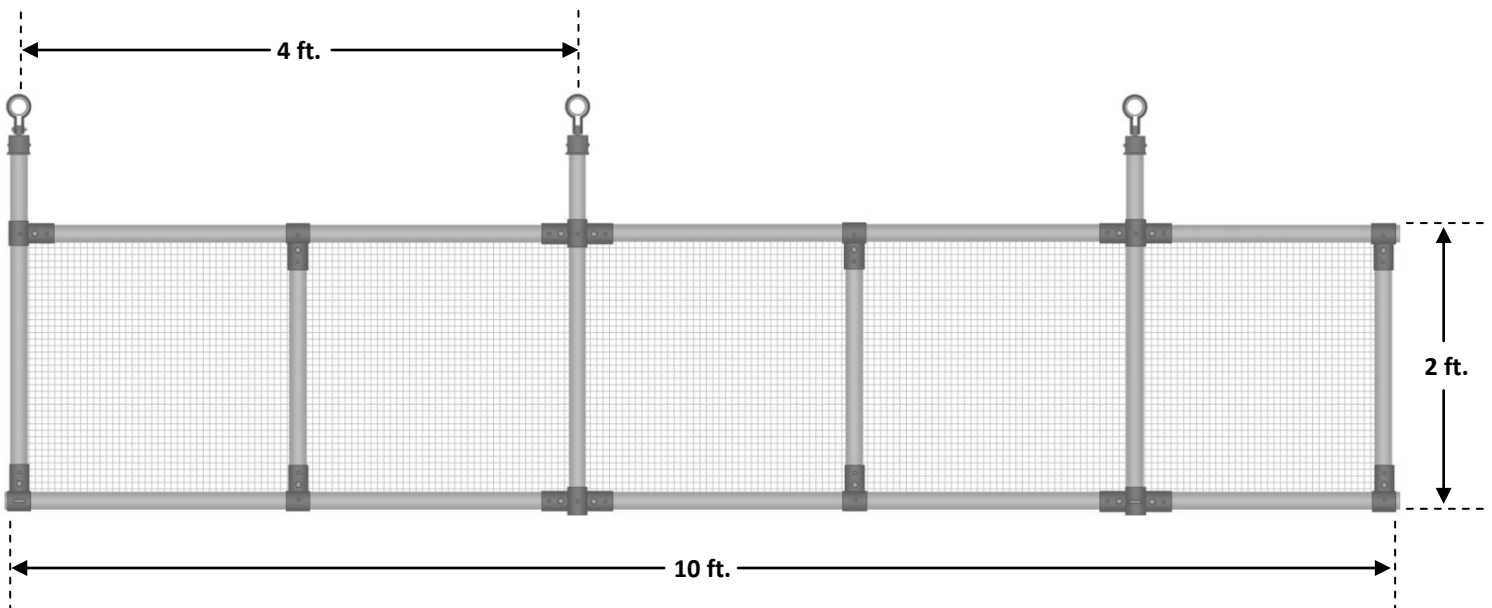




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This is a great addition to any tunnel because it allows you to use the table when you like and fold it out of the way — either up or down, whichever is more convenient. Use it for seedlings, potting, temporary storage, micro greens production, or curing garlic, onions, or squash. This one is designed in sections, so that things can be transferred from one bench to another when you need to work in the bed below it. The emptied bench can then be elevated, for easy access.



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## MATERIALS:

Please see our Seedling and Micro Greens Bench calculator in the Grower's Library on our website for an estimated cost of materials.

