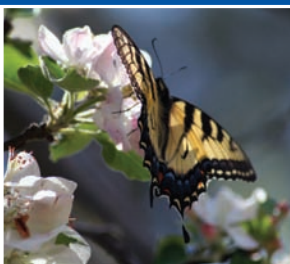




A beginner's guide to opening and closing a water garden

Beautifully simple water gardening



www.lagunaponds.com

POND CARE GUIDE

Spring and fall are seasons of change. As a pond owner there are some important things you need to know in order to keep your pond and its inhabitants healthy throughout the year.



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SPRING OPENING

Spring has sprung. Thoughts of backyard BBQs, sunny picnics and lazy afternoons fill your head. You have an overwhelming urge to get outside and enjoy your backyard oasis. However, before starting your water garden for the season there are a few simple steps to follow to help ensure that your retreat returns to its full glory:

Step 1 – Cleaning

The most important task in preparing a pond for the new season is to eliminate any leftover organic residue. Use a pond net or skimmer net to remove leaves, twigs and debris from inside the pond. The Laguna Pond Vacuum provides a fast and convenient way to clean your pond.



Step 2 – Refilling

Early spring is a good time to consider a partial water change of up to 50%. Use your pump to partially drain the pond. Before refilling, let the water run a few minutes to flush the pipes. Make new water safe by adding Laguna Water Prep to eliminate chlorine and chloramine, as well as to neutralize any harmful metals found in tap or well water.



SPRING OPENING

Step 3 – Starting the Pond

The best time to start the pond's biological system is right at the beginning of the season when pond temperature is above 50 °F (10 °C). Laguna Bio Booster provides powerful beneficial bacteria designed to eliminate ammonia and nitrite as it is produced. Laguna Phosphate Control is a second bacterial preparation that, like Laguna Bio Booster, is beneficial to add to the pond's ecosystem. It contains micro-organisms that help reduce phosphate levels in pond water naturally reducing algae without employing algacides.



TIP

Pre-soak your biological filter media in Laguna Bio Booster to super charge it.

Step 4 – Starting the Equipment

Pond equipment should have been cleaned and packed away for winter. If not, then make sure to clean all dirt and debris before restarting or placing in position. If pumps were allowed to run over the winter, they should be removed and cleaned.



TIP

Can't find your Laguna Equipment Manual? Download your free copy from www.lagunaponds.com

SPRING OPENING

Pump Maintenance

Materials Needed:

- Cleaning Brushes
- Vinegar
- Screwdriver



* See your instruction manual for more details.

SPRING OPENING

Step 5 – Adding the Fish

Fish that have been kept indoors for the winter will need time to adjust to the pond's water conditions. A sudden change in temperature and pH level can have an adverse effect on the fish. That is why it is important to allow them to acclimatize gradually. Never "pour" or drop the fish into the pond.



The first step is to net the fish as gently as possible and place them into a plastic bag or bucket for transportation. Once at the pond, the bag should be untied and allowed to float on the pond's surface.



Wait about 10 minutes, or until the temperature of the bag and the pond water are about equal, then add a small amount of pond water to the bag and leave for another 10 minutes.



Repeat the process once or twice more, then add ½ a cap of Laguna Water Prep before gently allowing the fish to swim out of the bag and into the pond.

If the fish have overwintered in the pond, do not start feeding them until they are active and/or the pond temperature has reached approximately 47 °F (8 °C).



TIP

It is important to ensure that you do not feed your fish too early in the season. Koi and goldfish have trouble digesting food at colder water temperatures.

Watch your fish carefully for a few days. Moving can have a traumatic effect on fish, so watch them carefully to ensure that they are adjusting to their new surroundings and that there are no losses.

PREPARING YOUR POND FOR THE WINTER

The days are starting to get shorter and the warm summer breezes are slowly becoming cool fall gusts. The desire to cozy up inside by a flickering fire, with a hot cup of cocoa and good book is growing strong. But before you settle in for the winter there are a few things that need tending to. Your water garden needs to be properly prepared for the winter months.



The month of October brings about a change in weather that signals the need for winter preparation in colder climate zones. Skim your pond at least once a week, removing any leaves or plant matter. Ponds should be covered with netting (such as Laguna Pond Netting) in order to catch the leaves and make them easier to remove. Leaves or plant matter left in the pond will deteriorate over the winter producing organic waste.



TIP

A patch of leaves left in the deepest part of the pond can help to provide shelter when fish are being kept in the pond for the winter.

This is also a good time to start introducing a spring/fall formulated fish food such as Laguna Premium Wheat Germ Spirulina Food. This food is specially formulated for feeding in the spring and fall. Make sure to have a good thermometer on hand so you know when it's time to stop feeding.



PREPARING YOUR POND FOR THE WINTER

TIP

The Laguna Floating Thermometer is ideal for monitoring the water temperature in your pond. The thermometer includes an easy viewing window with large temperature indications for quick readings. It comes with a handy anchoring cord and is designed to float on the water surface for easy access.

