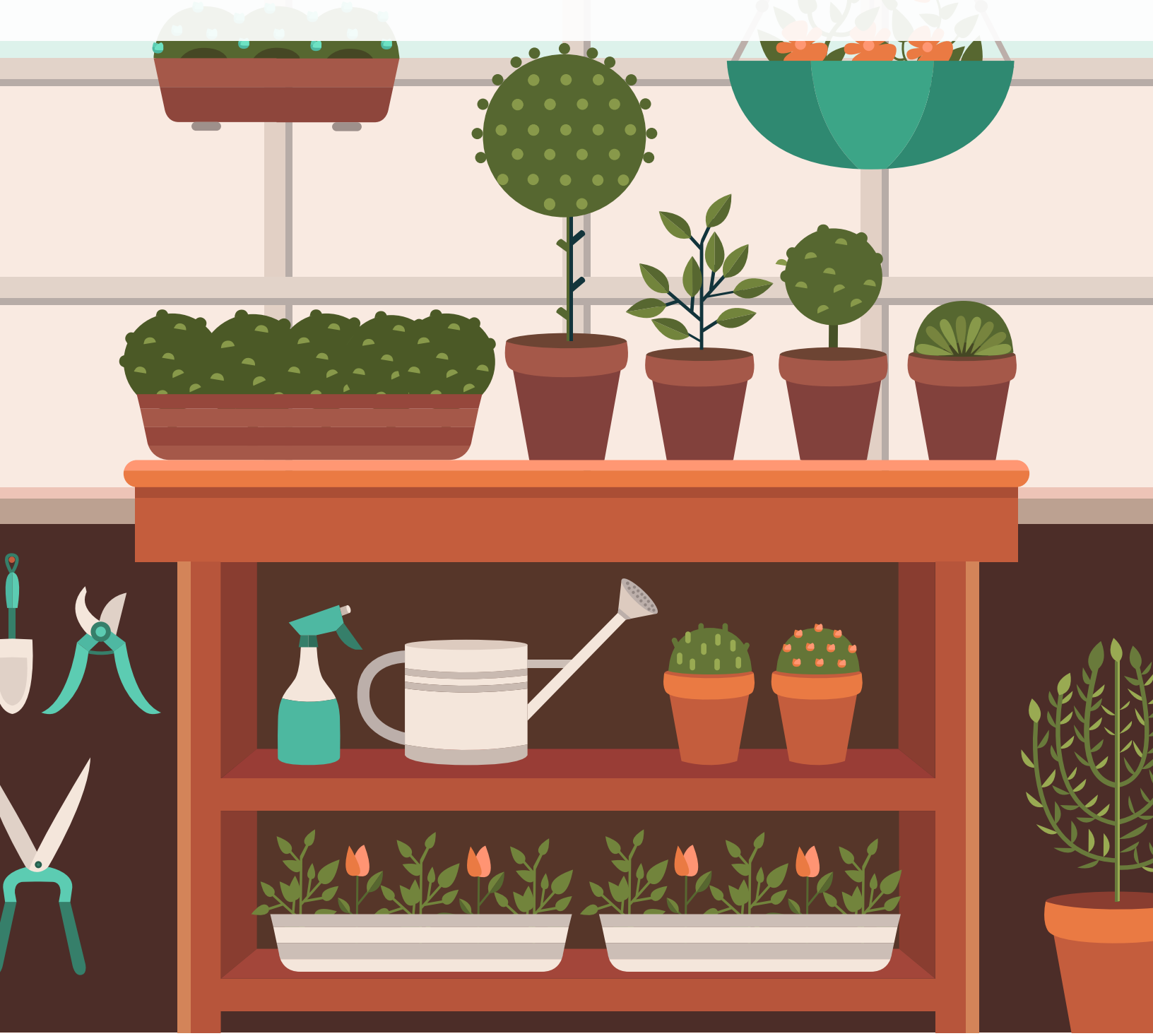
ULTIMATE GUIDE
TO PLANNING YOUR GREENHOUSE

Part 5: Maintenance Tips and Extreme Weather



BC GREENHOUSE
BUILDERS LIMITED

Part 5: Maintenance Tips and Extreme Weather Preparation

This part of **"The Ultimate Guide to Planning a Greenhouse"** is a collection of tips and tricks on how to properly maintain your greenhouse. Topics in the guide range from cleaning, pest prevention, seasonal tasks and preparing for a big weather event.

