Growing Plants In Your Own Greenhouse!

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Introduction

A growing number of people at least have one greenhouse story to share.

The idea of growing food at controlled temperatures all year round and extending the growing season have set fire to people's imaginations. No wonder the greenhouse building industry has recorded phenomenal growth.

From construction plans to tools and accessories for greenhouses, individuals are working on all fours to satisfy the increasing demands of consumers who have made building their own greenhouses top priority. This trend, which started humbly in the 70's, is now a full-fledged endeavor on the part of greenhouse entrepreneurs and "homesteaders."

One greenhouse story told by a woman was particularly moving. Months before the spring, her husband bought the materials required for building a greenhouse. His plan was to attach it to the house.

The woman had protested because he was at the same time going through radiation and chemotherapy treatments for his cancer. His wife said he should be resting instead of puttering about with shelves and glass and plastic.

What he said broke her heart. He wanted to build and finish the greenhouse while he still had some strength left, because he knew for a long time that she had always wanted one in their backyard. He said he wanted to see the joy in her face when she started planting her tomatoes or gardenias or whatever else she wanted to put there.

Greenhouses are an extension of our personalities. Most especially, it mirrors our soul and what we want from life.

And what we want is a steady supply of home-grown healthy food. During these precarious times when terrorist attacks and life-threatening calamities can cast us in the dark indefinitely, we have one thing we can

be sure of – the tomatoes and cucumbers that are in the food basket in the kitchen will tide us over should the country go on emergency mode.

The sweet potatoes and carrots will be around, and there will be more from the greenhouse to feed our families for a few weeks before things return to normal.

Not that we believe that a shortage will ever happen, the country has become much more prepared for any kind of emergency, but just on the off chance…

If greenhouses can save our lives, we may, at some point in time, consider the idea of building one soon, a first step towards self-sufficiency.

It’s not just a constant supply of healthy food that concerns individuals, but a greenhouse – and building it – can be sources of pure enjoyment and clean fun for everyone in the family. Most greenhouse owners are familiar with the advantages of growing their own plants and flowers, prolonging the growing season and the possibility of heating their home. And who knows?

They could be selling fresh produce in the communities they live in.

There are many greenhouse models to choose from. You can go from affordable to very expensive. You can build a greenhouse by using junk or a plastic film stretched over a rudimentary structure, or purchase elaborate metal and glass pre-manufactured sun-rooms.
Each of them serves the fundamental function of extending the growing season. Even the question of irrigation can be simple or complex, depending on your preferences.

Just want to make it a hobby? Why not? Homeowners attach theirs to their homes. Even schools have greenhouses built by elementary and high school students.

Finally, the wholesome taste of a home-grown tomato! Everyone knows there is a difference. But really, between you and I, it goes beyond just tomatoes.

Perseverance, labor of love and the sweet anticipation of “harvest time” are what truly matter.

Chapter 1: a Peek into a Greenhouse: a Primer

What is a greenhouse?

A greenhouse is also called a glasshouse or a hothouse. It is a structure where plants – fruits, vegetables, flowers – are grown. It attracts heat because the sun's electromagnetic radiation warms the plants, soil, and other components within the greenhouse. Air is warmed from the hot interior area inside the structure through the roof and wall.[1]

How does a greenhouse capture heat?

A greenhouse uses a special kind of glass that acts as a medium which selectively transmits spectral frequencies. Spectral comes from the word "spectrum".

[1] www.wikipedia.org

In layman's terms, a spectral frequency can be defined in terms of the following principle: any object in the universe emits, radiates or transmits light. The distribution of this light along an electromagnetic spectrum is determined by the object's composition.[2]

Therefore, the glass of a greenhouse traps energy within the greenhouse and the heat in turn provides heat for the plants and the ground inside the greenhouse. It warms the air near the ground, preventing it from rising and leaving the confines of the structure.

For example, if you open a small window near the roof of a greenhouse, the temperature drops significantly. This is because of the autovent automatic cooling system. An autovent is simply a device used by greenhouses that maintains a range of temperatures inside. This is how greenhouses trap electromagnetic radiation and prevents convection (transference of heat by currents within a fluid).[3]

[2] Ibid.

