



Pond Guide

its all about water quality



Pond Guide - Getting started

When creating a pond there are several aspects to be considered...

First you need to choose the material to make the pond from: UPVC, fibre-glass, concrete and pond liners are perhaps the most common. Discuss your requirements with your local shop who will help you decide on the best option for you.

Positioning the pond

The pond should be situated in good light for your pond plants, but not so strong as to promote algae. Place the pond away from trees, to prevent the leaves falling into the pond in the Autumn.

Choosing a liner size

If you decide to buy a pond liner, this is how to work out the size you will require: Measure the length (L), width (W) and depth (D) of the pond excavation in metres. Size of the liner = (twice the depth + the width) by (twice the depth + the length) E.g. Pond excavation is 6 (L), 4 (W) & 2 (D). Liner size required is 8 x 10. Allow some extra liner capacity for the overlap.

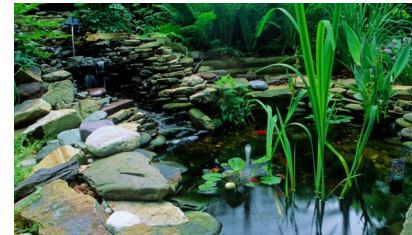
B. If you are to keep koi, the pond should ideally be 1m (3 ft.) in depth.

Pumps and Filters

There are a myriad of pumps and filters on the market - internal, external etc. Take advice from your dealer but always purchase the largest filter you can afford. This will ensure good water quality which will keep your fish healthy in the future.

Installation

Once you have dug your pond shape out accordingly checking the span of the pond regularly with a spirit level to ensure the sides are even, removed any sharp stones, added underlay and fitted the liner into the excavation. you are ready to add water! Fill the pond with tap water (flattening creases as you go)



Pond capacity

Once the pond is in place, the following calculations may be used to give you an approximate indication of pond volume.

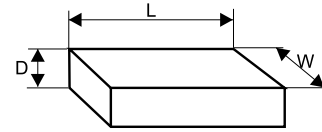
Round pond

Radius in metres x radius metres x 3.14 = Surface Area m²
Surface Area m² x depth metres = Volume m³
Volume m³ x 1000 = Litres capacity



Square / rectangular pond

Length x width x depth metres = Surface Area m³
Surface Area m² x 1000 = Litres capacity



L = Length
W = Width
D = Depth

N.B. Make allowances for sloping sides, shelves etc. If the pond is an irregular shape use the average dimension figures. To calculate galls. from the litre capacity divide litres by 4.5

Add the correct amount of Waterlife's PoolShield

dechlorinator / water conditioner). This will neutralize toxins (chlorine, chloramine etc.) found in raw tap water. Once the pond is full, trim off the edges of the liner to leave a 15 cm + (6 ins.+) overlap. Place rocks or paving stones around the outside of the pond to weigh down the liner overlap. Use mortar to point in the rocks or paving stones to hold them in place. The mortar should be sealed or suitable for pond use to prevent it making the pond water alkaline. Install the filter and pump according to manufacturer's instructions. In some setups the filter/pump may need to be installed first.



Now add a **Waterlife BioMat** to the filter box (if appropriate) and a double dose of **BacterLife P** to help mature it with live bacteria.

BacterLife P contains two essential groups of bacteria. One to help digest toxic ammonia and nitrite, the other to break down organic waste which is responsible for sludge in the pond.

After setting up your pond, **BacterLife P** can be used regularly to help maintain good water quality. These other uses are discussed later within the leaflet.

Plants

Now you are ready to plant your pond. Plants offer many advantages to the pond keeper.

- Submerged plants release life-giving oxygen into the water whilst simultaneously absorbing carbon dioxide and other fish waste.

Plants compete with algae for nutrients in the water and so restrict their growth. Water lilies are probably the best at this because their leaves or 'pads' also block sunlight.

Other widely available aquatic plants include elodea, water iris.

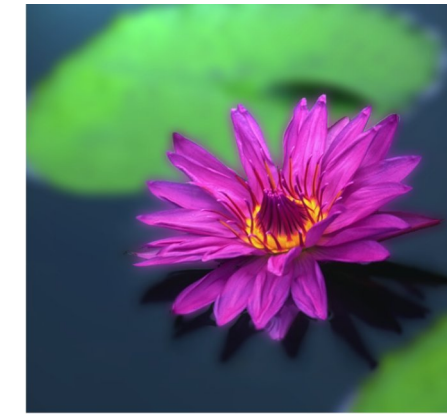
B. Some species of fish eat submerged plants, so choose your selection carefully.