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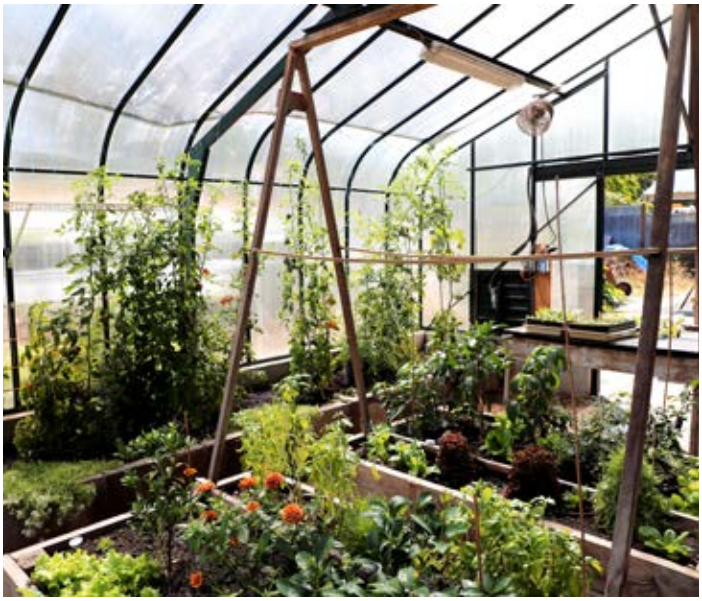
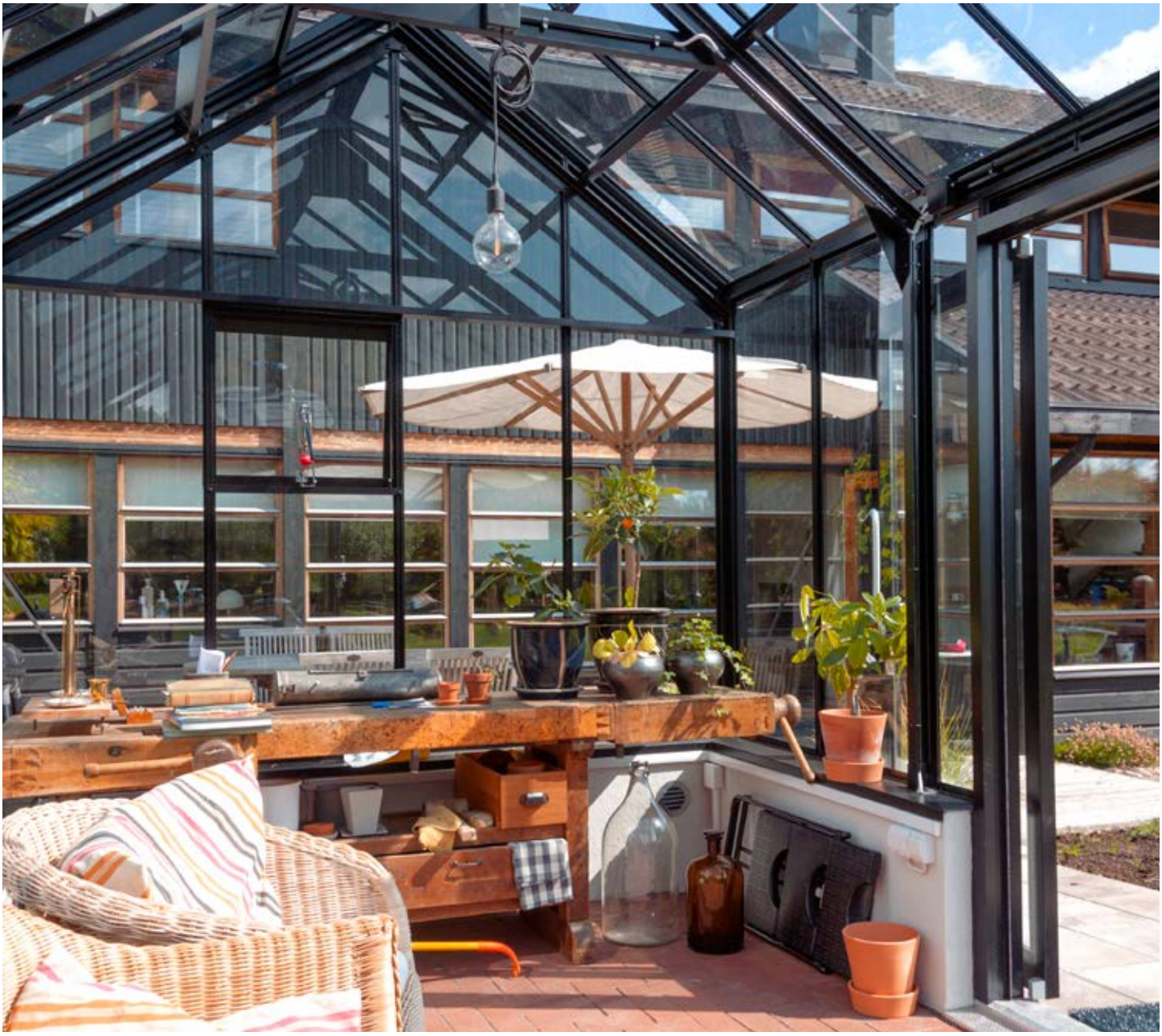
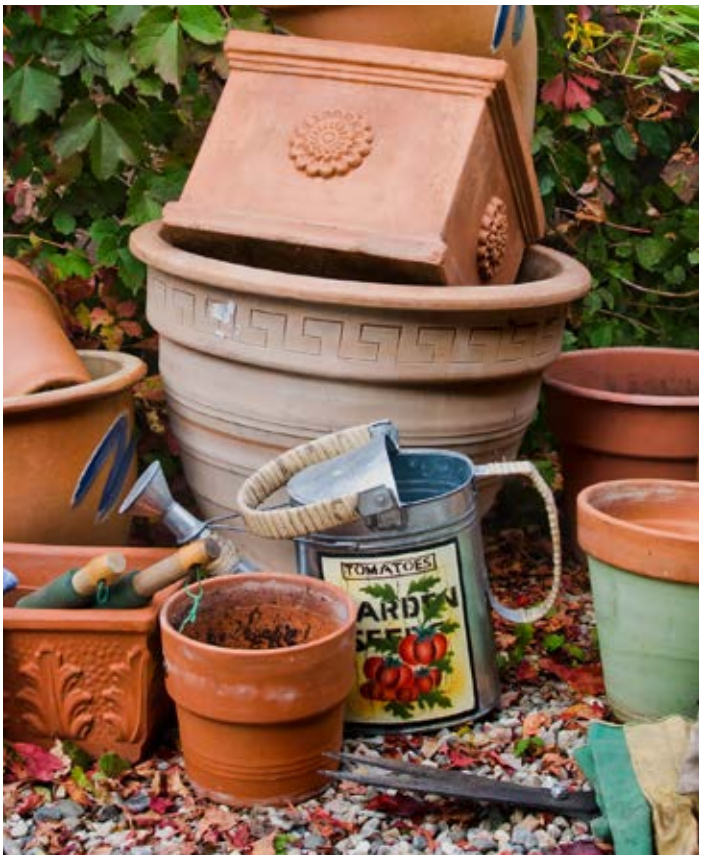




Regular Maintenance Tasks

Cleaning Your Greenhouse

Keeping the greenhouse clean – or, at the very least, tidy – helps avoid future problems. A warm, humid greenhouse is the perfect place for pests to call home. We suggest doing a deep clean in mid-November before many owners put their greenhouses to slumber for the winter.



Empty the Greenhouse: Everything must be emptied out. This allows you to get into all the nooks and crannies and to find and eliminate places for pests, algae, and mold to thrive or hide.

Vacuum: A shop vacuum will be your best friend. It's common to vacuum the floor, but we also recommend vacuuming the walls, interior bolt tracks, door thresholds, vent screens, weather stripping and anywhere else where pests might take up residency.

Scrub it Out: Many customers ask about using a pressure washer and it is certainly a good idea on a low setting. If you have a polycarbonate greenhouse, take extra care to avoid damaging the silicone seal. You do not want to inadvertently get water into the flutes.

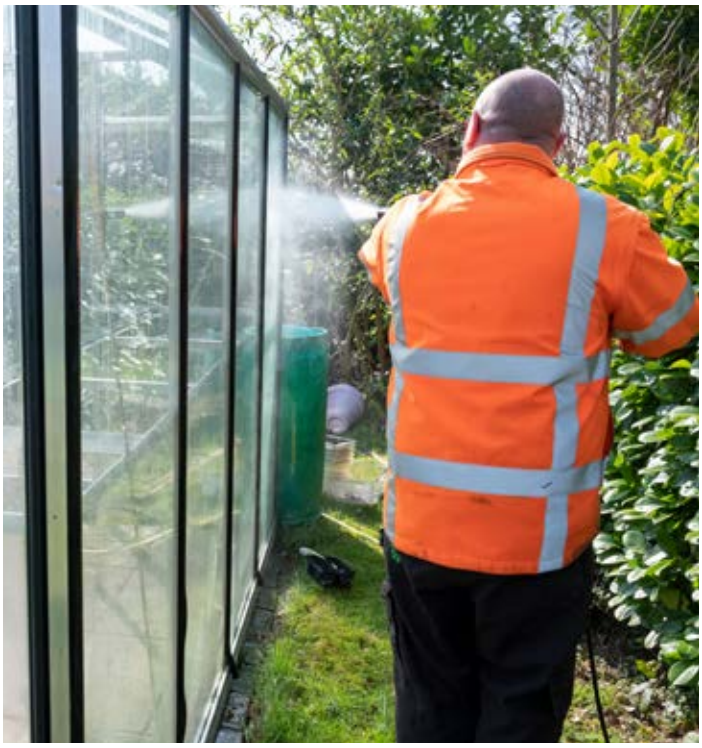
How do I deal with algae build-up?