Curious about how the idea of a greenhouse came about? It goes back to the days of the Romans, who – as history annals show – were the first people to create a structure to protect plants. Using heated pits, they put up slabs of rock to form primitive greenhouses. The term "glasshouse" which is the correct name of this structure, was adopted sometime in the 17th and 18th centuries.[4]

At that time, however, the error was in believing that heat was more important than light for plants to thrive. Structures were being built to exclude the entry of light, but by the time the glass tax of 1845 was abolished, the design of greenhouses started to change.

Builders realized then that a curved roof instead of a flat one allowed higher concentrations of the sun's rays, and that by using iron instead of wood, the greenhouse

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[3] Ibid.
[4] http://www.greenhouses-uk.com/greenhouse_story/greenhouses_history.htm

could be structurally reinforced and made capable of absorbing more light.[5]

A man named Joseph Paxton, a horticulturist, appeared on the scene and introduced changes to the greenhouse design concept. He was famous for the Palmhouse at Kew Gardens which he built in 1842. It measured 110 meters long, 30 meters wide and over 20 meters high. Nine years later, he built the Crystal Palace.[6]

It has been forty years now since major improvements in materials and design have been integrated into the greenhouse, and it is now very much a feature of any home garden.

One greenhouse principle is the ability to extend the growing season. Early vegetables can be planted indoors and then transplanted when they mature. A greenhouse owner also gains several weeks to the growing and sowing period especially if there is a form of heating installed.

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[5] Ibid.

Controlling temperature, light and moisture is one of the things that greenhouse owners can do; this way they obtain the guaranteed results they want. Our science classes taught us that many plant varieties enjoy a warm, moist temperature.

In addition to extending the growing season and being able to control temperature and moisture inside a greenhouse, a gardener learns to hone his gardening skills by getting acquainted with as many varieties as he can in the greenhouse.

He may choose to specialize on one species of fruit or vegetable or flowering plant. Many have built greenhouses for the purpose of growing and preserving their orchids.

Whatever the intent is, a greenhouse will deliver hours of emotional satisfaction to owners. Imagine being able to grow juicy tomatoes or producing new kinds of plants by the simple act of propagation.

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[6] Ibid.

Don’t be discouraged by the fact that you have limited space in your garden or that is completely paved or concreted. You can still make use of limited space.

If space is a problem, there are what people call “free standing” greenhouses that take just a few square feet of space, and some can be installed on balconies or roof tops.

Today, you can choose any greenhouse frame you want, including color. If you’re not into aluminum, you can build one with a dark frame color or go for earth colors instead.

Let’s mention a few of the numerous benefits of greenhouses:

- ⇨ Control of growing conditions for plants to obtain desired results,

- ⇨ Protection from the elements and from birds and animals,

- ⇨ Facility in controlling pests and diseases,

- ⇨ Easy access by the elderly and disabled, given that greenhouses are less physically demanding than wide open crop spaces and fields,

- ⇨ Possibility of reducing gardening costs because the owner or gardener grows his own plants,

- ⇨ Possibility of widening the variety of plants for general gardening purposes.[7]

- ⇨ A greenhouse serves as an escape or refuge after a trying day.

Chapter 2: Types of Greenhouses

After you decide that you want to build a greenhouse, you have to decide next what type to build. This should not be a difficult one to address, provided you know

what kinds of plants you want to grow. You will need to answer questions such as:

- ⇨ What will my greenhouse be principally used for?
- ⇨ Do I want a large or small greenhouse?
- ⇨ Will the greenhouse be the main attraction of my garden?
- ⇨ Is my garden exposed to strong winds?
- ⇨ Are there young children or wild animals in the area?[8]

Factors such as cost and space will determine the type of greenhouse you build. If you do live in a windy area, it may be worth to spend the extra money for a solid and sturdy greenhouse. If you live near a large hardware store or a nursery, or even a do-it-yourself home center, go and visit some models. The customer

[7] Ibid.

service representative should be able to provide you with valuable information before you make a final decision.