Potting up your plants

Take a plastic basket, and line it with perforated polythene or hessian sacking. Carefully remove the plant from its container placing it into the basket with a **PondFlora** plant food tablet at its roots. Now back-fill the basket with water logged aquatic soil and cover with a layer of gravel.

Waterlife's PondFlora delivers nutrients exactly where the plant needs them without releasing them into the whole pond and encouraging algae. You should push a **PondFlora** tablet into the soil every 2 months during the growth season April to August (N. Europe).

Some plants may benefit from being introduced in 2 stages. Firstly support the plants clear of the pond floor with an up-turned planting basket so that the foliage is near the surface. After a few weeks you can move them to their final position as indicated on their label.



SNAILS - As well as eating valuable plant life, snails play host to many pathogens and parasites, which can infect fish. Their numbers are best controlled by removing them when seen.

Stocking your pond



Assuming you have now filled your pond, treated the water with **Waterlife's PoolShield**, added plants and left the system running for an appropriate length of time (determined by your local shop) - you are ready for fish.

It is important that your fish have enough room to grow, use the ratio of 2.5 cm (1") of fish per 45 litres (10 galls.) of pond water. The other golden rule is to stagger the introduction of fish to your pond. This enables good, nitrifying bacteria to grow with the fish, so your filter isn't overloaded. If you have a "natural pond" this delay enables aquatic plants to establish and absorb wastes.

After introducing new fishes to your pond you are recommended to treat with **Waterlife's Myxazin P**.

Its powerful bactericide / fungistat will reduce the chances of stress induced illness, which pond fish can contract.

Fish

There are many species of fish available so discuss the best varieties for you with your local retailer. We have outlined the most popular fish below to help you:

Orfe - The most commonly kept fish, reaching 8-25 cm (3-10 in).
Goldfish - Fast swimming, schooling fish, growing up to 40 cm (16 in).

AUTUMN - Orfe come from fast flowing, well oxygenated mountain streams and are always the first casualties in a badly managed / designed pond or in hot or thunderous weather. Under these conditions dissolved oxygen will be very low unless the water is continually aerated / circulated.

Goldfish - Perhaps the largest fish which most people try to keep outside, growing up to 75 cm (30 in), although they need plenty of space to reach their full size.

hubbies - Highly colourful version of the goldfish. Size: 8-25 cm (3-10 in), excluding the tail fin.

loaches - These scavengers are useful for eating left-over food, which would otherwise rot on the bottom of a pond. Growing to over 70 cm (28 in) both green and golden varieties are available.

minnows - These are similar to Orfe in behaviour and water quality requirements. Rudd reach 40 cm (16 in) overall in the wild.

Feeding & fish nutrition

Most ponds don't contain enough natural food to keep your pond fish in good health, so it is necessary to supplement their diet. It is very important to feed with a well-balanced dried food (pellets or flake) as the correct ingredients and vitamin content play an essential role in maintaining fish's health. If you buy a premium food it is unnecessary to feed large quantities which may promote algal growth and water pollution. Usually feeding once or twice a day is adequate. It is recommended to use a wheat germ pellet at the start/end of the season (Typically Mar - Sept N. Europe) as it is easier for the fish to digest. To boost the vitamin content of the feed, soak in some **Vitazin** treated water for 5 minutes, prior to feeding. This will improve the fishes vitality and colour.

Water testing

As the owner of a pond, there are a few water tests that should be carried out on a regular basis: pH, ammonia and nitrite levels in the pond water are probably the most important to check. These can be easily monitored with your **Waterlife test kits**.

Pond pH test

pH is the measure of acidity or alkalinity in your pond. Most ornamental pond fish require a pH of 6.5 - 8.5. Water that is markedly more acidic than this optimum range (i.e. lower than pH 6.5) or more alkaline (i.e. higher than pH 8.5) may cause fish to become stressed, which in turn can lead to disease. The pH of the pond-water is affected by many things, for example unsealed concrete, calcium or magnesium based rocks, municipal tap water, fish waste etc. The pH can easily be reduced with **Waterlife's Pond Buffer**. Using this product will help the fish by:

- Reducing ammonium toxicity
- Lowering stress.



