

NOTES

1. Do not use treated wood around garden edibles. If using untreated wood is a problem, consider the foundation mentioned in #2 below.
2. Foundation option: If a "raised bed" approach is not necessary, eliminate the 2x6's. (the plastic will be more at risk to damage from tools and the conduit ends.)
3. Snap clamps can have fairly sharp points at their corners. Consider filing just the points down so they are not so likely to puncture your plastic when putting them on.
4. Where relevant: Keep snow pulled away from the base of the walls. While it will tend to slide down off the walls, accumulation can build up to a point of pushing or collapsing the ribs inward.
5. Removing the plastic is generally recommended in summer. Normally the wind, sun and rain are good for the soil and plants; it also saves some wear on the film. Doing this while the ground is moist is easier than when dry.

Add'l Building thoughts...

1. Higher built houses give more headroom- the trade off is more heat rising further from the plants on the ground. Putting more layers on is an option- floating row cover is very helpful to trap heat at ground level.
2. Heat storage can be included such as using 55 gallon drums filled with water. Check for recycled ones, both plastic and metal. Be careful what was in them, and avoid the toxic ones.

3. More sophisticated designs could include insulation for the north wall and placing insulation around the perimeter. Straw bales, fall leaves piled and secured, or foam (possibly recycled from waste at building sites) are examples. Attaching the greenhouse to your house or other building is another way to buffer one side, taking advantage of a protected microclimate. Try to maintain your solar access though.

4. USE OF PLASTICS:

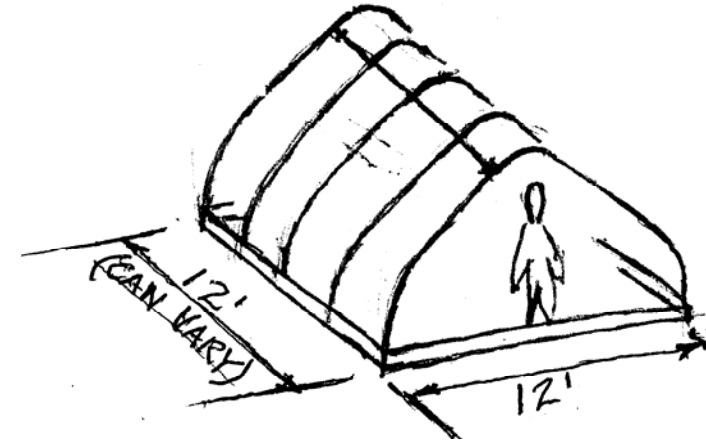
This design is suited where quick, less permanent and mobile plant gardening and protection is desired. Renters for instance often do not have the ability to build more permanent structures. The use of plastic, while not ideal, is also weighed against other petroleum consumption such as the fuel used to transport food from such places as California and even China to many parts of the US. The ability to grow your own food, to better affect the soil and plant health, to harvest and consume fresher produce, these are seen as strong benefits to this solution.

Contact Information

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A SIMPLE GREENHOUSE BY

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CHARACTERISTICS

- Low cost- 12 ft x 12 ft less than \$200.
- Can be temporary and portable; potentially good for renters, with no permanent foundation. Can be dismantled and taken with you.
- Extends the growing season- some plants may be harvested in winter.
- Greater control over soil and plant health and harvesting of fresh food.
- Can be very enjoyable on sunny days when outside is still cold.

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HELPFUL TOOLS

Tape measure, drill, bits, wrench, saw, razor knife/scissors, shovel... & plants

PARTS

- (12) 3/4" X 10 ft gray plastic elec. conduit
- (5) 3/4" 90 degree gray electrical elbows
- (2) 1-1/4" (inch and a 1/4) x 10 ft gray plastic electrical conduit
- solvent glue; small can for gray conduit
- (2) 3/4" T's (see "Resources")
- approx (40) 3/4" x 4" snap clamps
- (4) 2x6x12 ft wood planks (not treated)
- (8) 3/8" x 3-1/2" galvanized lag screws, plus 8 galvanized washers
- 22 ft x 24 ft plastic (suggest 6 mil UV stabilized plastic)
- Twine or light cord

OPTIONAL

- zipper(s) (adhesive) for "door"
- small quantity sand or gravel for leveling the bottom of the greenhouse ribs
- clear mending tape for greenhouse film

RESOURCES

For plastic film, snap clamps, "T's", either locally if available or web; searches such as "greenhouse film (or plastic)", "snap clamps", "plastic greenhouse fittings"; for adhesive zippers (7 ft long or so), see local tarp resources. They're sold for dust enclosures and the like. Get one rated for cold temperatures for your area.

