

Materials for Cucumber Investigation (see also Internet Resources)

Seeds. Cucumber seed packets of the variety(s) that you plan to grow should carry (stamped on packet) a germ test date no older than one year, e.g., “09/16” would be the oldest for seeds you want to germinate prior to 09/17. We investigated four types of parthenocarpic cultivars: Excelsior, Manny, Tasty Jade, and Harmonie. Do not use parthenocarpic seeds if you are growing the cucumbers in an outdoor garden—Marketmore 76, Suyo Long, and Salt and Pepper are three of many varieties that are suitable for the outdoor garden.

Plug trays or small pots and seed germination mix. If producing seedlings for transplant to larger containers, you will need plug trays (a plastic tray containing cells for planting) or individual small pots (cells/pots should be approximately 5 cm wide by 5-7 cm deep). You can obtain seed germination mix from local stores that vend garden supplies.

Heat mat. If you’re producing seedlings to transplant, cucumber seeds germinate more quickly when placed on a heat mat. Heat mats are placed underneath a leak-proof container containing the plug-trays/small pots, and should be removed once germination occurs (or the plants will get spindly). Use only heat mats that are labeled to be used for seed germination.

Lights and timer for growing in classroom. You want to obtain lights and supports that are suitable for germinating/growing indoor plants. Fluorescent bulbs with a “daylight” color temperature of 5000 to 6500 degrees Kelvin (K) work well for seed germination and growth. Once you have produced seedlings, you will want to use a timer to regulate the length of time that lights remain on (14-16 hours of light per 24-hour period is plenty). As the plants start to blossom, flower production will be accentuated by using a combination of “soft or warm”

(about 3000K) light color temperature and “daylight” fluorescent bulbs. **Safety note:**
Obtain/install tube covers over all fluorescent lights!

EarthBox or Other Indoor Growing Containers and Potting Mix. If you are growing cucumbers to fruition in the classroom, you will need a container into which you will transplant your seedlings (alternatively, you can direct seed into the container or you can do both). An Earthbox provides approximately 67.5 square cm of growing area and supports about 8 cucumber plants. You can obtain potting *mix* (don’t use “soil”) from local stores that vend garden supplies, or you can order an alternative like WonderSoil

Trellising material. To take advantage of vertical growing space, you will want to trellis your cucumbers. Some growing containers such as the EarthBox provide an optional trellis kit. See Figures 6 and 9 for the types of trellises we used for growing cucumbers in our classroom and high tunnel raised beds.

Raised Beds. For outdoor growing, you can build raised beds or order kits. **Safety Notes:** Do not use “treated wood” to build raised beds. The soil mix used to fill beds should not exceed acceptable levels for heavy metals (e.g., lead, arsenic, cadmium). If there is any doubt, it is safest to have a heavy metals soil test done by a reputable lab. It is also safest to stay away from the use of animal manure unless you can verify that it has been “hot composted” for a sufficient time and at a sufficient temperature to kill pathogens.

Resource Information on Cucumbers. Consider print (e.g., gardening books), on-line (e.g., seed vendors and the United States Department of Agriculture), and human resources (e.g. university and county Extension personal and master gardeners).