So as not to mislead you, while there may be different types of greenhouse designs, we're talking about the same greenhouse. You get to decide which type you want it to be.

For example, if temperature is the main factor, because of the plant varieties you want to grow, then there are three types in terms of temperature control. There are also different types of greenhouses based on structural design. We'll start with temperature control factors.

For temperature control purposes, three types of greenhouses exist:

- ⇨ a **hot greenhouse**
- ⇨ **a warm greenhouse**

[8] Ibid.

⇨ **a cool greenhouse.**[9]

Hot Greenhouse

A **hot greenhouse's** inside temperature is maintained at a minimum of sixty five degrees. You can at some future date increase the temperature, but a hot greenhouse is intended for growing tropical and exotic plants. If you live in a very cold region, you will need to install heating and lighting equipment to satisfy the requirements of tropical and exotic plant species.[10]

Warm Greenhouse

The temperature inside a **warm greenhouse**, on the other hand, is at about fifty-five degrees F. At this temperature, a larger variety of plants can be grown, perhaps as many as you would in your outdoor garden.

[9] http://resources.greenhousekit.com/article/different-types-of-greenhouses.php

You may still need to resort to the use of additional heat and light during the winter months.[11]

Cool Greenhouse

A cool greenhouse (frost-free greenhouse) is maintained at a temperature ranging from forty to forty five degrees F. This temperature is ideal for growing seedlings or any plants that do not need warmer temperatures to survive. A cool greenhouse is perfect for starting your plants and vegetables in anticipation of the summer months. Generally, the use of heat or lights isn't required for a cool greenhouse.[12]

As for structure, there are generally three types:

- ⇨ **lean-to**
- ⇨ **detached**

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[10] Ibid.
[11] Ibid.
[12] Ibid.

⇨ **ridge and furrow or gutter connected**.

Lean-To

The lean-to type of greenhouse is rarely used for commercial purposes because of size restrictions, but is the most popular among hobbyists.[13]

Detached

Detached greenhouses – as the name suggests – are independent and are stand alone structures. However, they may still be attached to a work area or else provide access to another greenhouse via a passageway.

The Quonset is the most common type of detached greenhouse used for commercial production. They are built from arched rafters and have solid walls for support. Quonset greenhouses are ideal for producing

[13] http://aggie-horticulture.tamu.edu/greenhouse/nursery/guides/ghhdbk/struc.html

most crops, although the growing area is limited to the areas around the side walls, which diminishes efficiency and productivity.[14]

Ridge/Furrow

Ridge and furrow greenhouses are attached at the lower edges of the roof by a gutter. The absence of an inside wall below the gutter allows for increased efficiency. Ridge and furrow greenhouses may be built with gabled or curved arches. Gabled houses are appropriate for heavy coverings (i.e. glass, fiberglass) while curved arch houses are covered with lighter materials (i.e. polyethylene, polycarbonates).[15]

You may encounter different classifications in your readings on greenhouses. For example, another classification, which is similar to the ones just mentioned are:

[14] Ibid.
[15] Ibid.

Cold frame type

Roof cover may be poly or shade, end wall covering is either poly or rigid, available lengths come in 12 feet increments, and no gutter connections or vents.[16]

Ground-to-ground

Roof covering is either poly or shade, wall covering may be poly or rigid, lengths available in 12 feet increments, no gutters, roof vents are available.[17]

Gutter-connected, Gothic arch

Load rating may be either 10, 15 or 20 pounds, roof covering is poly, sidewall and endwall either poly or rigid, lengths available in 12 feet increments while heights available in 8, 10 or 12 feet, gutter connection and roof vents both available.[18]

Gutter-connected Cable

[16] http://www.igcusa.com/Technical/greenhouse-types.html
[17] Ibid.
[18] Ibid.