A pressure washer on a low setting works best. If you have build-up between the overlaps on the glass panels, this could be due to lack of air circulation. Air circulation is critical to keep condensation at a minimum which is how algae starts to form. With the pressure washer at the ready, gently push in on the overlapped pane of glass and zap it with the pressure washer. We recommend putting a small bead of silicone on the interior and exterior of the overlap glass to avoid this happening in the future.

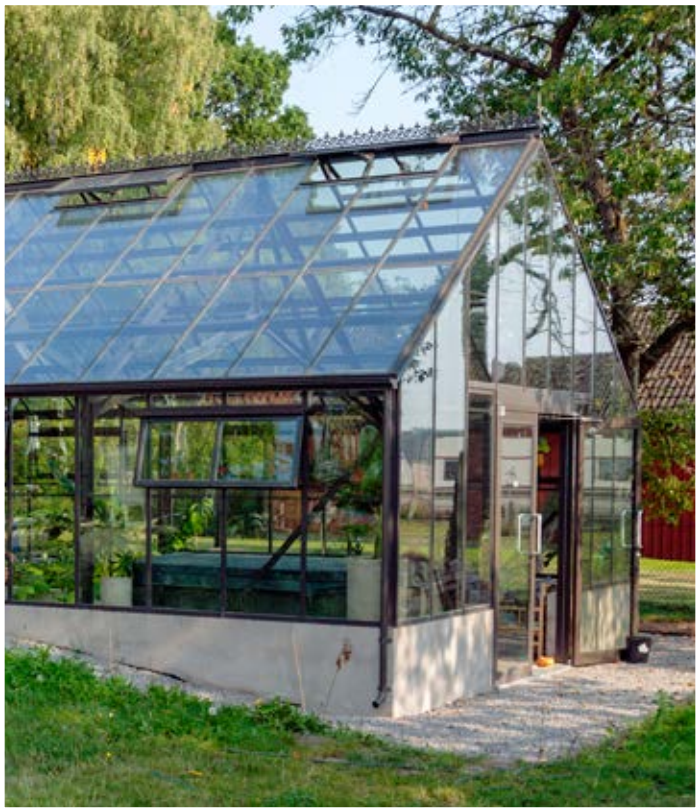
What about sap or sticky substances?

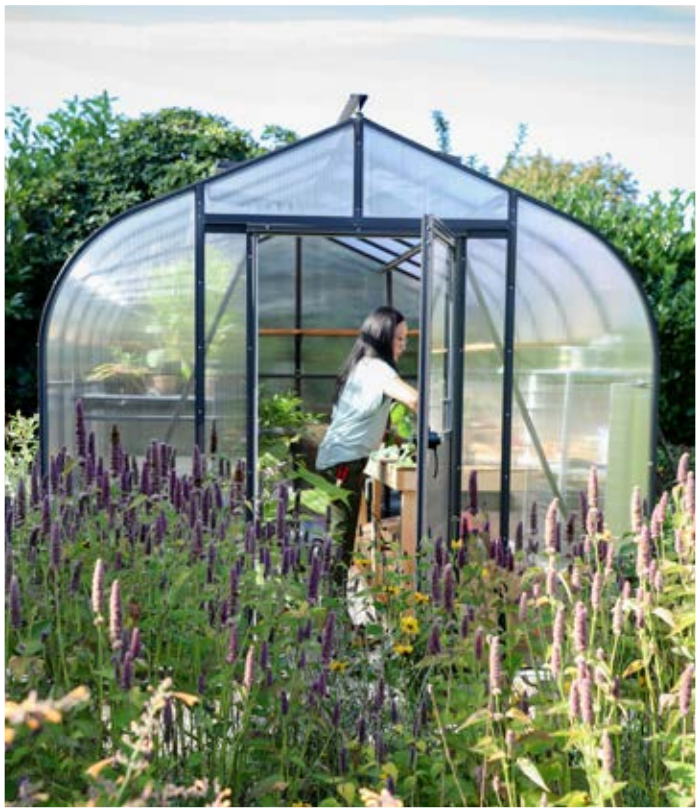
If you have something that is sticking to the glazing, you can use any solvent on glass to remove it but there is only one recommended product for polycarbonate called Naptha. You can spot clean it, rinse immediately and dry. Do not use acetone, paint thinners or harsh chemicals on the polycarbonate as it will dissolve and destroy it.

Now it's time to deep clean all your accessories, staging, pots, and containers. Benches, shelving, plastic trays, and tools also need to be cleaned and sterilized. Anything that will be returned to the greenhouse should be scrubbed down and disinfected.



Cleaning Glass and Polycarbonate



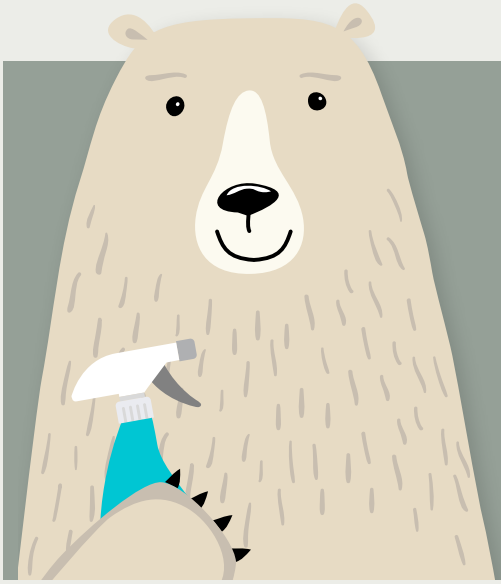


To clean tempered glass

To clean tempered glass, use a cleaning solution that is a mixture of hot water and a disinfectant such as Lysol, Pinesol, or household bleach. Make sure that the mixture does not leave a residue and rinse the greenhouse thoroughly when you're finished.

To clean polycarbonate

Polycarbonate requires a softer touch. The panels need to be protected to ensure proper light transmission and longevity. First rinse the greenhouse with lukewarm water. Then, using a mild soap such as Safer soap or mild dish soap, use a soft cloth and wipe down the panels. Do not use an abrasive scrub brush or sponge. Rinse the greenhouse again and wipe dry with a soft cloth.



Some general tips to help keep the greenhouse clean daily:

- Clean your tools and containers directly after use
- Keep an eye out for pesky weeds and remove any diseased plants or weeds immediately
- Rinse down your gardening gloves and hang to dry
- Use only one pair of boots or shoes in the greenhouse to avoid tracking in pests or pathogens
- Consider using the old school yellow sticky traps to catch pests – they really work!

