

# "How to Build That Greenhouse You've Wanted Anywhere You Please"



No Skills? No Problem, You Can  
Still Build It Easy!...

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## Table of Content

1. About Greenhouse Kits
2. All About Solar Greenhouses
3. Building Your Own Greenhouse - Cold Frames and Grow Racks
4. Building Your Own Greenhouse - Greenhouse Designs
5. Building Your Own Greenhouse - Storing Heat
6. Buying a Used Greenhouse
7. Buying Guide For Greenhouse Frames
8. Choosing a Greenhouse Foundation
9. Choosing a Site for Your Greenhouse
10. Commercial Greenhouse Equipment Every Gardener Should Have

11. Controlling The Temperature Inside Your Greenhouse
12. Custom-Built Greenhouse vs. Commercially Available Greenhouse Kit
13. Different Type of Greenhouse
14. DIY Greenhouse Maintenance
15. Greenhouse Building Tips
16. Greenhouse Electrical System
17. Greenhouse Fertilization
18. Greenhouse Foundation Ideas
19. Greenhouse Glazing Maintenance
20. Greenhouse Insulation
21. Greenhouse Lighting System
22. Greenhouse Panels - What and How Important are They?
23. Greenhouse Seed Propagation Tips
24. Greenhouse Supplies
25. Greenhouse Ventilation - Vents and Fans
26. Greenhouse Watering System
27. Guide To Buying Portable Garden Greenhouse
28. How Does a Greenhouse Work?
29. How Large A Greenhouse Should You Need?
30. How To Choose Which Greenhouse Materials To Buy
31. How To Store Portable Greenhouse During Winter
32. How To Use Your Newly Built Greenhouse

33. Hydroponic Greenhouses
34. Insulating The Base Of Your Greenhouse
35. Orchids Repotting
36. Planning Your Inexpensive Greenhouse
37. Portable Greenhouses
38. Selecting a Greenhouse Design
39. Should You Build or Buy Your Greenhouse?
40. Solar Greenhouse - The Active And The Passive Solar Greenhouse
41. The Benefits of Greenhouse Gardening
42. Water and Ventilation Systems for Greenhouse Plants
43. What are the Benefits of Greenhouse Gardening?
44. Winterizing the Greenhouse
45. Growing Green House - Cheap Greenhouse

Reources

### About Greenhouse Kits

Greenhouse kits are available in different sizes, designs and forms, depending on your garden's needs and budget. You will need to know about each design to understand and pick

the right one that best matches your growing requirements. You may be surprised to know that some greenhouse kits are very affordable.

## Introduction to the Kits

Greenhouse kits provide you a finished and workable model. It is easier for individuals to get the right setup. There are a lot of DIY or do-it-yourself kits available for willing weekend warriors. You can get help from a carpenter to guide you through the entire process. Some reliable greenhouse companies provide you with technical assistance to help you through the project. You may be provided with a manual or videos to build the structure right. You should always look for a solid foundation where you are going to build your greenhouse.

## What to Buy

Look for a top quality door and frame. It is difficult to find just by looking at photos. If you want to purchase a certain kit, ask the seller to see a kit that is already set up. If you cannot view, look for other references that can provide you more information about the kit. Manufacturers generally provide several size options or you can order custom sizes on most occasions.

## The Kits

A lot of kits are made using either aluminum or wooden frames. Wood provides a very aesthetic effect but usually need a lot of maintenance. Aluminum greenhouses can be strong or fragile, depending on the model. Aluminum material can last for several decades. It, however, does allow cold outside temperatures inside the greenhouse. There may be thermal breaks done by the manufacturer to help alleviate this effect. A thermal break is described as the process of indirectly connecting the outside metal to the inner metal structures to make the internal environment warmer.

## Solar Heat

Some greenhouse kits are solar heated. This means that the setup you may buy can be more energy efficient compared to other models. You should try to choose an excellent solar design wherein the north wall is insulated. You have to insulate the foundation as well using Styrofoam measuring 1 foot deep. Use double or triple thick glazing for insulation. Seal all nooks to prevent air leaks. The doors and vents have to be caulked and weather-stripped. A number of thermal storages can work too. You have to find the right equipment and features that will give you the best warmth and temperature at the least cost.

## More Features

You can buy a number of kits that can be attached to a

structure like a garage or house. If you place the greenhouse on the south side of the home or garage, you can take advantage of solar heating. If you have a greenhouse linked or situated near the home, you can enjoy the greenhouse and find it economical to run operations.

### Compare First

Compare and review other features and options to add to the greenhouse, like vents, fans and paint options. Go for the best venting applications available, unless you are located somewhere with very cool summers. If you live in hot areas, you may find it difficult to adjust a number of things. You should choose the paint color that suits your personal taste. White reflects the longest and lasts the longest, which is why most gardeners prefer this.

Make it a point to ask the kit seller a number of things, such as the number of kits they have already sold, the warranties available, how long they have been operating and if they make the kits independently.