Load rating 10, 20 or 30 pounds, roof covering either poly or rigid, endwall and sidewall covering may be either poly or rigid, lengths in 12 feet increments, gutter connection and roof vents available.[19]

Gutter-connected Arch

Load rating may be 10, 20 or 30 pounds, roof covering and sidewall/endwall is rigid, lengths come in 12 feet increments, gutter connection and roof vents available.[20]

Another way of looking at greenhouse types is the material they are made of; that is, glass, fiberglass, or plastic. Each type has its advantages and disadvantages. Whatever you choose, make sure you leave the installation and irrigation systems to professionals.

Glass

[19] Ibid.
[20] Ibid.

Glass type greenhouses are the most traditional covering used. They may be constructed with slanted sides, straight sides and eaves. Aluminum, glass buildings provide low maintenance and have aesthetic lines, as well as ensuring that you get a weather-tight structure. Pre-fabricated glass kits are available for easy installation by hobbyists and amateur gardeners. They come in different models to meet budget and space restrictions.

The disadvantages of glass are its fragile condition (glass breaks easily) and high costs.[21]

Fiberglass

Fiberglass greenhouses – they are light, strong and hail-proof. Be careful, though. Low quality fiberglass will discolor, thus reducing penetration of light. Using a good quality fiberglass will however make it as expensive as building a glass one. If you decide to go

[21] http://www.envirocept.com/gh_guide/greenhouse_kits.htm

for fiberglass, go for the most expensive grade, and do not buy colored fiberglass.[22]

Plastic

Plastic greenhouses are becoming very popular for the following reasons:

- ⇨ Low cost (about 1/6 the cost of glass)
- ⇨ Absorbs sufficient heat
- ⇨ Fruits and vegetables and other plants under plastic are comparable in quality to that of glass-grown varieties
- ⇨ Lower tax liabilities

Choice of polyethylene (PE), polyvinyl chloride (PVC), copolymers of these materials, and other readily available clear films.[23]

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[22] Ibid.
[23] Ibid.

Polythylene

Polyethylene: lightweight and inexpensive. It stands up well during the seasons of fall, winter and spring, but tends to deteriorate during the summer when it gets constant exposure to the sun. It breaks down due to ultraviolet rays and the deterioration begins along the rafters and along the creases. This problem can be avoided by using UV-inhibited polyethylene, which is available in two and six ml thickness and is up to 40 feet wide and 100 feet long.[24]

PVC

Polyvinyl chloride (PVC or Vinyl) - like polyethylene, PVCs are soft and flexible. You can have transparent ones. Vinyl costs two to five times more than polyethylene. When properly installed, they can last as

[24] Ibid.

long as five years. Because it attracts dust and dirt from the air, it has to be washed from time to time.[25]

Chapter 3: Tools and Materials for Your Greenhouse

Remember that you are not limited to a certain variety of plants to grow in a greenhouse. Bear in mind, however, that your preference for certain fruits, vegetables and plants will determine the type of greenhouse you like to build. "Know thy crop" is an important factor before deciding on the greenhouse type you will install.

You will need a good soil for planting seeds. Compost, potting or gardening soil and a little sand or perlite are a good start. Read all directions in your seed packets.

Keep some of those black plastic flats that nurseries use to display their plant containers. These are useful for starting sees and transplants.

[25] Ibid.

Benches in greenhouses are essential, as they hold trays of plants that have already sprouted from seeds.

Styrofoam cups – have several of these handy. Seeds sprout quickly and once they grow large enough to move into separate containers, they can be gently lifted and transferred into ordinary Styrofoam cups.[26]

You can also use yogurt plastic cups, and large commercial type containers that can hold more than one plant. In fact, any container you can think of will be suitable.

Other materials you should have on hand are broken clay pots, cracked walnuts, marbles, charcoal or gravel. These help in proper drainage. Be sure to soak clay pots in water a few minutes before using them. This will prevent the clay from absorbing the moisture from the potting soil.[27]

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[26] http://www.backwoodshome.com/articles2/sanders67.html
[27]www.greenhouses.com/Garden_Moose/Greenhouse_Tips/Starting_Seeds_in_the_Greenhouse_/

If you want to have trellises inside your greenhouse, you can make them out of coat hangers, which you can bend to any shape your heart desires.