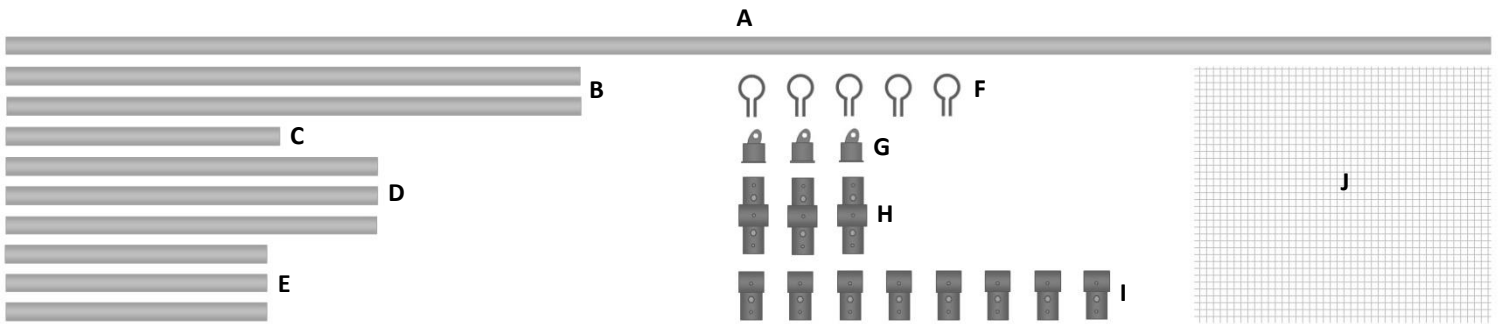
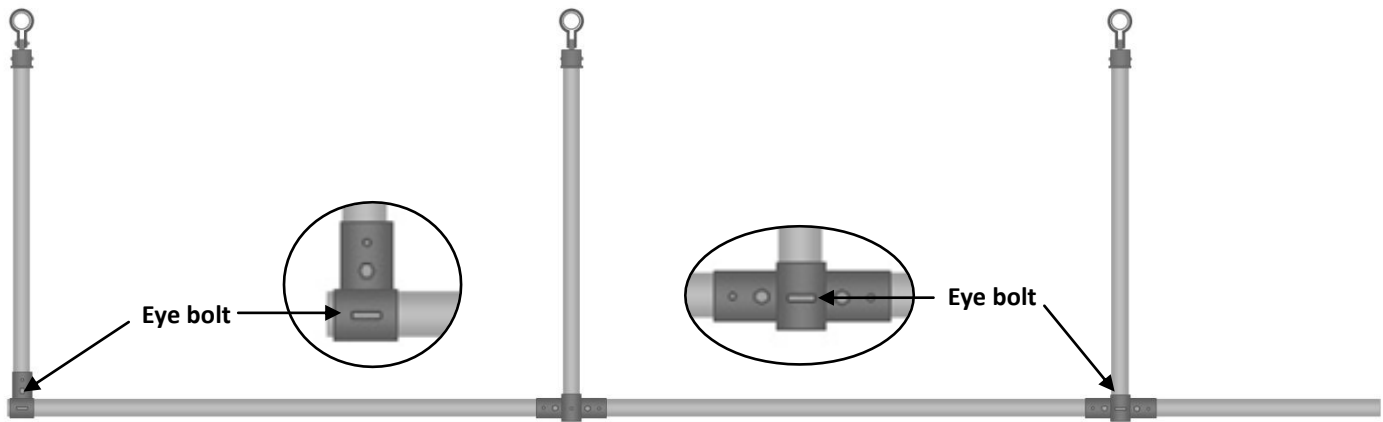


Fig.	Qty.	Description	Use
A	1	10 ft. length of top rail	Front rail of shelf
B	2	46- <sup>5</sup> / <sub>8</sub> " length of top rail	Longer rear rails of shelf
C	1	22- <sup>5</sup> / <sub>8</sub> " length of top rail	Shorter rear rail of shelf
D	3	30" length of top rail	Longer cross rails attached to the tunnel bows
E	3	21- <sup>1</sup> / <sub>4</sub> " length of top rail	Shorter cross rails
F	5	Brace bands	3 for hinges; 2 for chain supports
G	3	End caps	Part of hinge on longer cross rails
H	3	Line rail clamp	Connecting top rail
I	8	End rail clamp	Connecting top rail
J	1	Hardware cloth, 1/2" mesh, 2 ft. x 25 ft.	Shelf surface

## INSTRUCTIONS:

- Using a hack saw or reciprocating saw, cut the top rail to length as described above. Attach the 3 end caps (G) to the ends of the 3 30-inch cross rails (D) by sliding them over the ends and securing with a tech screw on either side.
- Make a level mark on 3 of your hoophouse bows at a shelf height desirable to you. This should be at least 33 inches from the ground in order for the shelf to be able to fold all the way down. Slip a brace band over the each of the 3 bows and squeeze together as best you can; vise grips can assist with pinching the brace bands together.
- Attach each of the end caps on the long cross rails to each of the brace bands install on the bows using a <sup>3</sup>/<sub>8</sub>" x 1" hex bolt and <sup>3</sup>/<sub>8</sub>" nylock hex nut. Tighten fully, then back off until the cross rail is able to pivot easily up and down. Adjust the brace bands to the marks made in step 3, and install spring clamps below them to prevent them from sliding down the bow. Check to make sure they can easily pivot all the way down and are at least 2" above the ground or the tunnel floor.

