



Higher Quality Results in Lower Cost of Ownership

RESOURCES

The Top 4 Mistakes Made When Purchasing a Greenhouse

Mistake #1: Focusing on lowest purchase price

This is the typical scenario: You need to purchase a new greenhouse, maybe for the first time, and you have to fit the purchase into a pre-determined budget. You do a good bit of investigative research on your own, solicit pricing from several reputable manufacturers, and analyze the quotes to select the best greenhouse for your needs. Sounds fairly straight forward. What could go wrong?

Plenty could go wrong. A poorly performing greenhouse will cost you thousands of dollars and create chronic headaches each year you operate it. But the low initial purchase price is just too attractive. Some manufacturers know this. Don't let yourself be lured by the lowest price without understanding all the strength and performance tradeoffs that are involved. If you want to get the best value from your investment, here are a few things to consider.

- **Weakened Frame Structure:** Some greenhouse manufactures have reduced their costs by reducing critical framing components like cross bracing. Cross braces keep the frame from collapsing by restraining its lateral movement. You need a lot of cross braces to provide strength from high winds or other loads from any direction. That's why Jäderloon® houses are usually the only ones left standing after a hard storm. Plenty of professional growers can attest to this. Pay attention to the number of cross braces included in your quote and avoid those inferior designs that have too few.
- **An easy way to reduce cost is to use thinner tubular steel.** You probably won't notice a difference until a summer or winter storm hits, but thinner tubes are going to bend, crush and fold more easily. Once the first member bends, the others also bend as they support more and more weight, until the entire structure collapses into a total loss. Unfortunately, some manufacturers use thinner tubing to give you a lower price.

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- **Greenhouses must be designed for both static and dynamic conditions.** The accumulation of snow on the roof is a relatively static load, whereas high winds create a highly dynamic load. The difference between the two is important because some greenhouses are designed mainly for static loads. Steel supports with an oval cross section can provide added strength in one direction, but only with reduced strength in the other direction. Round cross section steel provides the best strength in all directions when considering dynamic forces. Greenhouses that collapse during storms are usually the ones that were under-designed in order to provide the lowest possible purchase price. In the longer run, these inferior designs will cost the owner far more.

- **Incomplete Design Packages:** It is all too easy and too common for a greenhouse manufacturer to cut corners on the small details hoping that the buyer will not notice. The list of design elements to look for is simply too exhaustive to report here, but the message is simple; do your homework. Be sure all the materials and brackets needed to secure the end walls to the frame are included. Ensure delivery is included. Overall, be suspicious of any quote that has an amazingly low price. You'll find those quotes have omitted critical components that you'll have to pay for later.

- **Undersized heating and cooling equipment:** Many buyers, and even some manufacturers, don't know how to properly size greenhouse ventilation, heating and cooling equipment. Jäderloon's® greenhouse equipment has been engineered for optimal and guaranteed performance. We refuse to provide an inferior design that we know will not condition properly. We don't make cookie-cutter greenhouses. We have decades of experience in sizing environmental equipment for specific climates and growing needs including special considerations for cooling requirements in the Southern region of the US. Be on the lookout for smaller fan diameters, lower horsepower motors, lower flow rates, and cheaper materials. Remember that artificial cost savings at the front end mean headaches and lost yield every season thereafter.

Mistake #2 – Ignoring Total Cost of Ownership

Initial purchase price buys the greenhouse. Annual operating, maintenance and repair costs keep it running. These are called “cost of quality” expenses. Greenhouses with lower purchase prices typically bring a much higher cost of quality. Here's how:

- **Lower quality or undersized cooling systems** and fans may cost less initially, but they won't last as long as higher quality units. Costs will include the direct equipment replacement cost (materials and labor), crop loss, and potential lost revenue.

