GREENHOUSE CONSTRUCTION

HANDY HINTS

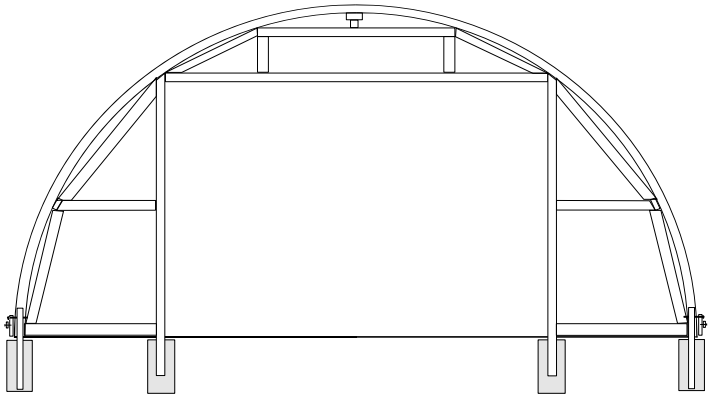
The hints below refer to a low cost PVC pipe structure construction.

To enable a grower on a limited budget to get started with growing tunnels, we have provided these construction hints as a guide and starting point. These are not provided as engineering drawings, and are not suitable for any permit requirements. However, once any local body bylaws for temporary structures have been met, the grower can use this type of structure for many years to produce excellent results.

Choice of materials.

You can use White PVC pipe in either 32mm or 40mm diameter in 6 metre lengths and while this can be joined using the socketed ends to form wide houses, the grower may wish to start with smaller houses utilizing the 6m length pipe available. This will make a lower narrower structure and will not require the expense of making a larger structure more wind resistant.

The pipes and baseboard are fitted together using U bolts and nuts. To ensure longitudinal stability, a 25mm x 50 - 100mm timber should be fitted under the pipe using metal pipe clamps and joined to each frame down the length of the structure. If side vents are required a similar timber should be used approx 1 metre up the side and down the length of the structure. This will allow the cover to be battened at this point and vents made to fill the space below. Diagonal bracing, either in timber or metal pipe at the ends as in Drawing 2, will give extra strength to the ends and brace them for cover tensioning.

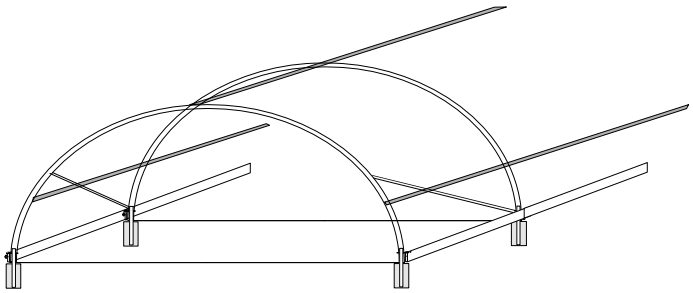


Drawing # 1

showing suggested method of framing ends of tunnel house. Doors can now be built in if required. This also allows cover to be fixed to timber using battens etc.

What size house will this make.

A 6 metre pipe, when bent into an arch will form a structure approx 4 metres wide x 2 metres high in the centre if the pipes are all the way to the ground. If the pipe ends are raised off the ground on poles or frames, the house can be wider and taller in the centre. Hoop spacing should be 1.2m apart. If wider spacing is required, cover tensioning between the hoops may require extra attention. Tunnel lengths of 25 metres are not uncommon. The longer structures are more difficult to keep excess heat down and additional ventilation may be required.



What type of cover should you use

A good quality UV stabilized cover such as Polycrop or Polygro plastic can be made to any size. Shadecloth covers can be used on the same structure

To ensure extra long life from the cover, self adhesive Covergard frame tape should be applied to all top surfaces of the frame where it makes contact with the film cover. This will prevent burning and damage to the cover from excessive heat buildup on the frames.

Specifications may vary from those stated in product information.

If you do not wish to frame the ends of the structure, as shown above in Drawing 1, a sheet can be made with hems and ropes in the ends to allow the cover to be fixed to the frames by pulling on the ropes once the cover has been fitted. This tightens the ends of the cover down over the end hoops and the ropes can then be tied off at the foot of the end frames. If the end is to be framed, the cover can be pulled over the ends and battened down to the timber framing all round. Framing the ends makes a stronger structure which is more stable.

Cosio Industries Ltd

P.O.Box 15014 New Lynn

27-33 Lansford Crescent Avondale, Auckland, New Zealand

Ph 09 820 0272 Fax 09 820 0274

Email : sales@cosio.co.nz Website : www.cosio.co.nz