Tips for Pest Prevention

Aphids and whiteflies are the most common pests associated with the greenhouse.

To eliminate bringing the pests into the greenhouse from outdoors, it is recommended to wash down plants with soapy water if you are purchasing from a nursery or garden center.

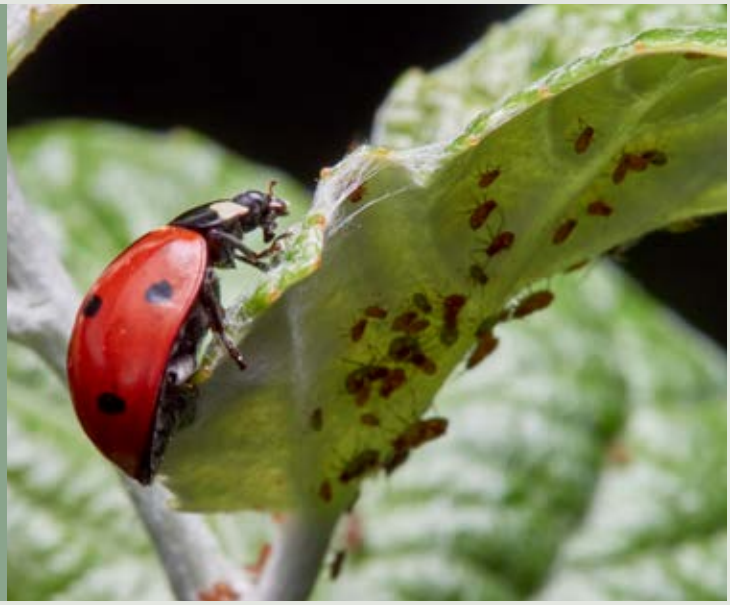
Safer Soap is an insecticide spray with active ingredients and no other pesticides are added. As soon as a pest is visible, a spray of Safer Soap will help contain any outbreak.

Are Greenhouse Bugs Bugging You?

To help keep the greenhouse organic and free of chemicals, think about adding beneficial bugs to your greenhouse to control pests naturally.

Read this blog post for more information:

www.blog.bcgreenhouses.com/are-greenhouse-bugs-bugging-you



Maintaining Structural Integrity

After One Year

Check that the greenhouse has not shifted or settled to avoid added pressure on the glass panes. Use a level and check both the foundation and the glazing bars on either side of the doors. You should not have to check again as the greenhouse will have settled into position after the first year.

A regular tightening of screws and caps will help the greenhouse to maintain its weather resistance and ensure that all components of the greenhouse remain secure in wind and snow storms. If you live in a very windy area, consider using Loctite on the inside bolts. We recommend checking your fasteners every year.

After Five Years

The silicone sealant that you placed on the top, the bottom, inside and outside of your greenhouse is an important part of its weather tightness. It helps to keep out most of the moisture from the end of the panels. If this sealing process is not done properly, water will sit in the bottom of the frame, fill the inside of the panels, and grow algae. Check all silicone seals after 5 years and every year thereafter for degradation. You should anticipate replacing the silicone after 7 to 15 years depending on your climate.

Even more maintenance tips…

To ensure optimum climate control, some regular greenhouse accessory maintenance is a great idea. Fans, fireplaces, foundations, and more all require care and attention too.

Fans and Vents: To prevent drafts and heat loss, close all vents and fans that are not required in winter. Check the fan for wear and tear and alignment. HAF (horizontal air flow fans) should be cleaned and serviced every year.

Foundation: Depending on your foundation type, you should check for gaps, cracks, or possible entry points for critters.

Drainage: If you have a drainage grate, make sure it is clean and clear of dirt, leaves, or stones.

Fireplace: If you have a fireplace or woodstove, ensure the flue is closed in winter. If you have a woodstove, remove the debris inside the box including the ashes. Inspect stove for cracks, corrosion, or holes. Ensure door seal is tight and replace gaskets if needed.

Thermometer: Calibrate your thermometer against a digital thermometer to make sure it is properly reading temperature.

How to Troubleshoot Greenhouse Roof Vents

Do you have a greenhouse roof vent that is no longer opening or not opening enough? Over the years, the piston moving through the seals gradually wears the material away, allowing a gradual seepage of wax out of the cylinder. This reduces the pressure within the cylinder and it may need to be replaced. But it could also be that the wax in the cylinder just needs a simple kick start and a warm bath.

Here is a tip to see if you can get them working again:

Remove cylinder and place in the refrigerator (not the freezer) for 30 minutes. Immediately after removing from fridge, run the cylinders under hot water in the sink for 5-10 minutes.

If this fix doesn't work, it could be time for a replacement cylinder. You can find replacements at our online shop.

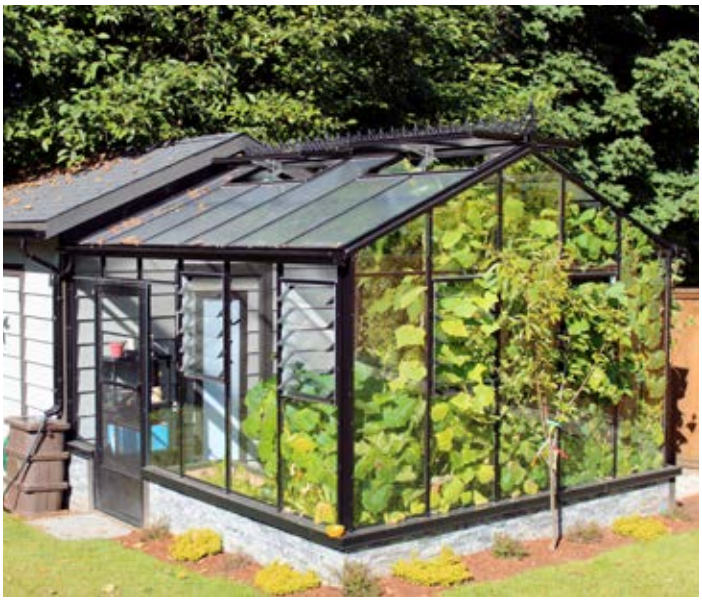
The wax cylinders will last longer if the greenhouse roof vent remains operational in winter however you can remove the entire MK7 hinge to avoid concerns about gusty, windy, winter conditions. Remember to use wire or zap straps through the screw holes to shut the vent otherwise it will open unsecured. You can expect the wax cylinders to last 5-7 years before they need to be replaced.

Would you like to adjust the cylinder for higher temperatures?

If you would like your greenhouse to stay on the warmer side, adjust the vent to open at a higher temperature. Screw the adjuster out of the swiveling block and ensure that there are at least four "threads" visible on the adjuster screw.