Herbs are perfect for keeping pests at bay. They are what one writer calls "nature's insecticides". Have a variety of them inside your greenhouse. You can make a natural insecticide by adding onions or garlic to a jar of water. Leave it for a week and spray on your plants.[28]

Other garden tools that will help you run your greenhouse efficiently are air coolers for the hot summer. This is to maintain the temperatures at desired levels. Power vents in the roof are also a good idea to release hot air that can build up suddenly in the summer.

In the winter, a good heater would be nice to warm the greenhouse. Other accessories you need are a humidifier, a CO2 generator, and a mister.

[28] Ibid.

Greenhouse lighting system.

A type of light called high intensity discharge lighting (HID) used to be employed by commercial growers in large greenhouses. However, the idea of artificial lighting to stimulate plant growth became increasingly popular.

H.I.D. lighting not only adds to natural sunlight, but can actually serve as a substitute during long winters when natural sunlight is in scant supply. They are energy efficient and operational costs are low. Here are just a few of the benefits of HID lighting:

Increases the health and strength of plants, and stimulates growth and yield rates,

Supplements natural sunlight; by using HID lighting, you also extend “day length”,

Enables container outdoor plants on decks and patios during the summer to be moved indoors during the winter,

Are definitely more powerful than conventional fluorescents.[29]

Greenhouse tables, shelving and plant holders

These are indispensable, especially when you need to work inside your greenhouse and to maximise and organize your greenhouse space. As your plant varieties grow, you will need shelves and tables and plant holders to facilitate your gardening. One popular type of bench that greenhouse hobbyists like is the cedar double layer bench. They are durable and efficient to use.

For shelves, you can opt for two and three section lengths made of aluminum.

Given that watering your plants is an essential – indispensable -part of any greenhouse gardening, a

[29]www.advancegreenhouses.com/why_use_supplemental_lighting_for%20greenhouse%20gardening.htm

good watering system is required. You can choose either the automatic or hand held watering system to make your watering needs more efficient.

For automatic irrigation systems, there are models that come equipped with an automatic drip irrigation and fertilizer system. Day or night, they regularly water the plants and adjust the flow of fertilizer. Some have a tank in which the water and fertilizer are mixed and are distributed to plants via hoses, Y-connections and drip pins.

Greenhouse garden coil indoor/outdoor watering wand

This is a "self-coiling" garden hose made of rugged and durable polyurethane tubing. It produces ultra-fine mists and sprays in soft, gentle streams. Some wand models extend to as long as 50 feet. No hassle storage because of self-coiling mechanism.

Greenhouses constantly evolve in style and design. It follows then that tools and accessories will grow in

number or existing ones will be considerably improved. Manufacturers are probably inventing more tools and accessories this very moment that will make our work in greenhouses easier and quicker.

The ones we just described are already being used by many greenhouse enthusiasts. In a few years, new products will definitely appear in the market.

Chapter 4: Tips for Your Greenhouse

If you're growing carrots, beets, turnips and other root crops, they thrive well in deep boxes which can be put under benches. Those that require tub-type containers are tomatoes, peas, cucumbers and pole beans, while lettuce, or other low leafy vegetables may be planted in the tub with the taller vegetables.[30]

You can plant corn directly on the floor of the greenhouse, in a special bed prepared for it. To save space, you can plant pumpkin between the rows of corn.

Use room temperature water to water your indoor plants. Let tap water stand for a day to get rid of the chlorine substance. This way you avoid your plants getting brown tips.

[30] Ibid.

Distribute crushed egg shells in your garden to stimulate growth. Sprinkling coffee grounds will add acid to the greenhouse ground.

Before bringing vegetables and fruits from the greenhouse to your house, rinse them well outside; this way dirt and bugs stay outside and will not make your kitchen dirty.[31]

To make more room in your greenhouse, use lower benches for starting seeds and transplants; upper benches for growing flowers and specimen plants. Some vegetables, like tomatoes, should be planted in a warm section of the greenhouse.

