Deciding to Build a Greenhouse

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Post Holiday Blues” are a common psychological phenomenon among the general populace but for the gardener it is slightly different problem. The malady for them is “Post Holiday Lack of Green Syndrome.” There are only two reliable treatments. One is to spend time in a warmer climate enjoying the local flora and the other is to grow plants of your own in a greenhouse.

Depending on the seriousness of the case and the frequency of treatment needed, each method has advantages and disadvantages. For some that need and crave almost daily contact with plants and soil, the greenhouse might be the most obvious answer.

Since the beginning of recorded history, people have longed for fresh food and flowers out of season. To that end, we will spend a couple of weeks discussing greenhouse this week and hotbeds, coldframes and other structures next week.

The earliest known greenhouse was not built to treat a gardener for “Post Holiday Lack of Green Syndrome” but it did have a medical significance. Sometime around 30 A.D., anxious servants constructed a plant growing structure that was similar to a coldframe for the Roman Emperor Tiberious. His doctors prescribed cucumbers as a remedy for the emperor and since there were no supermarkets with fresh produce from around the worlds in Rome, they had to come up with another plan.

At this time, greenhouses, as we know them, were impossible to build because window glass was not invented. They designed a small greenhouse called a specularium. They painstakingly fabricated it from small, translucent sheets of mica, a natural mineral.

A French botanist designed and constructed the first practical greenhouse. He built it in Holland to grow tropical plants for medicinal purposes. The idea of being inside a tropical paradise when ice and snow covered the rest of the world caught on and soon the wealthy started building these structures for amusement and to grow exotic foods out of season.

Greenhouses became more and more elaborate as time passed. These works of art were only for the extremely wealthy. Glass was considered a luxury. It was highly taxed in many areas so the less wealthy got their fix at some of the huge indoor gardens built for public exhibitions. Perhaps the most famous was the Crystal Palace built in London to handle the Exposition.

Greenhouses evolved into orangeries and pineries. Pineries were not used to grow pine trees but were made to grow pineapples. George Washington craved pineapples and ordered a greenhouse pinery built at Mt. Vernon so that he could serve pineapples to his guests.
Greenhouses by design control the plant-growing environment. Temperature remains the most limiting factor of growing plants in our area. Plants might flourish in the summer but when winter comes, most succumb to Mother Nature's chills by going dormant or dying out.

Before you decide on a plane ticket or hammer and nails to treat the before mentioned syndrome ask yourself a few questions. Are you committed to having another hobby or avocation that is going to take considerable time and effort? While a greenhouse is not quite as bad as the proverbial milk cow, they do not care for themselves. Decide how much time and effort you are willing to devote to your project. Next, decide the size of your greenhouse.

Deciding where to locate a greenhouse is another major decision. Attached greenhouses offer some solar heating benefits, but attaching a greenhouse to the home means that insects may enter your home. Add to the insects the need to control them and occasional pesticide use and a separate structure may be more appealing.

The structural components of the greenhouse are another important consideration. Since greenhouses by definition must let light in, the glazing or covering is a critical. Make the decision based on the permanence of your greenhouse and its proximity to your home.

Cost is also a consideration but you must make the decision based on the cost per years of service. Less expensive coverings might seem like bargains but the need for constant replacement makes these products more costly because of the recurring labor costs.

While glass was the first major type of covering, it is in many ways the best choice for anything connected to the home because it is permanent and durable. While it will break, it is resistant to scratching and does not lose its transparency nor turn color. Remember building codes require tempered glass if it is used near the ground or overhead.

Many kinds of acrylic plastic are excellent for glazing greenhouses. Acrylic is expensive, but is easy for a homeowner to fabricate. It will last for 10-15 years without serious problems with yellowing or deterioration.

Fiberglass is very popular for commercial greenhouses but do not use it for attached greenhouses. Fiberglass is flammable if exposed to high temperatures or a flame. Use it only for freestanding greenhouses or those attached to out buildings.

Polyethylene film is the cheapest covering but is also the least durable. It makes a good temporary covering for a simple greenhouse structure for growing in the spring. Polyethylene for greenhouse use must be ultraviolet resistant so that it does not suddenly disintegrate in mid winter.

Heating, cooling, framing, ventilation and other construction decisions are important for any successful greenhouse. Decide on the purpose for your greenhouse. To start a few tomato transplants in the spring, a cold frame or hot bed may be just the answer. These will be covered next week.
Garden Tips
Heat is usually the major expense when operating a greenhouse. Electricity, oil, and gas or propane are suitable fuels. Carefully check the cost of the fuel and the cost of the heating appliances. Gas is the least expensive but running the gas line and buying a furnace is costly. Make certain all construction including wiring and plumbing is done to code. Greenhouses are always wet so safe construction is critical to avoid problems.

Myths about building and operating greenhouses are common. Advertisements make it seem ridiculously easy to grow all your fresh produce easily and inexpensively. While greenhouses are very enjoyable, it is difficult to grow many vegetables inside the greenhouse during the winter in Utah.