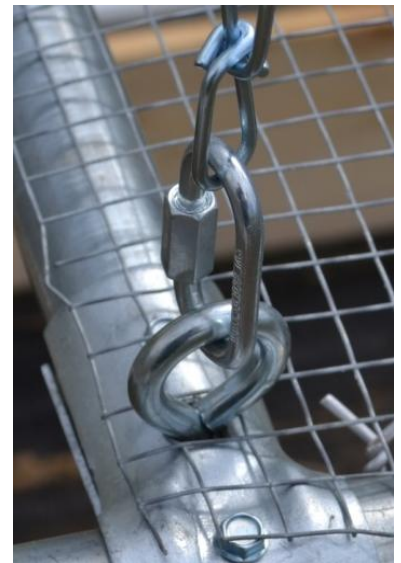




4. Attach the 10-foot front rail of the shelf to the 3 longer cross rails (D) using one end rail clamp (I) and 2 line rail clamps (H) per the diagram below. Do this by clamping everything temporarily in place and installing tech screws in the smaller holes of the clamps except for those holes indicated below where the eye bolts will go.

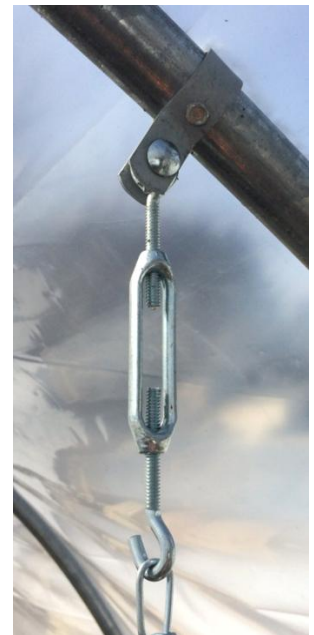
5. Predrill  $\frac{3}{8}$ " holes through the front rail for the eye bolts per the diagram above. Install eye bolts and tighten.

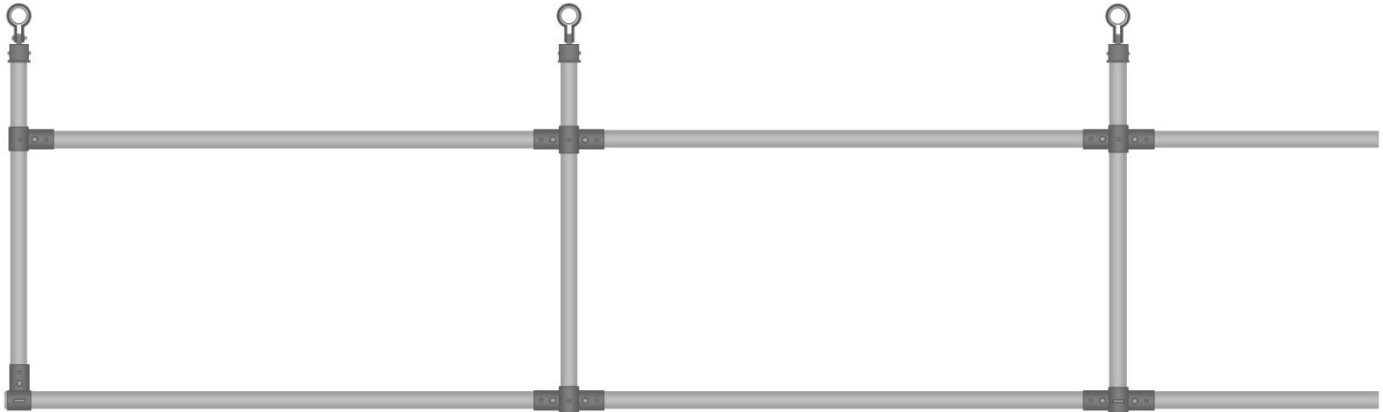
6. With a pair of pliers, bend one of the eye bolts open slightly, slip the end of the chain through it, and bend it back into place. You could also attach the chain to the eye bolt using a threaded quick link if you prefer.