Regarding planting of seeds, be sure to water lightly for the first few times. Over watering may cause the seeds to come to the surface too soon, preventing them from rooting properly.[32]

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[31] Ibid.

[32] www.greenhouses.com/Garden_Moose/Greenhouse_Tips/Starting_Seeds_in_the_Greenhouse_/

Preparation and production must be done in separate areas. Don’t do general preparation on the growing floor. This makes for a tidier greenhouse.

Here is a list of the largest vegetables that will need the most spacing in your greenhouse:

- ⇨ bush type beans: minimum of five feet between rows,
- ⇨ cabbage: a foot between rows,
- ⇨ peppers: about a foot between rows,
- ⇨ cantaloupes: two to three feet between rows,
- ⇨ squash: two to three feet between rows,
- ⇨ tomatoes and watermelons: minimum of two feet between rows.

All other vegetables (beets, carrots, garlic, lettuce, onions, peas, radishes, spinach, and turnips): five to ten inches to grow fully in the bed in your greenhouse.

For carrots, beets, and onions that grow deep down in the dirt, keep your soil at least two foot deep as the roots on some of these plants and the vegetable that grows from these plants can get to be very large under the soil.[33]

Mixing vegetables in rows is a good idea. Plants that are different put side by side will not compete for the nutrients, soil and water. For example, take onions and lettuce. One grows down in the dirt while the other grows up from the soil – they grow well side by side. However if you were to put onions and carrots together, they will be competing for the soil space.[34]

Chapter 5: Greenhouse Resources / References for Hobbyists

[33] Ibid.
[34] Ibid.

For readers interested in what the government's position is on greenhouses – soil, emissions, nurseries, tomatoes, etc – visit the United States Department of Agriculture web site:

www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?q=greenhouse&num=10&mode=simple&navid=SEARCH&start=10.

This link takes you directly to the subject of greenhouses.

For more greenhouse tips covering topics such as: humidity, strawberry tips, opening a greenhouse business, fall greenhouse tips, hanging baskets in the greenhouse, visit:

http://www.greenhouses.com/Garden_Moose/Greenhouse_Tips/Starting_Seeds_in_the_Greenhouse_/

If you want to learn how to build your own greenhouse, and want to have as many possible plans to choose from, visit:

http://www.floridagardener.com/greenhouse/greenhouseillustration1.htm

This site has about 3 illustration plans with step-by-step instructions.

For subjects covering:

- ⇨ Choosing Your Greenhouse
- ⇨ Choosing a Greenhouse Site
- ⇨ Foundation Hints
- ⇨ Frequently Asked Questions
- ⇨ Seeds in the Spring

Visit: http://www.gardenstyles.com/Tips.asp

To teach students about greenhouses using a broad and general approach, visit:

http://www.climatechange.gc.ca/english/climate_change/earth.asp

For an example of a greenhouse lesson plan for students, visit:

http://www.chias.org/www/edu/ecocit/airkeog.html

To show children how the greenhouse effect would contribute to global warming, (animation), visit:

http://www.epa.gov/globalwarming/kids/greenhouse.html

For greenhouse beginners, this book is helpful:

"In Your Greenhouse: A Beginner's Guide" (Paperback) by Greta Heinen. How enjoying outdoor gardening with specialty plants can lead one to consider a hobby greenhouse.

Another book we recommend is: "Greenhouse Gardener's Companion: Growing Food and Flowers in Your Greenhouse or Sunspace" (Paperback)
by Shane Smith, Marjorie C. Leggitt (Illustrator)
This paperback covers greenhouse subjects such as:

1. Building your own greenhouse
2. Glazing

3. Watering your greenhouse plants
4. Interior design of your greenhouse
5. Greenhouse seasons

Your Wonderland

Your greenhouse is your wonderland. You can make anything of it that you like. It is an oasis in both time and space.

The time that you spend tending to your greenhouse can be your downtime, a time away where the stresses of this world pass away.

If your greenhouse is your hobby, you will wish to spend allotted time there each and every day.

However you consider your greenhouse you will enjoy yourself. You will go back to nature and get in touch with your organic self. All of this is very good for the soul.

