

# Greenhouse Basics

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26 Mar 2007

## PCV Pipe Greenhouse with pitched roof

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### FINDING A LOCATION IN YOUR YARD

Normally you would start planting things in your green house in Jan. So in the early part of January, go out into your yard at 3 or 4 different times of the day and see where the sun is shining the most right then. Go out when the sun is first shining fully in the morning, then around lunch, then in the early after noon and then in the evening. Mostly look for long shadows cast by trees and note where they are so you don't have your green house in the shade 2 or 3 hours a day from a tree.

If you are building the green house at any other time of the year, no worry. It is does not weigh much and can be easily moved if you need to get it into more sunlight in January and February. That is the perfect time to plant seeds. But you can plant any time you normally plant seeds as well.

### THE BASIC STRUCTURE



I made this green house out of 2 inch PCV pipe and just put it together with normal joints. Because my little green house is so light and portable I can just move it if I change my mind where I want it. I have moved it several times.

### DOOR

I just built a wood frame out of 2 x 4's at one end and then used an old glass shower door to the door into the greenhouse.

(PUT PICTURE OF DOOR HERE)

## **COVERING**

You can cover the greenhouse with greenhouse plastic sheeting (about \$30 a roll). You can buy 4mm poly covering (that will be about \$650) and only cover it one time. Here is an example of a link where you can buy a whole green house kit using that poly covering : [www.greenhouses.com](http://www.greenhouses.com) OR.... you can buy 4 mm plastic like I did for about \$10 and replace it each season. It has to be so thin you can see through it. 6 mm is too thick. I just cover mine with new 4 mill plastic each year. It is biodegradable so it deteriorates in the sun and breaks up after one season. That costs about \$10 for the plastic for it each year. It is very inexpensive.



## **ELECTRIC POWER**

You can see here in this picture on the right hand side is a yellow extension chord going to the green house.



I have an outside plug on my house so I just used a really heavy duty industrial grade extension chord (it is about 100 feet long) and ran it in the lawn. After one or two mowings I dont have to move it to mow. It just sinks down into the turf and the mower does not bother it. THEN when I got to my garden area, I put it up on poles so I can till under it. That gives me electric power so I can run a thermostat, heat tape (in the dirt) and fans in the vents.

#### **FRAME FOR THE PLASTIC**

I lined the whole PVC pipe frame with a wood frame to hold the plastic. I put 1 X 2 wood all around it top and bottom and screwed into the PVC pipe so I could hook the plastic to it.



So I have wood at the top and the bottom and all around the ends to hook the plastic too. I put the screws from the PCV pipe side into the wood so the wood would not split from the screws.

**SECURING THE PLASTIC** Then I took an industrial stapler (not an office stapler), but the kind carpenters use, to attach the plastic. I just took an old card board box and ripped little pieces of it off and then put the staple through the card board into the wood. That way the plastic wont rip on the staple. It is sort of like a little washer on the staple.



### **INSIDE FLOORING**

Inside on the floor I put a walk (made out of PRE-TREATED 4X4's so they wont rot). When you are watering it gets a little muddy



**RAISED BOXES** I put a raised box on the South side of the walk so that the plants growing on the North side will not cast a shadow on the South side plants. The raised box is three 4X4 pre treated 10 foot pieces. I also lined the box with black plastic on the walls because last year the water just ran out the sides through the seams in the 4 X 4's. Now with a plastic lining all the dirt in the raised box will get wet. I put plants on the floor level left of the walk and as well as in the raised box. If you want more information on using raised boxes, you might want to study the Mittleider Grow-Bed Gardening. You can get his book on line at Amazon. Grow-Bed Gardening.by Jacob Mittleider (Author) gardening methodology: [AMAZON](#)



### **WEED CONTROL**

I have covered the dirt in my raised box and on the floor with black plastic. That will keep the weeds from growing. I lifted the plastic so you can see weeds were growing but they will just die with no sunlight. I also put black plastic on the ground on the left side the same way to keep the weeds from growing and conserve water. I also put black plastic on the ground on the left side the same way to keep the weeds from growing and conserve water.

### **AIR VENTS**

I have a triangle air hole at the top framed in wood at each end. Then I can cover it up or uncover it when it is cold. The plastic flap keeps the cold out but lets the hot air blow out. I cover the hole with window screen to keep the bugs out.

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### **PLANTING TIME**

I poke little holes in the black plastic about the size of a milk carton lid and plant the seeds in the little hole through the plastic. The white stakes in the back guide the beans up through the hole. The big hole in the front is where I planted tomato seeds



### **AIR CIRCULATION AND TEMPRATURE CONTROL**

On a clear sunny, warm day, the greenhouse can get up to 120 degrees inside without circulation even when it is only 50 degrees outside. So I have installed fans on the inside. At the top, there is a fan in each end to blow out the hot air in the afternoons. They are connected to the thermostaat so they go on when it gets above 90 degrees

I put an air hole at the top (with a plastic flap on the outside so on cold days the warm stays in but when the fan comes on it just blows the plastic flap up and the air goes out. I put a screen over it to keep bugs out.



There is a small fan in each end.



And right by the door at the bottom I made a little hole to blow cool air in (also covered with window screen to keep the animals out)



and I just put a normal window fan in front of that hole to blow cool air in from the outside. It is also connected to the thermostat.



### **OPEN SIDES FOR CIRCULATION AND POLINATION**

In addition to the fans, you can make the plastic so it will roll up on the sides. I just attach the plastic to the end of a 2 inch PCV pipe the length of the side of the greenhouse. Then on hot afternoons I can just roll the PCV pipe and it rolls up the plastic sides. That way the bees can get in to pollinate too.

(GET PICTURE OF PRICE GREEN HOUSE AND PUT HERE)

## **THERMOSTAT**

I bought a thermostat that will run fans in the summer and the soil heat coil in the winter. So the temperature should stay about the same all day. I bought the thermostat on line. It cost me \$40. I made 4 X plex plug that so I can plug in 4 fans, thus connecting them all to the thermostat at the same time. That is also why I use a heavy industrial grade extension chord to come to the green house so it will sure hold the power load for four window fans. If you are not sure how to do the electrical work, ask an electrician to help you. It should not be expensive.



## **HEATING THE SOIL**

(NOTE: also before you plant the seed if you want to heat the soil, go to an RV place and get a heat chord. They are like an extension chord that they wrap around water pipes to keep them from freezing I will bury it about 1 foot down in the raised box.. Then on cold nights I will plug it in and it will keep the dirt warmer. (or you can use an old water bed heater under the soil). Here is just one example of where you can buy it on line <http://plumbing.hardwarestore.com/52-299-heat-tape.aspx> or you can get it at any trailer house / RV supply store. Many large hardware stores will also carry it. A coil will be about

\$30. Some people even use old water bed heaters under the soil of the raised bed. That will cost you about \$50 or \$50 for cheap one. They are a little harder to find these days in a store, but lots of them on line. Again here is just one example I found on GOOGLE <http://www.thewaterbeddoctor.com/heater.aspx>.

### **WATERING**

I also bought one of those curly garden hoses to water with. I hooked it to the ceiling and let it dangle down. Now that hose will reach everywhere in the green house but when I let go it coils buck up and I just have a hook at the end to hand it up on.



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