It is also important to continue dosing your pond water regularly with Laguna Bio Booster to ensure that there are ample beneficial bacteria to handle the increase in organic pollution due to decomposing leaves. Small, partial water changes are also a good idea to help dilute any problem that may exist.



TIP

Add a full dose of Laguna Water Prep when performing water changes or adding water. It eliminates harmful chlorine or chloramines from newly added tap or well water, immediately making pond water safe.

Depending on the climate zone you live in, November is when you will start to see the water temperature of your pond drop below 43 °F (6 °C). When the water reaches this temperature submersible pumps should be removed, cleaned and stored for the winter. Completely take apart and clean your pump, especially the impeller. Check the owner's manual or www.lagunaponds.com for instructions. Storing your equipment without cleaning it could result in damaged equipment or a broken impeller shaft when you restart in the spring.

PREPARING YOUR POND FOR THE WINTER

If you use your primary pump in the winter, completely clean your pump and impeller. If you are using a secondary smaller water pump ensure that it has been thoroughly cleaned before use.

Ensure that your pump is close to the surface of your pond or on bricks to prevent cooling of the lower water levels. This should be done even in climates where the pond freezing over is not an issue. It is important not to leave the pump in the deep area of the pond where fish will be hibernating for the winter. Doing this disrupts the water's natural thermocline* and will result in fish loss.

You will also need to disconnect, clean and store pond equipment such as UV sterilizers and external filters. If you have a waterfall you will also have to disconnect it for the winter months.

In colder climate zones an air hole needs to be kept open to allow for gases to escape from your pond. If your pond completely freezes, fish may suffocate and die. A Laguna De-Icer and/or Aeration Kit should be added.

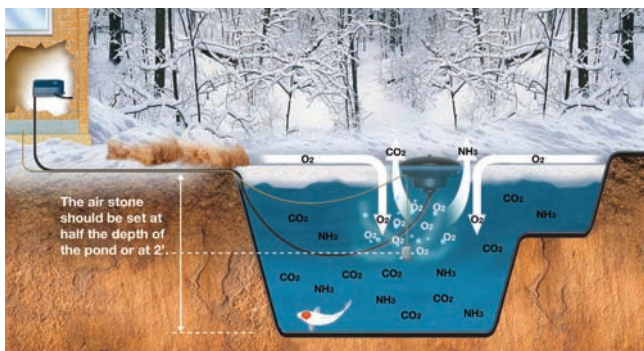
Laguna offers a variety of products to help winterize your pond:

The Laguna Pond De-Icer is a floating device that attaches to a Laguna pump outlet and allows water circulation and oxygenation throughout the winter.

The Laguna Aeration Kit helps prevent the pond surface from completely freezing over the winter and allows for proper oxygen/carbon dioxide gas exchange for fish to survive the winter.

The Laguna Heated Pond De-icer helps keep ice from forming and helps de-gas the pond, making it safe for fish. The unit comes with a highly visible LED pilot light that indicates when it's on.

*Thermocline is the transition layer between deep and surface water.



TIP

Use the Aeration Kit in the summer months to provide supplemental aeration which improves the quality of pond water for fish and plants.

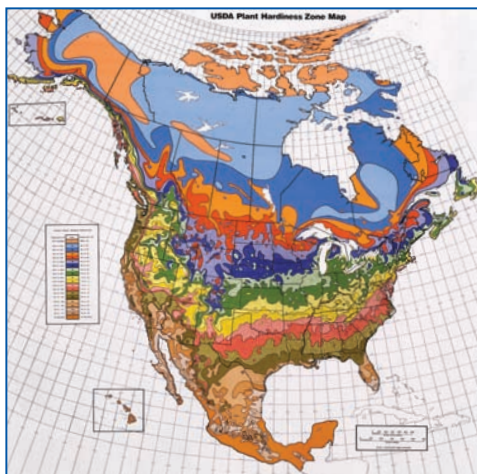
PREPARING YOUR POND PLANTS FOR THE WINTER

With cold weather approaching, it is important to take the necessary steps to prepare your pond plants for the winter months. Trim hardy lotus and lilies and then put them in the deepest part of your pond. Use a burlap bag and string for easy removal. Other hardy plants (grasses, cattails, and iris) do not need to be trimmed back. You can leave them on the shelf in more temperate areas (ex.: garden zone 7 or above) or put them at the bottom of the pond in colder climates. Remove and/or compost tropical oxygenators and floating plants (ex.: lettuce and hyacinths).

If you have space, you can bring your plants inside. Put them in boxes (or plastic tubs) lined with trash bags and place them in your basement. You need to provide them with light and keep them damp. Check on your plants at least once a week.

What zone do you live in?

Use this chart to help determine which products are best suited for your climate.



