BREEDING KOI FOR FUN & PROFIT
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ALL ABOUT THE KOI

The hobby of keeping Koi is a fascinating one that can become a lucrative business with a little research and a lot of work.

Owning Koi is a relaxing pastime that you will enjoy throughout your life. The Koi is one of the most beautiful fish in existence. Their colors are eye-catching and their agile bodies are quite graceful when gliding through the water of their pond. A group of Koi can live for more than two hundred years when cared for properly, although 25-35 years seems to be an average lifespan.

Long Lived Fish Need Plenty of Room

Since it lives such a long time, the Koi is able to increase in size dramatically, as long as it has a good diet approved for Koi, the proper water conditions, and enough living space. It is not difficult to care for Koi, as they require most of the same care as other fish kept by hobbyists. The main difference is that Koi require lots of room, so they are housed in good-sized outdoor ponds.

Intelligent and Friendly

Koi are intelligent fish, and their antics can be a source of amusement for many years to come. Koi will swim over to you when you call them, and like to be stroked and petted. They can be taught to eat out of your hand, which most Koi owners thoroughly enjoy experiencing. Though they are naturally bottom feeders, they quickly catch on to eating traditional dry Koi food that floats on top of the pond water.

Bet You Can’t Own Just One

Many Koi owners compare owning these fish to eating a bag of potato chips, as it is almost impossible to have just one of them! Your Koi collection can be for your own pleasure, or you can build a Koi business out of your passion for these fish. A business of this type necessitates a long-term commitment from you, as you are working with living, breathing creatures, which deserve the best of care. Many people make pets out of their Koi, which assures that they get nothing but the best of care. You will get a kick out of purchasing a feeding ring for your Koi, placing the food inside of it, then watching as the fish scramble over each other to be first in line.
Hobby or Home Business

Your koi will become a big part of your life in many ways. As a peaceful, relaxing hobby, raising koi cannot be beat. As a business, breeding and selling koi makes a fine home business for a person who has taken the time to learn all about koi and how to start a breeding program with them. Either way, you should be able to sell many of your koi to others for a rewarding pastime and business.

THE HISTORY OF THE KOI

The Koi has an interesting history. They are the national fish of the country of Japan, and a member of the carp family (Cyprinus carpio). This is why some people call the fish Koi Carp. Koi are also called warrior or samurai fish in Japan. These names have nothing to do with their disposition. In fact, it is safe to assume that most of the Koi you will see are lovers instead of fighters! Koi are also known as Nishikigoi, which means, “brocaded carp” in Japan and other locations. Yet another title for these interesting fish is “Japanese Carp”, which is rather redundant, as the word “koi” means “domesticated carp” in Japanese.

Where Did The Koi Come From?

There is some debate as to where the Koi originated. Several authorities on these fish believe that these colorful fish first appeared in the country of Persia, which is now Iran. From Persia, the Koi gradually moved into and through the rest of the prehistoric world. The fossils of Koi that are around 20 million years old were found in the southern part of China.

Koi as a Food Supplement

The first mention of Koi was in a Chinese book written anywhere from 265 to 316 A.D. The text describing them said that the fish were black, red, white, and blue. Up until around 800 A.D., the common carp was raised in Japan as a protein food supplement. Historians are not sure exactly what was done with Koi from the second century until the seventeenth century, but they theorize that the fish were so popular with the Japanese natives that these people gave them to friends, who gave them to friends, and on and on until the Koi extended across the Orient.

Koi Are Very Versatile

Koi Carp seem to be survivalists, and their capability to adapt and thrive in so many diverse climates and water environments was responsible for the fish
doing well in so many places. Selective breeding during this time accomplished several different pattern variations of the Koi. The most common color during this period was the red and white Kohaku.

The Tokyo Exposition

In 1914, the variety of Koi known as the Niigata was taken to Tokyo for inclusion in an exposition, which was held every year. It was during this time that people all over Japan became enamored of the Koi, and started to keep them in outdoor ponds at their homes. Soon after this period, the fascination with koi spread around the world. Today, people are still captivated with these gorgeous fish.

HOW ARE GOLDFISH AND KOI DIFFERENT?

Goldfish and Koi may have some similarities, but they are definitely two different fish. The Goldfish (Carassius auratus) is over a thousand years old, and was created by the selective breeding of a type of fish known as the Prussian Carp. The plan was to develop different color mutations, and this idea was very successful. The changes in the fish were so distinct that the Prussian Carp and the Goldfish are now thought of as two completely different species of fish. Goldfish migrated to Japan and Europe during the sixteenth and seventeenth centuries.