For complete instructions on how to replace the wax cylinder, view our short video:

www.bcgreenhouses.com/cylinders/



Seasonal Tasks in the Greenhouse

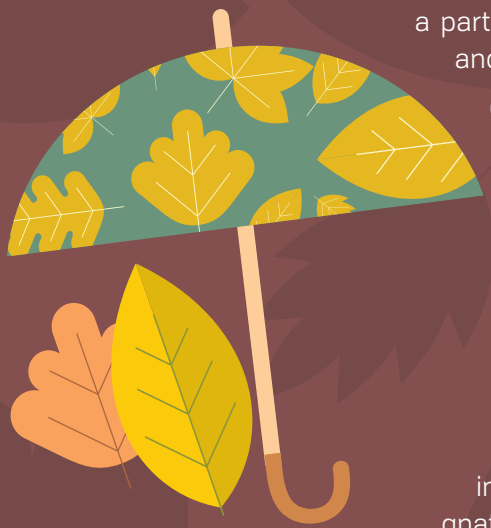
Hello Autumn

Fall is an important month in the greenhouse for many gardeners trying to extend their season as long as they can. To maintain heat in smaller greenhouses (around 100 sq ft), keep your circulating fan at one end of the greenhouse, opposite the door, at about bench level directing the warm air across and slightly up. Place your portable heaters near the floor closer to the entry door so that it will replace lost heat quickly.

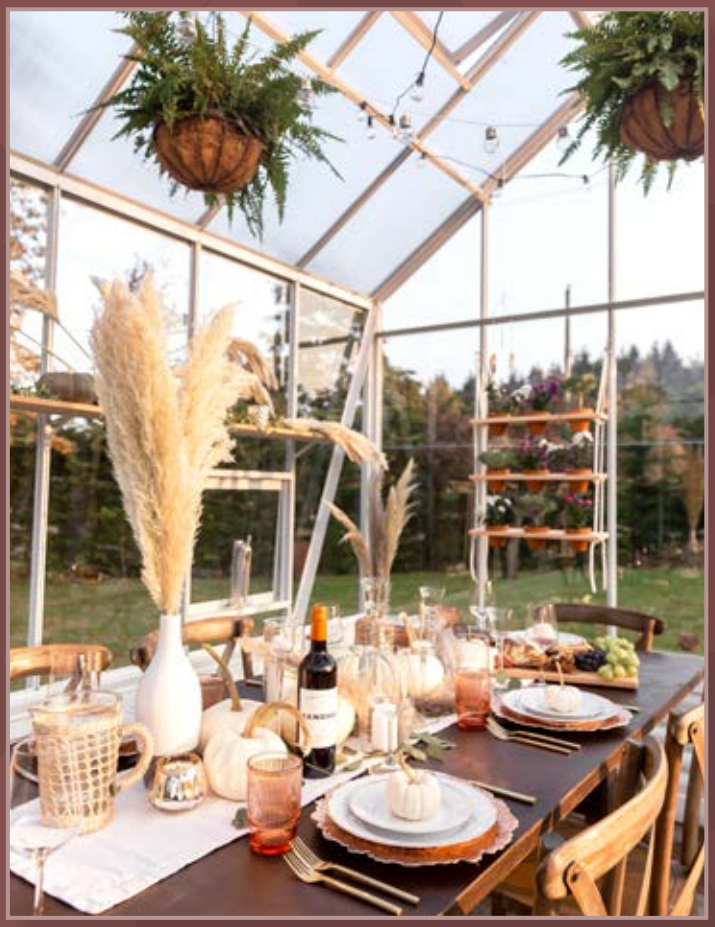
Some customers line the inside of the greenhouse with a clear 4 mm plastic or bubble wrap to maintain heat in the greenhouse. To fasten, use special insulating clips or short pieces of rope and push into the top and bottom of the bolt track on the inside of each glazing bar to keep it in place.

Air circulation is critical in the colder months. To keep the temperature distributed evenly in your greenhouse, your circulating fan should be running at all times. This will reduce the amount of condensation in your greenhouse, help control plant diseases and avoid algae build up.

We recommend only opening vents and doors on warm days. Keep your doors and vents closed at night. If you experience some solar gain in the colder months, consider using black barrels filled with water to act as a thermal heat sync or partition a part of your greenhouse and heat that area only.



Cut back on watering as sitting water is not a good thing in the greenhouse. In some cases, it might be a good idea to stop watering in fall. Extra moisture and cold soil encourage insects like fungus gnats to multiply. Most winter crops will be in "holding" mode because they are not growing vigorously and can handle less water.



If you are hoping to extend your season in the greenhouse, remove all summer crops to ensure they do not encourage diseases or pests. If you plan on overwintering plants, wash the leaves, remove pests and diseases. Cool nights and warm days encourage a sooty mold to grow. Remove the mold with a Q-tip dipped in alcohol. Then wash the leaves with a soapy soft cloth. Immediately after cleaning them, cover the plants with a protective Ag-30 ribbon cloth to give them extra protection over winter.

If you use fabric row covers, make sure you wash them on a hot cycle in your washing machine before laying them over your winter plants.

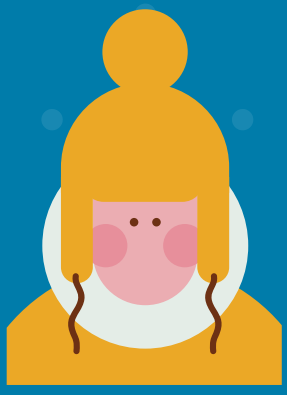
hello winter

The trick to a winter greenhouse is cold tolerant plants, and keeping the greenhouse temperature above frost. Temperate plants, like Meyer lemons, hardy cactus, and olives tolerate light frost. Hardy vegetables, like spinach, mustard greens, arugula, kale, beets, carrots, and swiss chard thrive in a cool greenhouse and can freeze completely and spring back to life when conditions warm up.

Providing heat just where you need it is easily accomplished with old-school Christmas lights or soil warming cables. Lay the waterproof soil warming cables on the soil and set potted plants over the heat for happier winter plants.