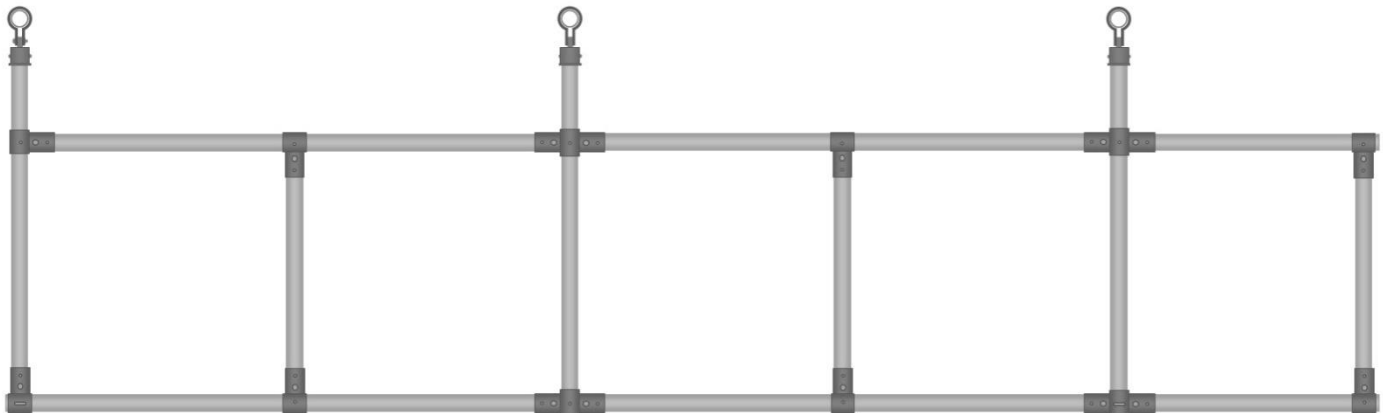
7. Slip brace bands around the bows directly above those 2 eye bolts and hold temporarily in place with a spring clamp installed just below each of them. Loosely attach the eyelet end of a turnbuckle to each of the brace bands with a  $\frac{3}{8}$ " x 1" hex bolt and  $\frac{3}{8}$ " nylock hex nut. Loosen each brace band by holding the hook and turning the frame until each is extended about  $\frac{2}{3}$  of its full reach.

8. Swivel the shelf up so it is roughly level and run the chain up to the hook end of the turnbuckle. Slide the brace band up or down the bow until the turnbuckle is positioned directly above the eye bolt and the chain is plumb. Lower the shelf down, tighten the hex bolt on the brace band, and install a tech screw through it into the bow. Then, raise the shelf back up again until roughly level and slip the nearest chain link onto the hook of the turnbuckle. Cut the excess chain off using heavy duty wire cutters, bolt cutters, or a hack saw. Cut off the half link left on the chain and attach the end link to the other eye bolt on the shelf as described in step 7. Run the chain up to the second turnbuckle and adjust the second brace band so that the chain is plumb, tighten the hex bolt, and secure to the bow with a tech screw. Then slip the chain over the hook of the turnbuckle and cut the excess chain off.





9. Attach the 2 longer rear rails (B) and 1 shorter rear rail (C) to the 3 longer cross rails (D) using 1 end rail clamp (I) and 2 line rail clamps (H) per this diagram. Position the rear rails using the shorter cross rails (E) as spacers between the front and rear rails. Clamp everything in place, and adjust as necessary, using the wire mesh roll to spot check shelf width. When you are satisfied that everything is aligned correctly, install tech screws in the smaller holes of the clamps.



10. Attach the 3 shorter cross rails (E) using 6 end rail clamps (I) per this diagram by clamping and installing tech screws.



11. Roll the wire mesh out over the shelf frame and use clamps to hold it in place.

12. Using the large square holes on the installed rail clamps as a guide, predrill through rails with a 5/16" drill bit. Install a 5/16" x 2" carriage bolt through each with a nut, and tighten. Try to catch the mesh with the carriage bolt heads wherever possible.

13. Secure the mesh to the frame using the 11-gauge aluminum chain link ties by inserting them through the mesh, wrapping over the rail, and twisting together below. Cut the mesh to length at the far end using wire cutters or sheet metal shears and finish securing with the aluminum ties.

14. Using a long bubble level, adjust the turnbuckles until the shelf is level. Install tech screws through the three lower brace bands on the bows. Unhook and lower the shelf down as necessary, but be careful not to move the spring clamps holding the brace bands up. Remove the spring clamps when finished.

15. The shelf is now complete.





#### OPERATION:

16. **To lower:** Simply unhook the chains from the brace bands and lower the shelf down until it is vertical and against (or almost against) the tunnel ground posts.
17. **To raise:** Grasp the upper part of one of the chains and pull up on it while pulling up near the center of the front rail, and slip the chain at its shortest length possible over the turnbuckle's hook. Repeat for the opposite chain. If this will be up for some time and you don't want it to fall if bumped, you can tighten the turnbuckles to secure it in place.



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