### All About Solar Greenhouses

Greenhouses come in a wide array of styles, types and materials. Today, people are becoming more environmentally friendly, by investing more in solar panels and energy. You will find that you can cut costs by investing in solar

greenhouses. These can be a worthwhile investment, since depend on a number of crops you grow for food.

What is a Solar Greenhouse?

A solar greenhouse is described as a structure that houses plants and collects solar energy. Solar greenhouses have a specific purpose. It can store heat, utilizing this during the night when the temperature is lower. The heat can work well during winter, cloudy days and the cold season. You can provided the required temperature to the plants to sustain growth even during the cold months. The good thing about solar greenhouse setups is that you have several options that suit your specific needs.

The Types

Solar greenhouses can stand independently. These are ideal for large production setups. The freestanding ones are excellent for commercial production. These can produce crops like herbs, vegetables, fruits and ornamental flowers. These usually appear in a couple of main designs namely the Quonset type and the shed type.

The Quonset type is described as a low-cost greenhouse. It appears like a underground pit with a tunnel and a Quonset-shaped frame. The setup has one or two layers of plastic film. This type can save you as much as 40% of heating fuel. The shed type incorporates a very long axis that runs from the east towards the west. There is a wall

facing south glazed to gather the maximum level of energy from the sun. The wall facing to the north is insulated to prevent loss of heat. The features help you determine the difference between a solar greenhouse from a traditional version.

### More on the Types

Solar greenhouses can be connected to the house if you choose the lean-to type. The attached solar greenhouse can be described as the structures that create some room that sticks out from the house. These are very good for growing herbs and transplants. The solar greenhouse can be classified as either passive or active. Either type uses various resources, but serves a universal purpose. Some places have longer cold months, so individuals have to rely on passive solar greenhouses, via an electric heating system or gas.

The plants can therefore be protected from the cold longer. You can maintain good production rates, regardless of the weather conditions. The use of heating systems of the setup can be very affordable and can be used optimally if there are crops of high value to be produced. The active setup uses supplemental energy, by transferring the solar heated air from the storage space to the other regions of the greenhouse.

### About the Design

Managing and keeping a regular greenhouse does not change much compared to the solar greenhouse. There are some features that matter, though. Solar greenhouses have oriented glazing to receive the highest solar heat, especially during winter. The materials are made to reduce heat loss. Heat storing materials are used. There is extra insulation when sunlight is absent. The solar greenhouse relies heavily on natural ventilation to cool the plants during extra hot days and the summer.

### Where Heat is Stored

The solar heat storage is the major feature when you design the solar greenhouse. There should be enough solar heat stored to keep it warm even during cold nights. The basic method used to keep the energy is to place concrete and rocks directly in the sunlight to keep the heat. Cinder block walls located at the north end of the greenhouse can be used to store heat. Dark-colored ceramic floors can be used to keep the heat. Flooring and walls not used for heat absorption needs to be colored lightly. This is done so that heat is reflected and light is properly distributed to all the plants.

### Proper Management

The amount of heat stored can be determined by the proper management of the greenhouse. The greenhouse full of structures and plants can keep heat easily. Composts can help the heat storage objectives, since these create carbon dioxide within the atmosphere. The microorganisms in the

compost give enhancements in plant production.

## Building Your Own Greenhouse - Cold Frames and Grow Racks

For homes with limited garden space and small apartments with small patios, cold frame greenhouses and grow racks are ideal. These are miniature greenhouses that are specifically designed where space is an issue or space and growing capacity are to be augmented. There are various design options that could fit an apartment or small houses. These greenhouses are designed as attractive additions to patios and walkways.

### Cold frames structure

A cold frame greenhouse is the simplest and sometimes the smallest of greenhouse types. Advantages of the cold frame greenhouse aside from being inexpensive are that it does not use any artificial source of heat. The heat that it uses is the heat that is filtered through the cover. The cold frame model is best at protecting and strengthening tender flowers, herbs, and plants, an interim growth and cultivation environment if you will, before they are transplanted outside. It is good at protecting sensitive plants during winter and cold months. Even when cold frame greenhouses are generally designed to be small, they are good at supplementing spaces for big projects. When not in use cold frames could be used as storage for garden supplies and seeds. Many cold frame structures are designed with

single or double poly coverings that are easy to assemble and disassemble.

Cold frame structures are designed for basic plant protection only and are not recommended in areas where there are extreme weather changes and are very windy. The cold frame model is not ideal for growing exotic and delicate plants year round as these types of plants need requirements that closely approximates its natural environment. For temporary sheltering and caring of plants however, cold frame greenhouse structures have advantages.

### The Grow Racks

Grow racks are mini greenhouses next in size to the cold frame type. For the plant enthusiast, these types are designed to be affordable, practical and low maintenance. They are constructed to be lightweight, compact and portable to fit limited spaces. Grow racks are often designed to accommodate adjustments or removal of shelves. The tiered design enables the gardener to make adjustment on the requirements of the plants that are currently grown. The steel frames of this greenhouse type are painted, and are covered with Velcro to keep the humidity and the heat in. The Velcro is fitted with zipper for adjustments in the temperature.