Three Reasons to Consider Purchasing a Greenhouse

Your greenhouse can be attached to your home. It can alternatively be freestanding to add to the beauty of your surrounding landscape. If you are an avid gardener then you will likely enjoy the atmosphere of a greenhouse. You should forget about the largeness of a commercial greenhouse. These are nothing like the warmth and ambience of your personal greenhouse. You will have a greenhouse on a much smaller scale, a place to house your personal choices in plants, flowers

and fruits and vegetables. You will also have a very handy place to do the work you need to do without being interrupted. You will be in your own domain and not under someone else's green thumb.

Owning your own greenhouse sure saves you a bundle when it comes time for buying seeds. You can capture your own seeds from your garden and then transfer those to your greenhouse. This saves money during the springtime.

As you spend more time with your greenhouse, you will be amazed by how many seeds you can start there. You will learn more about growing and rely less and less on the commercial growers! In no time at all, your greenhouse will begin to pay for itself.

When you own your own greenhouse, you will have the opportunity to expand it as just a hobby. You can become equipped grow flowers, vegetables and plants all through the year. Having your own greenhouse means you can be free of growing just for spring growing seasons. You can grow throughout the entire year. This is true even if you do not wish for the expenses of heating throughout the winter months.

Begin by planting seeds, March through April and then plan to plant again, May through June. During the cooler temperatures, place your plants in the greenhouse. This will mean a much longer life span for your flowers and vegetables.

Another good reason for owning a greenhouse is that you can plant and harvest your own organic foods, vegetables, fruits, and herbs. This will save on your grocery bills and will also make for very healthy eating. Those with food allergies and chemical sensitivities prefer to eat organic foods and this makes owning a greenhouse ideal for them.

Building and owning a greenhouse is pure pleasure for the entire family. Each member can have their own little organic corner where they are in control. Watching a plant begin from seed and then grow into plants is a delight.

From Little to Plentiful

Your greenhouse has so much to offer you. Have you ever taken the time to think about all of the plenty that your greenhouse does offer you?

When you take a walk through the front door of your imagined greenhouse, what do you see? Your every sense will come alive with color, scent and sight! You will feel alive in every sense of the word. Everywhere there will be new growth! It is pure delight! If you are ever feeling homebound, just peek you head inside your greenhouse for an instant boost of pure energy.

As you return to your hobby greenhouse, you have the pleasure of knowing that your tomatoes life span will continue into the fall. By the time the Christmas holidays come along, you will have ripe and fresh tomatoes to enjoy.

You will save money by buying your seeds in bulk from catalogs or, perhaps, by trading seeds with friendly gardeners for free. You can next start your flowers and plants come January. You will feel like quite the garden manager!

You spend so many hours at work and running to meet the needs of others that when you spend a little time doing something that you really enjoy you feel more worthwhile inside. You can start and grow trees and shrubs without the worry of deer and other animals coming and eating them when they are small and vulnerable. Starting and keeping your trees and shrubs indoors for a year will give them an extra edge so they can grow larger and stronger before being faced by animals.

If you want to be on your own, away from the clatter of life, you can simply walk down the aisles of your greenhouse and reflect on your day. All around you are the great creations of nature that you had a hand in yourself! This is very nourishing to the spirit and helps you to gather your thoughts in a positive reflection.

If you are a mother, you can bring your children to the greenhouse and teach them the lessons of the earth. They can get your hands dirty with Mother Nature and then watch as their plants grow and flourish!

You can start to grow early on and watch the beauty of your own bounty before all of those who do not have a greenhouse. You will enjoy your spring flowers and vegetables early!

Your neighbors and your friends might watch you and wish that they, too, had a terrific greenhouse! As you tend to your plants year round, you feel fulfilled inside, as you are doing something that is very important. Helping to bring wholesome and natural foods to your family's table each day brings its own reward!

You spend so much time each day running here and there and always doing for others, with your own greenhouse, what you do there is for you and for those you choose to share your bounty. This brings a sense of satisfaction.

