



## Texas Master Gardener Tips for Hobby Greenhouse Owners

In Texas a hobby greenhouse is delightful except in summer when high temperatures and heat build-up become a limiting factor. The position of your greenhouse, long sides to the east-west with doors toward the prevailing summer breeze allow for the most sun exposure and passive air-flow. Use shade cloth roof covering in the summer months or take advantage of shading from trees or structures to the west of the greenhouse. Full sun in a typical Texas summer can be brutal on plants in a greenhouse, unless you're growing cactus!

There are many options for hobby greenhouses, from Build-it-Yourself plans to complete "ready to assemble" kits shipped to your door. Usually 2/3 of greenhouse space is taken up by benches and equipment, so plan accordingly. Prices range from inexpensive to costly depending on the materials used. Decide how you're going to use your greenhouse, do your research and purchase the best quality and size for the money you can afford. [TIP: Sellers may offer discounts late winter or early in the year.]

BE SURE to check zoning restrictions, city building codes, deed restrictions and HOA rules, and if you wish, check with neighbors to see if they have concerns that may turn into complaints.

Another major consideration is access to water (hand watering, drip and mist systems) and electricity (lights, heat mats, heater and fans). Water and electricity can be a deadly combination - pay a professional to install service to code with the proper protections.

A level, "in square" foundation is key to avoiding structural problems. When using lumber for a foundation check recommendations for the type of plastic barrier necessary to prevent corrosion of aluminum in direct contact with some types of treated wood.

Do inspect your greenhouse structure and equipment at least monthly, look for problems and take corrective action.

## Helpful Tips:

- Automatic vent openers help prevent the greenhouse from overheating and use no electricity; open doors on warm days to aid in air exchange.
- Shade cloth is essential in summer months if the greenhouse is situated in full day sun. Without it plants can cook in an overheated greenhouse when temperatures exceed 90 degrees. Research how temps affect plants.
- If greenhouse flooring is pea gravel over landscape fabric, sprinkling water on the gravel in summer can help keep the greenhouse cooler. Hard surfaces, bricks, tiles, etc. can get slippery.
- Gutters direct rainwater into rain barrels to manage run-off alongside the greenhouse and provide a source of water for plants.
- Ants love greenhouses. Recommend perimeter treatment at first sign of ants with careful application of biological baits.
- Oscillating fans (upper & lower levels) used year round are especially important in winter (with an electric heater) to prevent cold spots. (Clip on variety frees up shelf space.) Air movement also cuts down on fungal diseases.
- Use a wireless temperature transmitter to keep track of highs and lows...make sure it has an alarm to alert someone that the temperature has gone below desired temperature - 50° and 60° is the optimum low.
- Keep a greenhouse journal. Track high and low temperatures daily for monthly summary. Also write down what seeds were planted, how planted (covered, uncovered, etc.) and how long it took them to germinate. This will help in deciding what seeds to grow in the future and when to plant.
- Propagation heat mats with thermostat controls are essential for late winter/early spring seed starting and aid faster rooting of some cuttings.
- Do not overwinter any outside (or neighbor's plants) without thorough inspection for pest and diseases – don't import problems.
- Learn what greenhouse pest (whiteflies, mealy bugs, fungus gnats, mites, aphids) look like including their eggs and how to prevent them. Use a magnifying glass or x10 hand lens for better viewing and identification. Remove infected plants from the greenhouse for treatment.

- Common beneficial insects will come to your greenhouse. Learn what their eggs and larva look like so they are not killed. (Ladybugs, green lacewings especially, predatory mites, etc.).
- For seed starting, make sure to use fresh sterile germinating medium, clean/disinfected trays and pots. (1 part bleach to 9 parts water is sufficient.) Sturdy, reusable, professional grade flats and trays are a good investment. Some hobbyist use new containers to save time and lessen the chance of disease.
- Check seeds trays and young seedlings several times/day. Make sure the greenhouse is not too hot or too cold, seedlings are not too dry or too wet.
- During cold weather periods, use warm water as very cold water will shock the seedlings and slow growth.
- Use dilute liquid fertilizer to feed seedlings at the recommended rate when the 2<sup>nd</sup> set of true leaves are fully expanded. Bump up seedlings to next size individual pots before they become root-bound or transplant in the garden after hardening-off is complete (cold frame is useful for this process).

Compiled and edited by Tommie Clayton, with input from Susan Jung and Pat Mokry, Travis County Master Gardeners, based on some tips from Sheri George, Georgia Master Gardener. [3-31-2015]

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