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- **Lower quality frame designs** bring a lower initial purchase price, but only at the risk of increased damage after storms. Some of this damage can be repaired with new frame members, hangers and poly sheeting. Other times the loss can be catastrophic. Consider how frequently your area experiences seasonal storms with high winds, heavy rains, or severe ice and snow. Figure the labor and material costs, crop loss costs, and lost revenue associated with having to make minor repairs or recovering from severe damage. Lower quality houses virtually guarantee major damage recovery costs just a few years down the road.

- **Higher maintenance costs** – Some amount of greenhouse maintenance is to be expected. Poly sheeting may need to be patched. Coolers will need to be flushed and cleaned. Fans need to be cleaned. Drive belts need to be inspected. But, be alert to companies who use cheap, inferior products that will fail more quickly and cause a lifetime of headaches. Know what you are getting – request specs on the steel, including gauge, as well as other elements of your greenhouse.

- **Weak warranties** – The best manufacturer and the best design will come with the best warranty. Beware of suppliers who make big promises but don't back them up with a meaningful warranty.

Mistake #3 – Not doing your homework

As with any major investment, a certain amount of investigation and planning is required. For buyers who have little experience with greenhouses the process is made far more difficult. Here we offer a list of mistakes we see buyers make because they didn't do their homework first.

Not giving yourself enough time to complete the project successfully

We all tend to underestimate the time and resources needed to complete a project. Be sure to leave enough time for the following in light of seasonal weather conditions and contractor availability:

- Engineer sealed plans
- Construction permits
- Manufacturing lead time
- Shipping lead time
- Site preparation

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- Installation of the greenhouse
 - Utility service to the site
 - Interior and exterior electrical and plumbing
 - Gas hook up
 - Inspections
 - Unexpected delays – happens every time

Not considering local building codes and other permitting requirements

Building codes vary county-by-county across the US with some codes being more restrictive than others. Carefully read and understand your county's codes pertaining to greenhouses. You'll most likely need detailed structural, electrical and mechanical plans sealed and signed by an engineer licensed to practice in the state, and including the following:

- Type and size of electrical conduit and accessories required
- Type and size of plumbing and gas lines required
- Wind, snow and seismic load requirements
- Other local requirements
- Not insuring the greenhouse – Inevitably, seasonal storms damage greenhouses every year. Your first step in protecting your investment is to purchase a high-quality house from a reputable manufacturer and installer. This will minimize the likelihood of experiencing severe storm damage. The next step is to ensure the house and its contents against significant damage and crop loss.
- Inadequately sized ventilation, cooling and heating equipment – Be sure to get competitive bids for your house and compare the specified equipment in each quote. Some manufacturers will “cut it close” by somewhat under-sizing the equipment to keep the price down. This means your crops will be at significant risk of damage or failure during periods of unusually hot or cold weather.

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Mistake #4 – Buying too small

We've spoken to many growers who sized their house based on their current need only to find that they outgrow the house within a year or two. Plants grow, but greenhouses don't. If your company is growing, you should probably size the house so that it provides capacity for several years' growth. In most cases you will actually spend less if you size your house with room to grow rather than staying small to get a lower initial purchase price. While it is theoretically possible to expand a house, the costs associated with increasing ventilation, heating and cooling capacities, pulling new wiring, increasing plumbing sizes, adding additional foundation and framing can be significantly higher in the long run.

So how do you size a greenhouse to fit your growing business for several years to come? We recommend the following calculation:

- Determine the size needed to accommodate your current needs in square feet (S).
- Identify your annual growth rate as a decimal (R).
- Identify the number of years growth you want to accommodate (Y).

Enter R and Y into the following equation:

For example, assume you currently need a 1,000 square foot house (S). Let's also assume a 5% annual growth rate (R) over a 5-year period (Y). Enter these into the equation to get:

= 1,276 square feet, or 28% larger than your current needs

If you simply cannot afford to increase the size of the house, we recommend you work with your manufacturer to develop a phased growth plan that gives you the greenhouse size you need for the short term, while also allowing efficient expansion later. Expanding and adding houses in a haphazard way leads to inefficient layouts, reduced capacity, increased costs, and operational headaches.