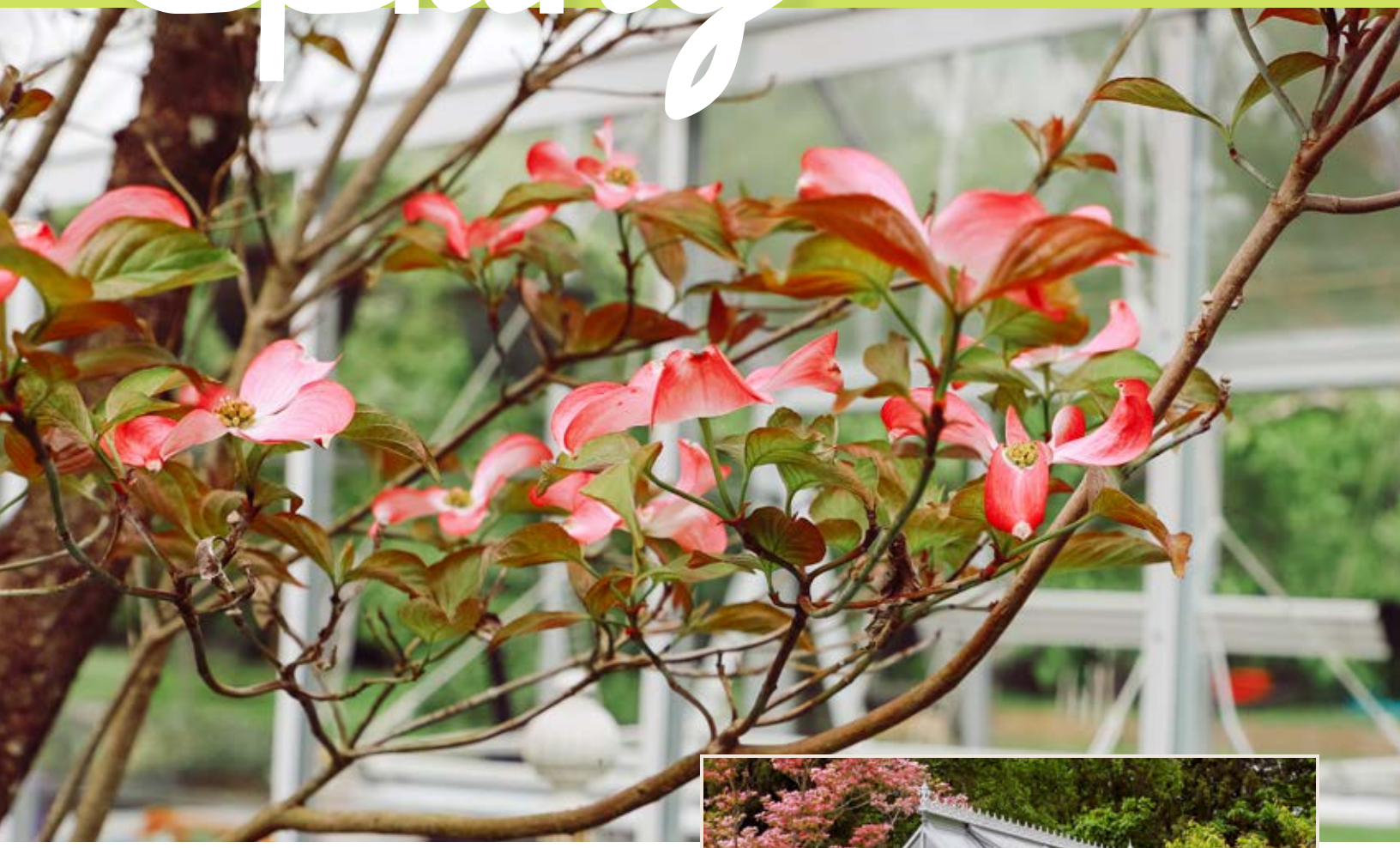
A thermostat with a plug-in for your lights as well as a space heater will keep the chill off the plants when the temperatures really dip low while you are tied up in your office or fast asleep late at night. The thermostat will help to regulate the heater, turning it on as needed and then turning it off when the solar effect of your greenhouse kicks in during the day.

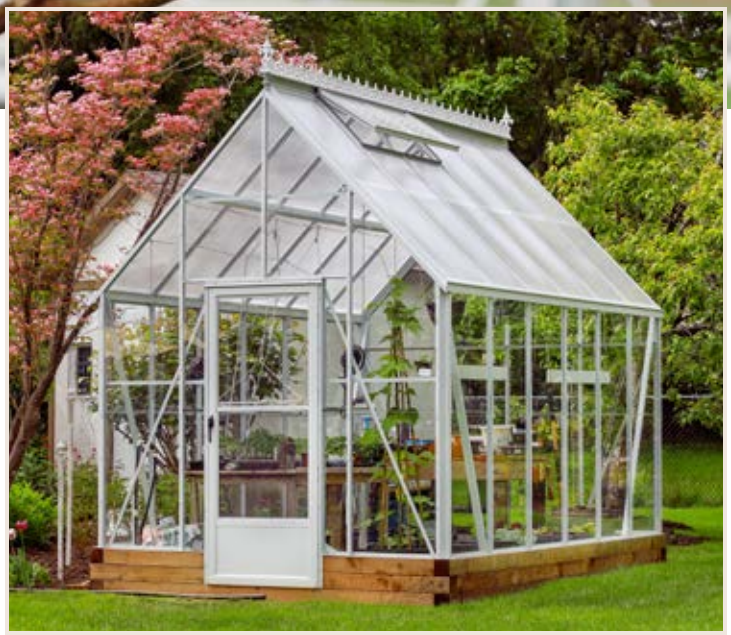
Adding a layer of Agribon fleece adds 2-7 degrees Celsuis (35 – 44 Fahrenheit) of frost protection, depending on the weight of Agribon you use. Higher numbers like Agribon 30 give more frost protection than lower numbers like Agribon-19 and is a great low tech solution.



Moving air is less likely to freeze than air trapped in cool corners of pockets of the greenhouse. Running a fan continuously in your greenhouse, winter and summer, keeps the air moving and prevents cold from greatly affecting plants in winter.

Hello Spring





Most gardeners are excited to get back in the greenhouse and start growing. All of the winter planning is generally done and now it's time to get started. This is a great time to do a light clean of the greenhouse after winter. You have the least amount of plants growing now and it's the best time to take stock of what needs to be composted. Get rid of dead or dying plants, weeds and anything that will rot, meltdown or cause problems going forward. If you have time, sweep the floor, and wipe down dusty, spore-filled surfaces and get your pots ready for spring!