Greenhouse styles are variations of the greenhouses designed to fit every need and space availability. The following are examples:

### The Solar Greenhouse

There are two kinds of solar greenhouses. First is the active solar greenhouse that uses photovoltaic systems to collect solar heat and energy to maintain ideal greenhouse temperatures at night and during cold weather. Another advantage of having a solar greenhouse is that it enables the gardener to grow virtually all kinds of plants depending on its heat requirements. The other kind is the passive solar greenhouse. This type of green house is less expensive to operate. Often, barrels of water are used to store up the suns energy and then the heat is dispersed inside the greenhouse as the temperature cools down due to the principle of heat transfer.

### The Pit

The best advantage of the pit greenhouse is that it uses the wall of the ground as natural insulators. In areas that are prone to bad weather and where the wind could be high, the pit greenhouse is an ideal design. To make a pit greenhouse effective, the pit should be at least five feet from the water table. The walls are lined with wood or other materials. Drains are built to direct the water from the greenhouse and keep it dry. This design is one of the best in providing minimal heat loss.

## The A Frame

This greenhouse type called because of its slanted sides. Depending on the degree of the slant, the A Frame could handle snow and could be more expensive to heat. The A frame type though are strong greenhouse structures.

## Modified A Frame

The roof of the modified A frame is not as steep as the A Frame. It is constructed like a typical house except for the eaves. It provides more space as it has walls. Due to the design, the heating cost is less.

## The Barn

The design is very similar to the modified A Frame except for the gambrel roof. This design is efficient in conserving heat. The walls allow good space utilization.

## Quonset Hut

The structure is semi circular like a military shelter. The design makes the greenhouse easy to heat and is also efficient at heat conserving. Polyethylene and sheets of polycarbonate are used because of the hoop style structure.

It is very easy and inexpensive to heat.

### The Gothic Arch

The design is a variation of the Quonset hut except for the pointed arch and the sides that are straighter.

Aesthetically, greenhouses with Gothic arch are pleasing to the eye.

### Building Your Own Greenhouse - Storing Heat

In many greenhouse cases, heat must be stored to keep the temperature of the greenhouse as constant as possible. This is more so if plants require warmer temperatures than your location cannot provide, particularly during the winter or after the sun sets.

For storing heat, you could use water, rocks, or concrete exposing this to direct sunlight. These materials will absorb heat that you could use later. If you use bricks, tiles, or rocks remember that the darker the material is the more capacity it has for storing heat and that the heat will penetrate four inches of rocks piled on top of the other. The heat stored is then radiated throughout the greenhouse when the temperature drops. When using rocks for heat storage, use rocks that are about 4 to 14 inches in diameter as it has better surface area ratio. Pile the rocks in a wire mesh to contain them.

If you want to use water to store heat, use ordinary 55-gallon drums. Paint the drum dark and fill with water placed in strategic locations inside the greenhouse. Water absorbs and disperses heat that is ideal for greenhouse use. You could use smaller jugs and water containers. Smaller water containers are even more effective than large water drums due to its higher surface ratio that enables it to absorb heat faster. Plastic containers are good except that it degrades after a few years in contrast to glass water jugs.

Using trombe wall are also efficient ways of storing heat. If a trombe wall is required for heat storage, construct the walls facing the southern side of the greenhouse to absorb the most heat during the day. You will need about six inches of masonry constructed outside the greenhouse, connected to one of its walls. Coat the wall with a dark color to maximize its ability to retain heat. The heat conserved inside the trombe wall is then radiated into the greenhouse through small outlets in the greenhouse wall. The trombe wall is very useful especially during drops in temperature.

A variation of the trombe wall is the water wall. While the trombe wall uses masonry to store heat the water wall use water containers and water bags instead. The water-filled bags are placed between the working space and the glazing inside the greenhouse but are exposed directly in the sun's rays. The water inside the tubes, jugs and containers absorbs the heat and is dispersed slowly throughout the night.

## Buying a Used Greenhouse

Greenhouse gardens have become quite rampant nowadays as more and more people realize the potential and benefits. You will find that there are plenty of choices available when it comes to building greenhouses. You can save more by buying a used greenhouse instead. Even beginners can learn if they have true green thumbs by investing in these. Here are some tips and guidelines.

### The Sources

You can find excellent used greenhouses at local hardware stores and surplus shops. Check out the garden tools and equipment section then look for setups that may only be a few months old. You can look for local greenhouse gardeners, if you know any, then ask them about the different greenhouse setups that they have available. The good thing about used greenhouses is that these are very cheap and affordable. You can get bigger discounts by talking to people you already know and sorting out the best dealers in the area.

You can go to your local hardware store and ask if they have any used greenhouses. In most cases, you might be referred to portable types that are only 2 to 6 months old. These are usually grown by hobby gardeners and beginners who have already moved up in terms of skill and invested in bigger and more permanent setups.

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