Climate Zones *Source: U.S. department of Agriculture

Zones 1 to 5b

a combination of a Pond Heater PT1642/1643 and Aeration Kit PT1630 is recommended

Zones 6a to 7b

the use of either a Pond Heater PT1642/1643 or Pond De-icer PT1645 is recommended

Zones 8a to 11

the use of an Aeration Kit PT1630 is recommended

Zone	Fahrenheit	Celsius	Example Cities
1	Below -50 F	Below -45.6 C	Fairbanks, Alaska; Resolute, Northwest Territories
2a	-50 to -45 F	-42.8 to -45.5 C	Prudhoe Bay, Alaska; Flin Flon, Manitoba
2b	-45 to -40 F	-40.0 to -42.7 C	Unalakleet, Alaska; Pinecreek, Minnesota
3a	-40 to -35 F	-37.3 to -39.9 C	International Falls, Minnesota; St. Michael, Alaska
3b	-35 to -30 F	-34.5 to -37.2 C	Tomahawk, Wisconsin; Sidney, Montana
4a	-30 to -25 F	-31.7 to -34.4 C	Minneapolis/St. Paul, Minnesota; Lewistown, Montana
4b	-25 to -20 F	-28.9 to -31.6 C	Northwood, Iowa; Nebraska
5a	-20 to -15 F	-26.2 to -28.8 C	Des Moines, Iowa; Illinois
5b	-15 to -10 F	-23.4 to -26.1 C	Columbia, Missouri; Mansfield, Pennsylvania
6a	-10 to -5 F	-20.6 to -23.3 C	St. Louis, Missouri; Lebanon, Pennsylvania
6b	-5 to 0 F	-17.8 to -20.5 C	McMinnville, Tennessee; Branson, Missouri
7a	0 to 5 F	-15.0 to -17.7 C	Oklahoma City, Oklahoma; South Boston, Virginia
7b	5 to 10 F	-12.3 to -14.9 C	Little Rock, Arkansas; Griffin, Georgia
8a	10 to 15 F	-9.5 to -12.2 C	Tifton, Georgia; Dallas, Texas
8b	15 to 20 F	-6.7 to -9.4 C	Austin, Texas; Gainesville, Florida
9a	20 to 25 F	-3.9 to -6.6 C	Houston, Texas; St. Augustine, Florida
9b	25 to 30 F	-1.2 to -3.8 C	Brownsville, Texas; Fort Pierce, Florida
10a	30 to 35 F	1.6 to -1.1 C	Naples, Florida; Victorville, California
10b	35 to 40 F	4.4 to 1.7 C	Miami, Florida; Coral Gables, Florida
11	above 40 F	above 4.5 C	Honolulu, Hawaii; Mazatlan, Mexico

PREPARING YOUR POND FISH FOR THE WINTER

Use the following guidelines if you are not heating and/or aerating your pond to help determine if your fish should be brought inside for the winter:

- When the pond is less than 24" (61 cm) in more temperate areas such as gardening zone 7 or above
- When the pond is less than 42"– 48" (107 – 122 cm) in cold climates such as gardening zone 6 or below
- Container water gardens

As the water temperature of your pond falls, the fish will require less food. Watch their food intake and adjust your feeding. Stop feeding your fish completely when the water temperature of your pond reaches an average of 45 °F (7 °C). At 47-50 °F (8-10 °C) the fish will begin to hibernate at the bottom of the pond. Regardless of the outside temperature or if your fish come to the surface during the winter do not feed them. They might be surfacing for oxygen not food. If you feed them during this period, the food will not be digested.



TIP

If for some reason the ice has completely frozen over don't panic and try and break through it. Simply fill a metal pot with boiling water and let it melt through the ice, reopening the hole.

If your pond is not suitable to winter your fish you can bring them inside. They can be kept inside a tub or aquarium in your home. Because goldfish and koi are fish that create large amounts of waste, they require strong filtration and a large tank to maintain a healthy environment. A basic rule of thumb is that goldfish require 3 gallons (11 litres) of water per inch (2.5 cm) of fish; koi need a minimum of 5 gallons (19 liters) per inch (2.5 cm) of fish. Buy a filter that moves at least twice the quantity of water in the tank (ex: 50 gallon tank = 100 gallon per hour filter). It is better to over filter than under filter. You may continue to feed Laguna fish food, but reduce the amounts during the inside period to minimize waste production.

Perform a partial water change every week and make sure to treat your water with Laguna Water Prep. Watch the dosage – Laguna pond products are concentrated for pond use. Add Laguna Bio Booster to the water weekly. The more beneficial bacteria you have in the container, the less bad bacteria. Monitoring lighting and feeding, as too much light and food increases algae growth. Make sure to change filter carbon monthly. With a little care and attention you'll be able to enjoy your fish during the winter months.

Tools for Spring Opening:

- Plant fertilizers
- Pruning tool
- Bucket
- Waders
- Garbage bags
- Laguna Water Prep
- Fish Net
- Pump

Winter Quick Check List:

- Skim your pond weekly to remove leaves and plant matter
- Switch to a spring/fall formulated fish food
- Dose pond water regularly with Laguna Bio Booster until water temperature reaches 50 °F (10 °C)
- Remove, clean and store pond equipment
- Disconnect waterfall
- Install a Pond Heater, De-icer or Aeration Kit
- Prepare your pond plants for the winter
- Prepare your pond fish for the winter



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