Hello Summer

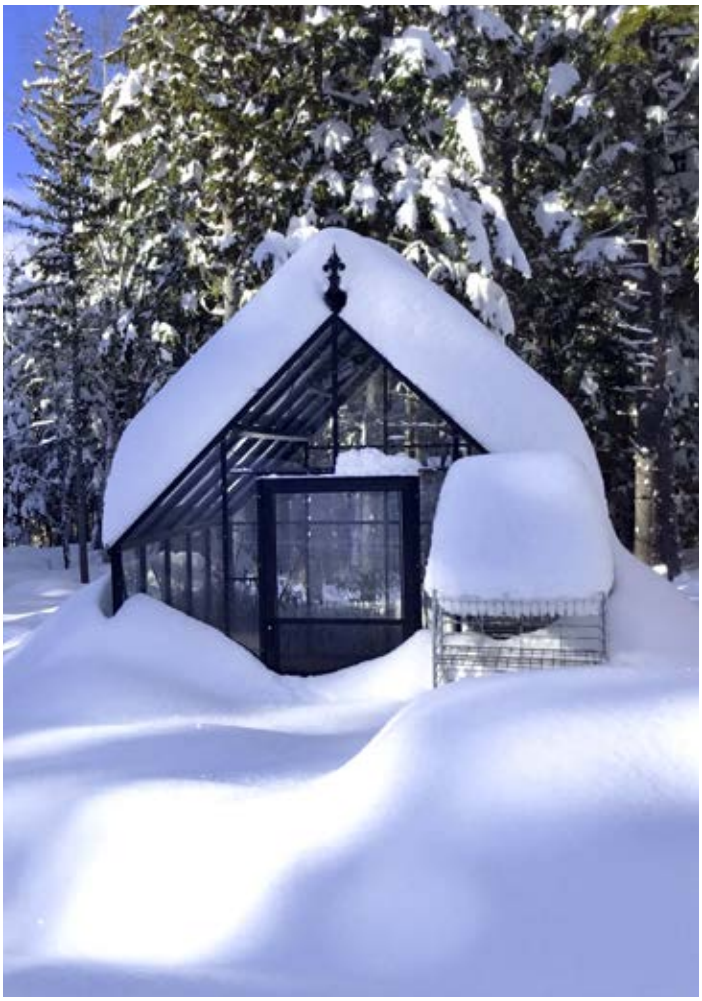
Summer in the greenhouse is all about an abundance of heat and how to combat it. Shade cloth is another low tech solution that can help. You can hang shade cloth inside the greenhouse, drape it over your greenhouse (ensuring it does not sit directly on your greenhouse) or stretch shade sails between framing bars of your greenhouse.

You can also set up extra fans or consider an exhaust fan package to circulate hot stagnant air. The screen door in your greenhouse is an excellent passive cooling option. Open the screen door at nighttime to allow the cool air to come in.

Watering the soil and paths in the evening in the greenhouse and again mid-morning helps cool the soil and air. This increases the humidity and sometimes this is enough to help flowers as they become pollinated and form flowers.

If there is a concerning amount of heat, consider a portable air conditioner that has a dehumidifier included. This is a short term solution that can help during a heat wave.

Certain plants are also ideal for helping with shade. Large leafed plants like elephant ears, fiddle leaf, and banana leaf will happily absorb the heat and protect more tender plants below.

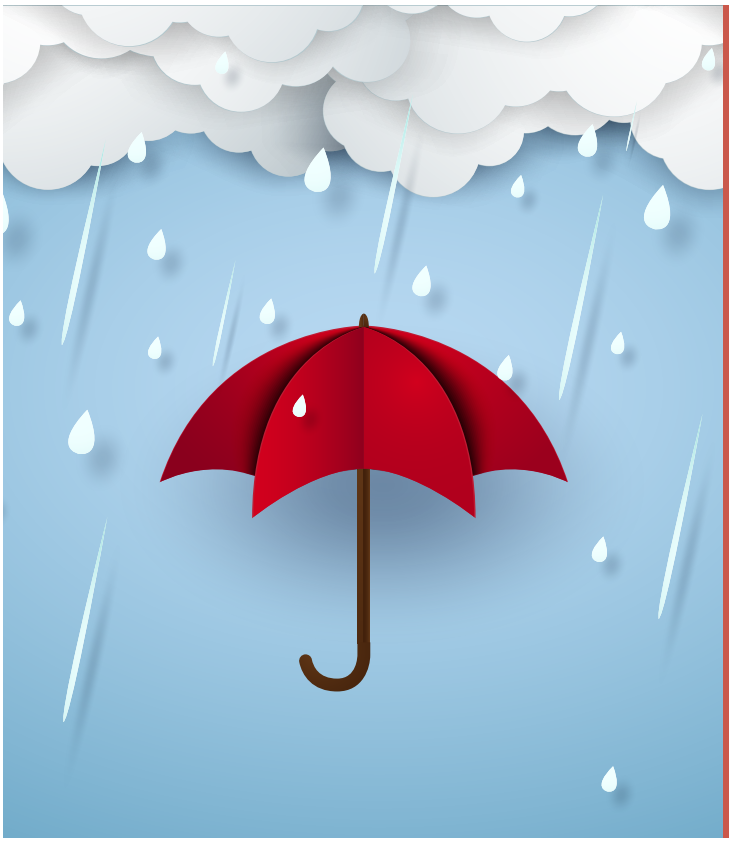


How to Prepare for Extreme Weather

Tidy up ahead of storms, so that in the event of high winds or snow storms items such as trash bins, lawn furniture, pots and trays will not be blown into your greenhouse. If required, move all the accumulated equipment and supplies out of the way along the sides and ends of your greenhouse. If you would like to create a path to the greenhouse in the winter or prevent snow drifts from accumulating on the sidewalls, this will help creating paths with a snowblower.

If you are concerned about an upcoming winter storm, leave some minimal heat on inside the greenhouse to help reduce the amount of snow accumulating on the roof. When heavy snow is predicted, the greenhouse heating system should be turned on and the thermostat set at 70°F (21 Celsius) or higher.

While our standard greenhouse is rated for 32 pounds per square foot, many of our customers will choose to take a broom and sweep off the snow drifts to be extra cautious. It also allows light in and helps to increase the internal temperature of the greenhouse which will reduce additional snow build up.



Additional Tips to Protect your Greenhouse in a Storm:

- Disable the roof and side vent openers and use chicken wire to tie the vents closed.
- Place a heavy object in front of the door.
- Use tape to keep the exhaust fan blades from blowing open.
- Set exhaust fan and shutters to a warmer temperature to prevent them from turning on.
- For glass greenhouses, if you have time and material, use plywood to face the outside walls and roof to prevent flying debris/ damage. All glass is safety tempered for considerable strength. *for intense tropical storms, hurricanes, or tornadoes if there is time.

Additional Resources

BC Greenhouse Builders Blog

Regularly updated with greenhouse tips and tricks including maintenance, growing advice and more.

→ **blog.bcgreenhouses.com**

BC Greenhouse YouTube Channel

An assortment of how-to videos and expert tips right from our team!

→ **youtube.com/user/BCGreenhouseBuilders/videos**

Donna Balzer

Garden expert, regular guest on CBC radio and host of internationally aired Bugs & Blooms on HGTV.

→ **www.donnabalzer.com**

About Us

BC Greenhouse Builders is a family owned and operated greenhouse manufacturing business founded in 1951. Henry Heinen, a long-time company employee, purchased the company in 1972 along with his wife, Greta. With Henry's expertise in design and manufacturing, he successfully created the highest quality greenhouses that were unmatched in structural strength. The business continues to grow and expand into further markets with Rick Heinen now leading the charge. BC Greenhouse Builders offers an impressive variety of hobby and commercial greenhouses as well as spectacular estate greenhouses. The one constant in over 70 years in business is our commitment to customer service and a premium quality product.