PREPARATION

1. RIBS: Glue 3/4" x 10 ft conduit (large end) onto small end of 90 degree elbows (5 needed)
2. RIDGE POLE: Glue large end of 3/4" x 10 ft conduit onto small end of another 10 ft length. From small end of first length, measure 11'-10" +/- and cut. Important: both ends are now small.
3. FOUNDATION TUBES: Cut 1-1/4" elec conduit into 17" +/- lengths. (10 needed)

4. Slide 3/4" "T" onto small end of 3/4" x 10 ft elec conduit. Leave about 2" of conduit showing (2 needed, end ribs only). If "T" is tight, use lubricant (soap), pliers, sand or file roughness off, etc.

ASSEMBLY

1. Assemble 2x6x12's into square base, 2 lag screws and washers per corner. Dig holes and install 1-1/4" foundation tubes, 5 along each side wall at 3 ft apart spacing. See fig. #1 Note: the foundation tubes are open their whole length.
2. Insert the 3/4" conduit ribs into the 1-1/4" foundation tubes, with elbows on one side, and the large ends of 5 others (2 have "T's") on the other foundation side. The "T's" are the outside ribs and face each other. See figs #2 & 3

3. Install ridge into "T's", laying on top of interior ribs (tie the joints) Figs 2 & 3
4. Plastic: 14 x 24 ft piece covers main ribs (bury side wall edges into ground). Put a few snap clamps temporarily on end ribs only.

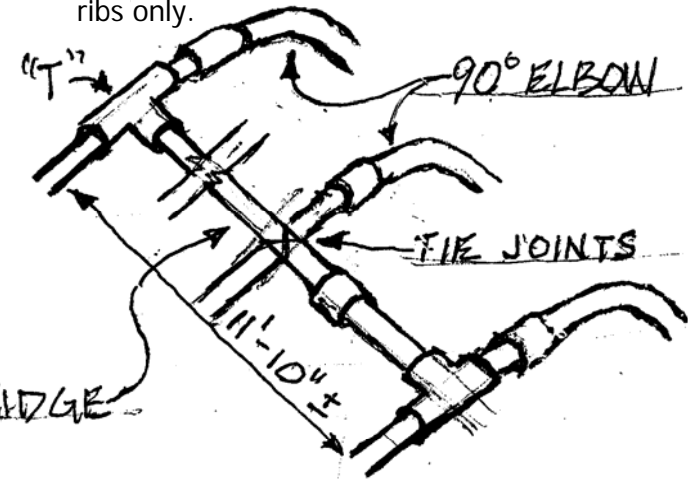


FIG. 3: DETAIL - RIBS & RIDGE (NOT ALL SHOWN)

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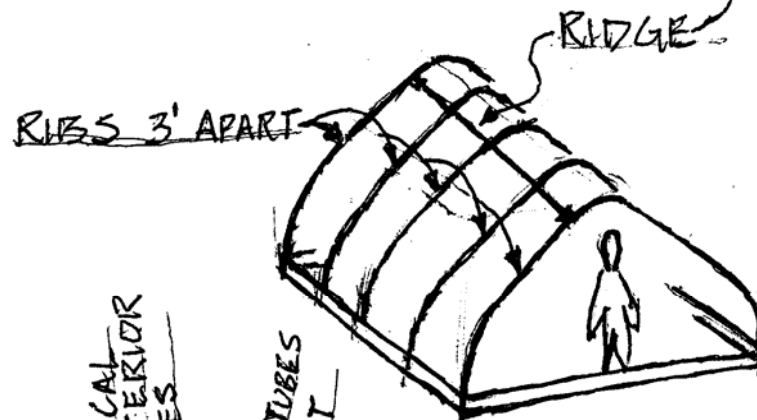


FIG. 2: BASE, RIBS & RIDGE

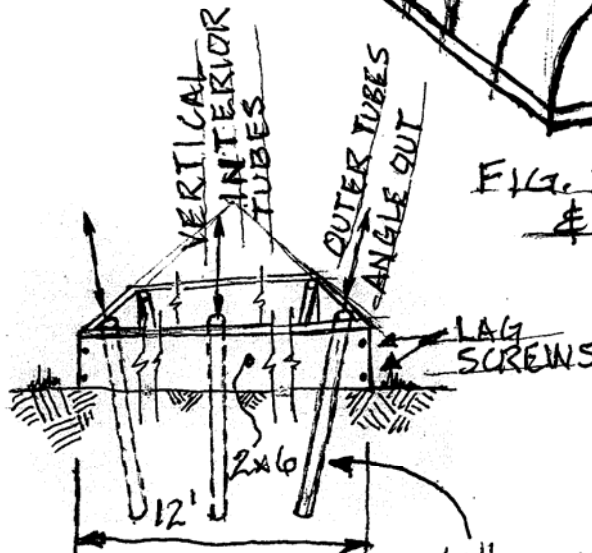


FIG. 1: 2x6 BASE & 1 1/4" x 17" FOUNDATION TUBES

5. End walls and door: Install end wall plastic (see diagram below for diagonal cut needed in 8 x 24 ft plastic). Slipping end wall plastic under main roof can help shed water and wind. Install remaining snap clamps (end ribs only), zipper /door as desired.