Owning a personal greenhouse brings with it many rewards – perhaps the most important being the feeling of extreme accomplishment that comes from all of the hard work you do there. It is time very well spent and enjoyed!

Buying a Greenhouse Checklist

Framework

__ Aluminum - wood if beautiful, but our aluminum frames are longer lasting and maintenance-free.

__ Painted Aluminum - best appearance, looks new for many years.

Glazing

__ Tempered safety glass

__ TwinWall or Opal

__ TripleWall

__ Glass walls, TwinWall or Opal roof

Foundation

__ Pressure treated timbers (up to 200 sq. ft greenhouse)

__ Concrete/block base wall

__ Concrete slab/tile

Note: Outside dimensions of greenhouse foundation are given under "Actual Sizes" on the price charts.

Floor

If you have not poured a concrete slab, you will need a walkway down the middle of your greenhouse. First, lay down landscape fabric (#2380) over the entire floor. For an aisle of bricks: frame the walkway with treated 2 x 4 lumber, lay down 2" of crushed rock, then 1" of sand, and set the bricks with 3/8" spacing. A final touch might be to plant lemon thyme between the bricks! Finish the remainder of the floor with 2" of pea gravel.

__ Aisle pavers/bricks, Pea gravel under benches

__ All pavers - provides good drainage

__ Concrete slab/tile - not too smooth or it gets slippery. Provide for drainage.

Accessories

__ Benches

__ Shading

__ Heating

__ Air Circulation

__ Misting System

__ Other

Conclusion

Lisa Roberts, in her essay, A Garden of Glass, calls greenhouses ‘conservatories”. A rather odd word to use, because we’ve always associated conservatories

with places where we learn music or forced to learn music by fussy parents.

Thinking about it, however, greenhouses are music to everyone's ears. They have come to signify the human race's fondness for protecting plants – be they exotic species from distant lands or simply common, home-grown vegetables.

Greenhouses also signify man's wonder at seeing life take shape from beginning to end. There's something about a seed that mystifies and stimulates human imagination. Greenhouses are also about self-sufficiency and good nutrition.

Many centuries ago, greenhouses were the monopoly of Europe's aristocratic classes. At that time, only the moneyed were able to import rare and exotic plants from foreign countries and had the resources to erect expensive structures in which to store their precious possessions.

Happily that monopoly turned into a commodity that even ordinary, unschooled people could have. As styles and designs evolved quickly, greenhouses were now within reach of schools, universities and hobbyists searching for an endeavor that could bring joy and pleasure to their hearts.

Greenhouses not only became plant protectors, cultivators and all-season enclaves for growing plant forms, but also a refuge for weary souls, and clean entertainment for amateur and expert horticulturists bored by the outside world. The greenhouse was a welcome escape from the urban decay that characterized cities in transition. And once they've tasted fresh, juicy tomatoes or rich red sweet strawberries "harvested" in the greenhouse, consumers would rather shun the bland supermarket varieties that pale in comparison with greenhouse babies.

It isn't difficult to imagine how Joseph Paxton must have enjoyed life with an overdose of zest. He was enriched by life because he gave back to it in so many ways. "You reap what you sow" is an appropriate way

to describe his horticultural tasks, because the Crystal Palace has been acclaimed by many as a piece of architectural art that is unsurpassed.

A gardener for large estates in England, Paxton stumbled upon greenhouse design and construction. The Crystal Palace, which was his creation, was as long as 18 football fields and as wide as 8, and beat other greenhouses that were built in the twenty years preceding the birth of the Crystal Palace.

Mr. Paxton built another greenhouse for the purpose of housing and preserving only one plant – the giant Victoria Regia lily. The Duke of England at that time wanted to bring the flower to England and propagate it to be given as a gift to the queen.

It was in the greenhouse that Paxton built where the plant had produced 126 blooms during the following year. Mr. Paxton must have been ecstatic for earning such admirable brownie points.

Greenhouses have made people who don’t own these structures green with envy; many have gone ahead to build one in their back gardens. Most important of all, greenhouses have made people appreciate the meaning of life, bringing them closer to the soil that nurtures the food that keeps them alive.