

Koi Hate Change!

- Koi can adapt to nearly any pH, water hardness or water temperature - but changes in water parameters stress the Koi, which can cause them to succumb to parasites or disease.
- Larger volumes of water have more stable water parameters. Colder climates should have deeper ponds. Hawaii can have large ponds 2 feet deep, but Wisconsin should have ponds a MINIMUM of 4-6 feet deep! Shade ponds to keep temperatures more constant. Only change a small amount of water at time so the temperature is more constant. Koi are playful!
- When you fall into a goldfish pond, the goldfish swim away - but when you fall into a Koi pond - the Koi are curious and will swim right over to you to see what's new in their home! Most can be trained to hand feed, and many like to be petted!

Keep your pond CLEAN!

- No leaves, debris or plant matter should accumulate on the bottom!
- Bottom Drains will remove Koi waste and detritus to the filter.
- Do not use ANY pesticides near the pond, or in any place where water could wash pesticides into the pond. A raised pond edge is very helpful!
- Sludge buildup can be treated using BioClear once a week.
- Never use 1 large pump when you can use 2 smaller pumps instead! If one pump quits, the other will keep the Koi alive!
- Backup power is more critical for aeration than for pumping!

Water

- Always add dechlorinator BEFORE you add city water to your pond.
- PH should be above 7, and up to 9.
- Hard water is GOOD!
- NEVER chemically lower pH!
- If you need to raise pH, add Baking Soda and retest. Add a Tablespoon of baking soda per hundred gallons per day to keep total alkalinity constant. 1 Tablespoon baking soda in 100 gallons raises t.a. by about 20-25 ppm, and will also raise pH - but never higher than 8.4 - which is fine!

Koi Growth

- Good quality Koi have the genetics to be able to grow over 30"!
- Koi growth is controlled by pheromones in the water, so water changes that remove pheromones allow the Koi to grow to their potential.
- Koi grow up to 15 years of age, albeit more slowly after the first 5 years!

Filtration

- Filters should run 24 hours a day!
- There should be 3 stages of filtration:
 - First - remove solids like poop and leaves
 - Second - remove fine particles that can cloud the water
 - Third - perform 'biologic' filtration. A filter is a place for beneficial bacteria to colonize. One colony of beneficial bacteria converts ammonia (80% from fish respiration and 20% from poop) to Nitrite. A second colony converts Nitrite to

Nitrate. Nitrate is plant fertilizer, and will be consumed by plants or should be removed by Frequent Partial Water Changes.

- Beneficial bacteria are IN the water - none need be added! The naturally occurring beneficial bacterial will colonize a filter in about 8 weeks.
- Filters need to be cleaned! How often depends on how many Koi and how much they are eating. Clean at least once a week in the summer, once a month in the spring and fall.

Secrets to a Healthy Pond

- #1 Do Frequent Partial Water Changes!
- Rule of Thumb – change at least 10% PER WEEK! That way - water parameters (temp, pH, etc.) do not change too fast and stress Koi!
- Provide LOTS of Oxygen! Air Pumps with Air Stones are best! Do not depend on just a waterfall. Ponds need air day and night - especially if there are plants in the pond. Large Koi require more oxygen than small Koi.
- Do NOT Overcrowd! A 'natural' pond has about 1 fish per One Million gallons! The amount of filtration you have determines how many Koi can stay healthy in your pond! More filtration = more Koi!
- **Every Water Change:**
 - Use a good dechlorinator to neutralize Chloramines or Chlorine.
- **Weekly:**
 - Use KoiZyme to prevent bacterial buildup that causes ulcers and rot.
 - Use TerraPond Clay to replace trace minerals consumed by the Koi.
 - TEST your pond water (and keep a chart) for Temperature, pH, Total Alkalinity, Ammonia and Nitrite.
 - Use BioClear if needed for sludge buildup.
- **Monthly:**
 - TEST pond water for Nitrates. If above 60 ppm, do more Frequent Partial Water Changes!
- **Twice a Year:**
 - Completely muck and clean the pond of all debris (spring and fall).
- **Once a year:**
 - Treat pond with ProForm C (can be done in the spring or fall) to control most Koi parasites.
 - Treat pond with PraziPond for flukes and internal worms.
 - Treat pond with ProFrom LA for Anchor Worms and Lice.