

# BOTTLE GROWING SYSTEM

The Bottle Growing System (BGS) is a low-cost growing system ideal for growing Wisconsin Fast Plants. Made from recycled soda bottles these growing system are easy to build, use, and can be cleaned and reused for multiple years.



Size of Bottle	Recommended Number of Plants	Number of fertilizer pellets
16.9 ounces (0.5 liter)	4 plants	8
24 -33 ounces (-.75 -1 liter)	8 plants	12
2 liter	12 plants	16

## MATERIALS

- one water or soda bottle
- one bottle cap or aluminum foil and rubberband to cover bottle opening
- wicking material (fabric interfacing or cotton string)
- planting medium (a soilless seed starter mixture)
- fertilizer: Solid pellets (Osmocote™)—added during planting
- Wisconsin Fast Plants® seeds
- water

## BOTTLE SYSTEM CONSTRUCTION

(detailed bottle preparation instructions are at [www.bottlebiology.org](http://www.bottlebiology.org))

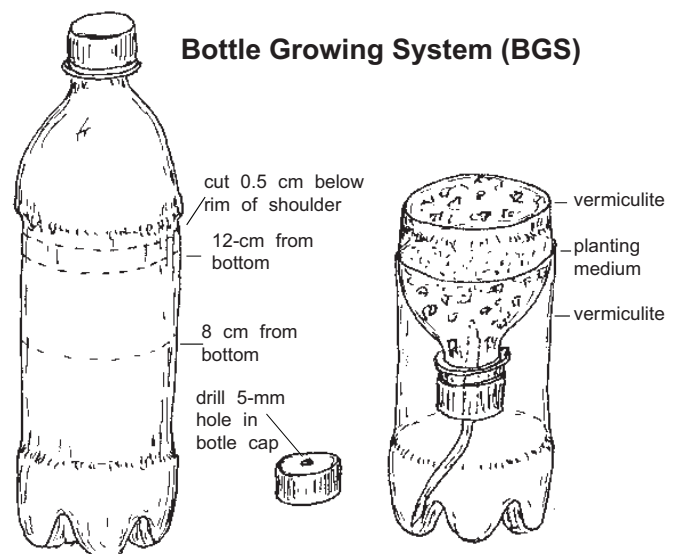
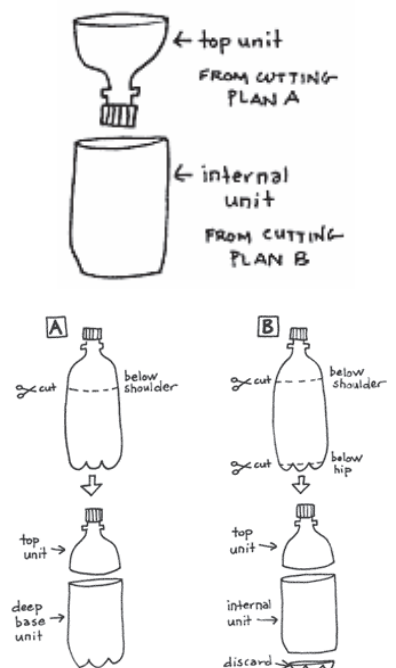
Step 1 – Remove label from the bottle. Cut bottle 1 cm below shoulder.

Step 2 – Poke or drill a 1 cm hole in bottle cap.

Alternatively, rubberband several layers of aluminum foil across the opening and poke a hole in the foil.

Step 3 – Thread a thoroughly wet wick strip through bottle top, invert top, and set into base. Wick should reach bottom of reservoir and thread loosely through cap (or aluminum foil). To be effective, the wick should run up into soil, not be plastered along a side of the bottle and not extend above the soil.

Step 4 – Fill reservoir with water.

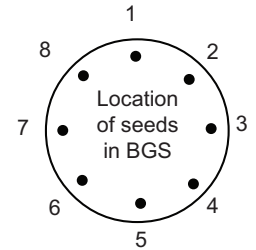


Step 5 – Moisten the potting mix if needed (it ought to be moist enough to hold a loose ball if compressed). Add growing mix until  $\frac{1}{4}$  full.

Step 6 – Scatter 12 Osmocote pellets on the surface of the potting mix then fill with additional potting mix until the bottle is filled with mix.

Step 7 – Lightly sprinkle water over the surface of the potting mix until water drips from the wick. The potting mix may drop  $\frac{1}{4}$  to  $\frac{1}{2}$  inch after watering.

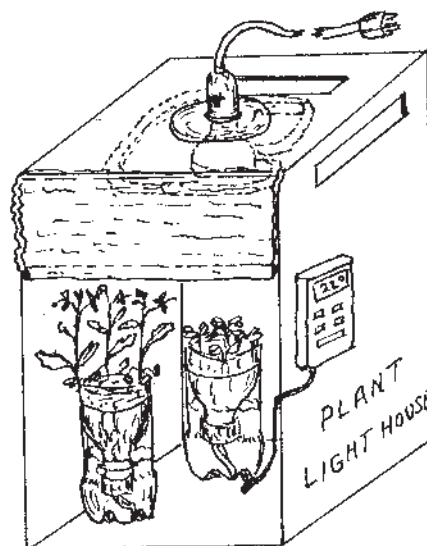
Step 8 – Place 8 seeds, evenly spaced, on top of the potting mix in a circle that is near the edge of the bottle.



Step 9 – Cover the seeds and soil with a layer of vermiculite approximately 1 cm deep. Lightly sprinkle water to moisten the vermiculite. If you do not have vermiculite, cover the seeds in potting mix.

Step 10 – Place the bottle on its water reservoir, and tape the shoulder to the reservoir to keep them together.

The last step is to place your Bottle Growing System in a lightbox with the surface of the vermiculite or soil mix approximately 10 cm from the light bulb.



NOTE: As your plants grow, you may begin to see algae growing in the water reservoir. Two solutions to this that we recommend:

1. Cut a piece of black plastic trash bag into strips the width of the height of your water reservoir and tape plastic around the reservoir to prevent light from getting to the water.
2. Rinse and clean out the water reservoirs approximately once a week to prevent a build up of the algae.