



Instructions for Building a 2-crate Plant Light Box System

These Light Boxes use two stackable plastic file crates that are cut, lined with aluminum foil, lit with a high efficiency fluorescent bulb, and stacked (after plants are tall).

Each Light Box of this type can hold either:

- 12-15 small Bottle Growing Systems
- 7 Deli-container Growing Systems (or 2-liter Bottle Growing Systems)
- 1 Quad Growing System

Note: Most file crates have slight differences in how they are manufactured; however, we have used all sorts of crates with success by making a few changes to these basic assembly procedures.



FOR EACH PLANT LIGHT BOX, YOU WILL NEED:

- Two stackable plastic file crates that measure 17 1/4" x 14 1/4" x 11 1/2" (sold at an office supply store). Notice that we like to use crates that have either a solid bottom or a solid plastic spot in the center of the long sides because this is where we will attach the light.
- Aluminum foil roll, 12" wide
- Double-stick tape
- Clear tape (e.g. Scotch Tape)
- Hacksaw-type handsaw
- Scissors
- Tin snips (optional)
- 40 or 42 watt compact fluorescent lamp (CFL) – this is a 150 watt equivalent high efficiency bulb "cool white" if available)
- Drop work light (an extension cord and light socket can also be used; however, extension cords are not allowed in many schools)
- Drill and 1" paddle drill bit or sharp pocket knife for cutting a 1" hole in the plastic crate for the light fixture
- Plastic zip ties



For more information about growing and learning with Wisconsin Fast Plants visit the Fast Plants Program of UW-Madison at www.fastplants.org.



Assembly Instructions:



STEP 1

Notice which is the longest side of your style crate that has a solid place in which to hang the light (may be the bottom, as pictured here).



STEP 2

Using a hacksaw blade, **cut out only ONE** of the longest panels from each of the two crates, making it so the two crates can stack with a single opening (see picture above).

Tin snips can be used to cut the lighter ribs.



STEP 3

In ONE crate only, cut a 1" hole for the light bulb in the center of the long side that was not removed.

This can be done with a 1" paddle drill bit.



STEP 4

Secure the foil with double-stick tape on the back side.



STEP 5

Line the inside of the two crates with foil.



STEP 6

Make a hole in the foil where the 1" light bulb hole was cut in the one crate.



Assembly Instructions (con't):



STEP 7

Gently screw the 150-watt equivalent, 40- or 42-watt CFL bulb into the hole from inside the crate.



STEP 8

Remove the cage from around the drop light.



STEP 9

Thread the drop light onto the bulb from outside the crate.



STEP 10

Use this single crate Light Box during the first 7-10 days after planting to keep the light very close to the fast-growing seedlings.



STEP 11

Stack the two crates together and connect them with zip ties when plants are tall enough to need more room.



STEP 12

Make a foil curtain to reflect light back into your Light Box by reinforcing a sheet of aluminum foil with scotch tape.

The curtain can be folded or rolled shorter for use during the first week when only the top crate is used.