Koi Pond Stocking Tips

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create a HEALTHY environment FOR KOI

The popularity of ponds is exploding, and with it the keeping of koi. The rewards of the koi pond are great. A well-designed koi pond adds beauty and a sense of style wherever it is located. The size, colors, and graceful swimming of koi present an effect that is at once beautiful, serene, and dramatic. It is, however, the unique interaction between the koi and the keeper that make it a truly special hobby.

Koi are hardy and relatively easy to raise. However, to ensure their health and optimize enjoyment of their company, enthusiasts need to plan their pond environment carefully. Not just any pond will do. Only after the right pond is constructed, or refurbished, should the selection and acquisition of koi begin.

What Koi Need

Lots of water - The ideal setup for koi is a pond of at least 1000 gallons with a smooth gravel substrate, rocks, and hearty plants. Koi are moderately cold tolerant, well suited for ponds in most climates.

One of the keys to their popularity is their rate of growth and size at maturity. Koi can grow to eight inches in length in their first year, and twelve to sixteen inches by the end of their second year. Under ideal conditions - perfect pond size, temperature, water quality, and food availability - they will grow as long as thirty-six inches and weigh over forty-five pounds. Due to the size limitations of most household or corporate ponds, however, koi seldom achieve this size. An average mature length of twenty-one inches is more common.

In addition to adequate surface size, a good pond for koi will be at least three to four feet deep. Here koi will find the cooler water they need during the warm summer months.

Cold protection - Koi have been bred to survive the brief, cold winters of Japan. Like most fish, they need time to adjust to variations in temperature, so care needs to be taken in their handling.

Koi can remain outdoors so long as the pond does not freeze too deep. A 6-8 inch thick ice cover over a 3-4 foot pond is acceptable so long as a substantial area of surface water is open at all times to allow for gas exchange. A bubbler will help circulate the water and may prevent freezing in cool climates, but for colder regions a de-icer will be needed to maintain an open area.

Care and companionship - Unlike the goldfish won at the carnival or fair, koi live a long time…possibly a very long time…an average of somewhere between twenty-five and thirty-five years. Exceptional koi have been known to live up to 200 years. To say that this requires a long-term commitment is an understatement. Few dispute that the effort is worthwhile. In fact, once attached to your fish, you may find yourself moving them with you should you ever need to relocate.

Trained to hand-feed, koi will come to recognize you personally. Also, because koi are gregarious, they interact well together. They actually prefer company and will swim together in formation. Although they are peaceful fish, they do feed aggressively. Watching the boil of koi at feeding time is fun and exhilarating.

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Oxygen - Koi are hardy, but they always need good-quality, well-oxygenated water. Thus, installing a waterfall or fountain is a good idea.

During active, summer feedings the amount of waste created by the koi will increase. If the water tests high for ammonia or nitrite, it is especially important to take action: increase oxygen levels and do a partial water change.

Filtration - Substantial mechanical and biological filtration should be provided in order to maintain proper water conditions. The ideal pond will have a bottom drain to facilitate water changes and waste removal. With the addition of a high volume filter, many swimming pools have been successfully converted for use as koi ponds.

A good diet - The appearance and health of koi are dramatically impacted by diet. The staple diet of koi is a quality pellet or flake food that does not exceed 30% protein. But to optimize growth potential and color, it is also important to supplement their diet. A balanced diet will vary seasonally to include a mix of wheat germ, protein, fruits, vegetables, plankton, shrimp, and color enhancing foods. Also, because foods may lose nutritional value with age, you should watch dates on packages and be sure that all foods are fresh.

Containing ingredients like spirulina and carotene, color enhancing foods work very well to bring out the brilliance of koi. During use of these products the white areas of the fish may develop an orange or yellow cast. To maintain brilliant white areas, many enthusiasts alternate the use of color enhancing foods with other quality diets.

Careful feeding - koi have no true stomachs and cannot store fats. The only result of overfeeding, and it is a negative one, is an overload of nutrients in the pond which can lead to serious problems, including excessive algae and poor water quality. It is especially important not to feed koi at all when the water temperature dips below an average of 40 degrees. During this time, the bio-filter in the pond shuts down, making any addition to the bio-load in the pond a hazard. At the same time, the bacteria koi use to process their food cease to work.

Plants - koi and pond plants are excellent for one another. koi waste feeds plants. Plants create oxygen, and their shade helps cool the water and protect the koi. But because koi are omnivorous and eat plant matter, they will definitely eat the roots of pond plants, and will dig hard to get to them. It is recommended that a barrier be constructed - stone, large rocks, baskets, and so on - to isolate plants, not eliminate them.

Koi enhance their own color by eating certain algae. The last thing you should want to do is wipe out algae populations with controls like copper sulphate. Instead, make selective use of products like Algae Fix, or natural controls like barley straw. These will reduce populations, leaving algae available for koi feeding.

In addition to helping control algae, koi also help control mosquitoes by feeding on their larvae, reducing the need for pesticides.

Protection from predators - Due to their brilliant color and size, koi are seldom hard to spot. As a result, they need protection from natural predators such as large birds and mammals. Netting will keep most birdlife out. If raccoons, bears, or other large predators threaten, electric fencing may be necessary to keep them out. Keepers of corporate ponds also find that they need to protect their koi from well-meaning employees who want to feed them, often with inappropriate foods.

By starting with the right setup, your koi will thrive for years to come. Management will be simplified, greatly boosting your enjoyment.

Koi should be stocked based on a reasonable estimate of their full growth, not on their size at purchase. Most well-maintained ponds will support 1" of fish per ten gallons of water. Though some koi in the largest ponds will grow to 36", we recommend using an average of 21". The following chart will help estimate the number of fish your pond can support. If you choose to "overstock" your pond with smaller koi, or if fish grow beyond the 21" estimated average, it may be necessary to remove fish to maintain a healthy balance.

Stocking Guide:

Typical Pond Size	Surface Square Feet	Gallons at 3'	Inches supported	21" koi supported	Gallons at 4'	Inches supported	21" koi supported

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Size	Feet	Depth			Depth		
6 x 8	48	1077	107	5	1436	144	7
9 x 9	81	1817	182	8	2423	242	11
9 x 12	108	2423	242	11	3232	323	15
9 x 16	144	3232	323	15	4308	431	20

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