in cell paks.

Homegrown or windowsill transplants often do poorly because of poor light. What's wrong with the light coming through my window? Unless you're raising transplants in a solar room with overhead sunlight or a greenhouse, chances are your window light, except for brief periods on sunny days, is too shady. In late winter and early spring we generally have a low percentage of sunny days in succession. Most are cloudy: many are rainy. Light from cloudy days coming through a window does not grow stock vegetable transplants!

To do a better job, use fluorescent lights places about 12" above the seeding tray. The lights should be on a timer to provide 16 hours of bright light each 24 hour period. Dual fluorescent tubes provide a stronger and more uniform light intensity than does a single tube. One cool white and one warm white fluorescent tube provide an excellent balance of usable light for seedling plants. If you prefer, you may use special fluorescent tubes developed for growing plants which have a pink or purple cast of light emittance. Research indicates that a mixture of warm and cool white fluorescent tubes is just as good.

As plants sprout and grow under these lights, the tubes may be raised so as not to produce too much heat too near the tops of the plants. Our experience indicates a 12" height from

plant top to fluorescent tube is entirely satisfactory on vegetable seedlings ranging from asparagus to watermelons!

Fluorescent tubes emit a lot of heat. To compensate for this warmth, keep plants growing on the cool side to promote stocky versus succulent growth. For the best results, turn off or turn down all other heat in the room to 55 degrees F. A cool basement is an excellent area for starting plants under lights. Avoid a warm room with its own heat source. Normal air temperatures in the 70's provides too warm an environment for seedling flats with lights.

The only exception to this

rule is for the germination process. Temperature requirements for germination are quite different from "growing on" temperatures. For example, vegetable seed catalogs suggest a germination temperature at 80 degrees F., whereas a growing on temperature after seed sprouting at 60-70 degrees. After using 80 degrees F for germination, the cooler 60 degrees is preferable to 70 degrees for growing out most vegetable transplants to keep them stocky and healthy.

Any questions regarding the above article can be addressed to Tom Becker, Penn State Cooperative Extension at (717)840-7408.

## Better Kid Care

**WEST CHESTER (Chester Co.)** — Penn State Cooperative Extension's Better Kid Care course for child care providers continues at the Government Services Center, Suite 370, 601 Westtown Road, West Chester, on Thursday, April 2, 7 - 9 p.m. the focus of this program will be "Using Art Materials."

Learn the difference between art and crafts and the different roles they play in child development. Identify how children progress developmentally in their abilities to use art materials, in-

cluding fluid media. The child view versus the adult view of art will be discussed, along with how to effectively communicate with children about their artwork.

Penn State specialists join the discussion via satellite. On-site activities will be conducted by Becky Scotland, Chester County Extension's Family Living Assistant, and Trudy Dougherty, CFCS, Extension Home Economist. The registration fee, due no later than March 26, is \$5. For further information, contact the Extension office at (610) 696-3500.

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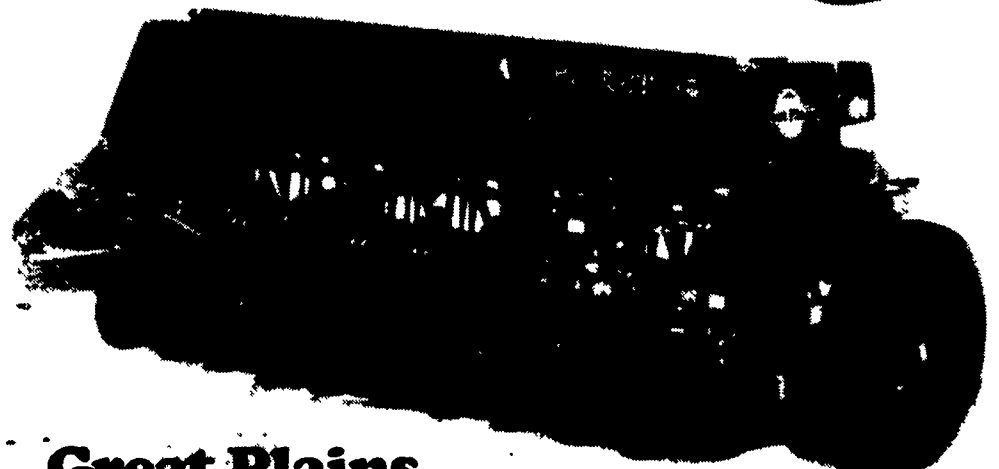
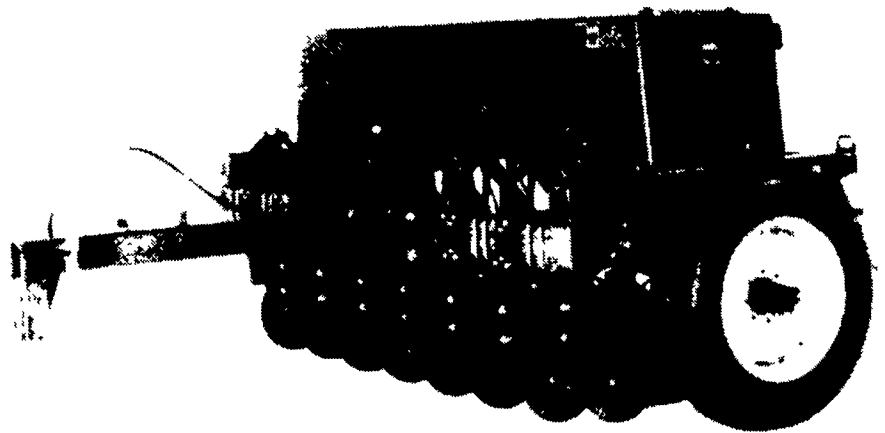
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