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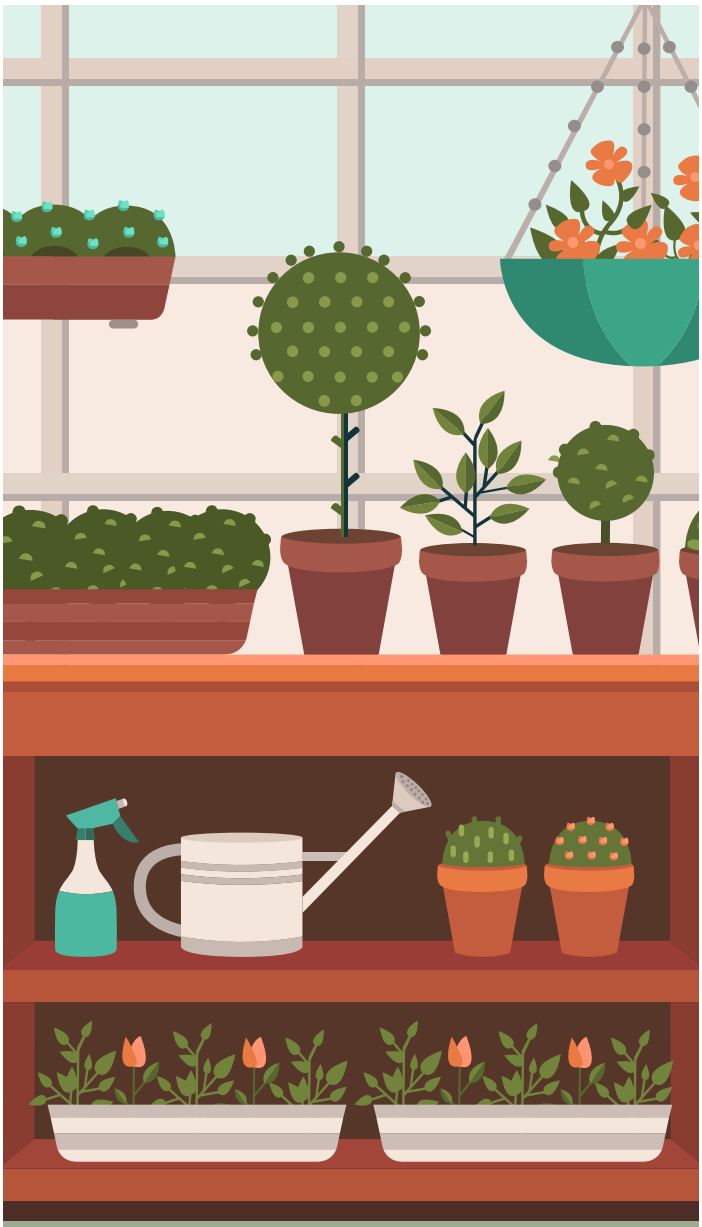
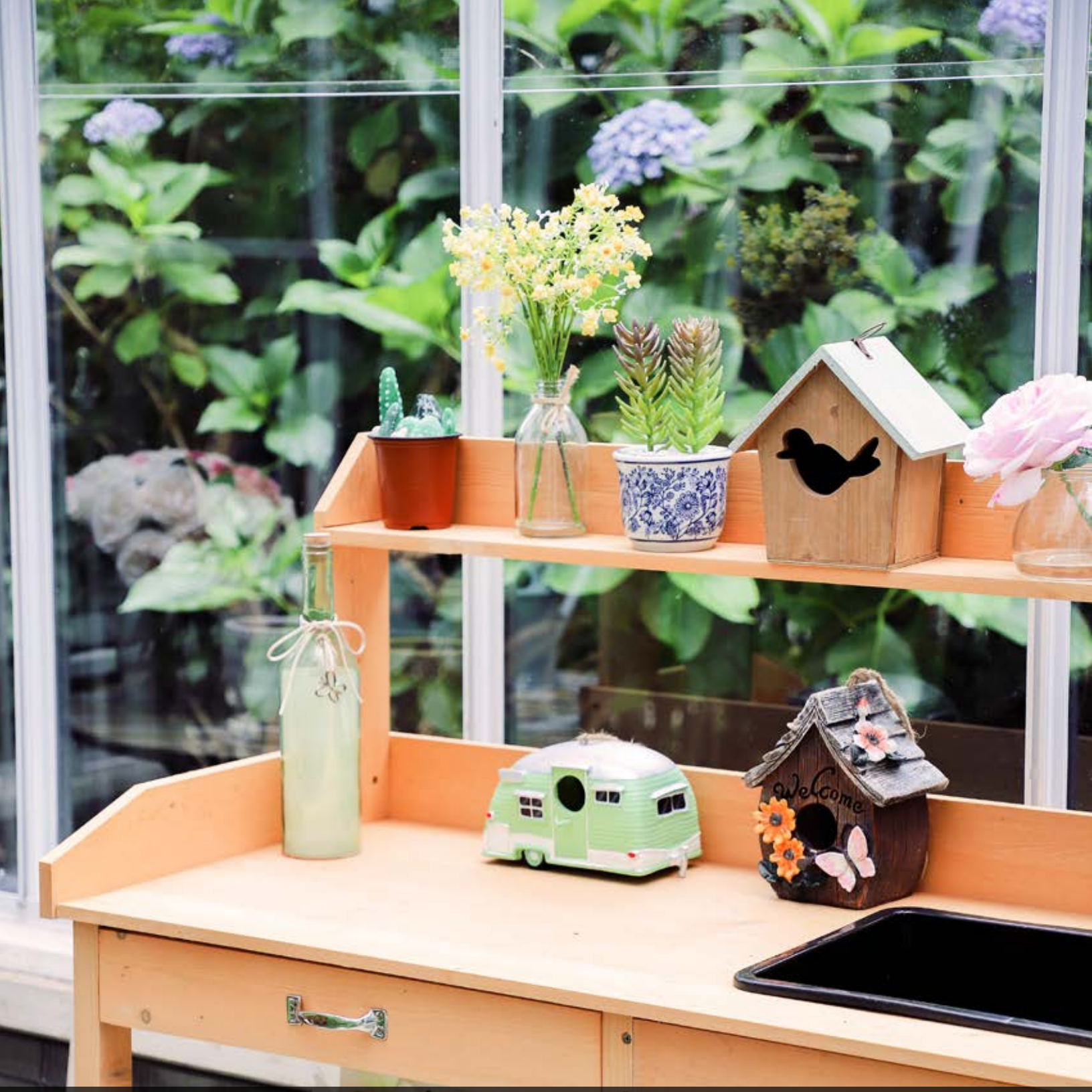


Our *'Ultimate Guide to Planning Your Greenhouse'* Series

Part 1 . . . First Steps to Buy a Greenhouse
Part 5 . . . Greenhouse Maintenance and Tips for Extreme Weather Events

Coming Soon:

Part 2 . . . Designing Your Greenhouse: Inside and Out
Part 3 . . . What to Expect When You are Expecting a Greenhouse
Part 4 . . . Staging Your Greenhouse: From Containers to Climate Control
Part 6 . . . Greenhouse Gardening from the Experts



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