The Common Carp and the Koi

The background of the Koi contains a fish known as the common Carp. In fact, the Koi is a common Carp (Cyprinus carpio) that has been severely culled over time for color and pattern. Contrary to popular belief, the Koi is still a common Carp. All that is needed to prove this is allowing a group of carp to breed with each other at will for several generations. The natural and original color of these fish will reappear by the second or the third generation.

Goldfish vs Koi

Goldfish are not as large as Koi. Their bodies come in an array of different shapes, and their fins and tails can be put together in several diverse configurations. Koi share a universal body shape, but have a wider variety of body colors and patterns than the common Goldfish. Koi also have a slender barbell on their lip that resembles a whisker.
Sterile Offspring

Even though Goldfish and Koi may look somewhat similar, especially when they are young, remember that each comes from a different genus of the carp. Goldfish and Koi are able to interbreed, and will produce young fish, but these fish are always sterile.
The Different Varieties of Koi

There are fourteen different varieties of Koi, with a fifteenth variety that is used as a sort of a catchall variety for all of the different Koi types that do not quite fit into one of the other fourteen slots. This last variety is known as the Kawarimono, and a large percentage of Koi are placed in this category.

Inclusion in this variety has no bearing on the quality of the Koi. Placement in the fifteenth variety simply means that there is something not quite right about the fish. It may be attractive and healthy, but it does not fit the “breed standard” for any of the individual varieties. All Koi have a unique beauty, but those who are entered in shows must resemble this standard.

Crossbreeding For Different Varieties

The many different color varieties that you will see were brought to fruition by crossbreeding fish that are closely related to each other. Crossbreeding tends to make a genetic line more stable, bringing out the good qualities while pushing back the bad. Those who are preparing to be Koi breeders are advised to learn about the different varieties so that they will know which ones they are interested in breeding and raising.

Kohaku

The Kohaku is a White Koi with red, or Hi markings. The color white should look as if it is freshly fallen snow, and there should be no superfluous marks on the white to distract the eye from the pristine color.

The clarity between the Hi color and the white is called the Kiwa. The pattern on the Kohaku should have depth and should be as well balanced as possible. There are several different pattern types, including the –

- Inazuma, which means lightning strike in Japanese.
- Nidan is the name for two red or Hi markings on the white background of the fish.
- Sandan is the name for three red or Hi markings on the white fish.
- Yondan is the name for four red or Hi markings on the Kohaku.

**Taisho Sanke**

The Taisho Sanke is a Koi carp with three different colors. In this instance, the colors are red, or Hi, black, or Sumi, and white. The color depth and the balance of the pattern on the fish is important, just as it is on the Kohaku. The Taisho Sanke should not have any black (sumi) on the head. Black (Sumi) is welcome on the fins, and most particularly on the pectoral and the caudal fins. This is taken as a sign that the Sumi color should stay even over the entire body of the fish. The red (Hi) patterns may be on just a part of the body, or can extend back over the entire length of the body.

**Showa Sanshoku**

The Showa Sanshoku Koi has much more black (Sumi) included in its patterns than does the Taisho Sanke. In fact, this classification is mostly black with a foreground of red and white markings. Color depth is very important in this variety. The black (Sumi) should be deep and dark, the color of an object made of the dense and dark black wood known as ebony.

The red (Hi) markings need to be a blood red color, and the white should be as crisp and clean in appearance as a freshly washed and starched white shirt. The white color on the Showa Sanshoku should be even and uniform on the base of the pectoral fins. There are several different varieties of the Showa Sanshoku that can pop up in other Koi classifications, such as the –

- Koromo
- Kawarimono (Kage Showa, Kankoko Showa)
- Hikari-Utsurimono (Kin Showa)
- Tancho Showa
**Asagi**

The Asagi Koi is one of the initial varieties of Koi. The body of the Asagi is a blue color, with the lighter shades of blue most preferred. The scales on the skin of the Asagi are given high importance. The edges of these scales must all be equal in length, and must be on the entire body of the koi from its tail to its head. The red (Hi) color that appears on the sides of the Asagi, on the head, and on the fins sometimes looks more orange than red. The Hi needs to be symmetrical on both sides of the Koi’s cheeks all the way to its eyes.

**Utsurimono**

Three varieties of the Utsurimono have been painstakingly developed. These are the -

- Ki, which is a yellow and black Koi
- Hi, a red and black Koi
- Shiro, a white and black koi

The Utsurimono should be heavily marked with black (Sumi) in order to display a prominent contrast with the yellow, red, or white. All colored need to be somewhat balanced, as this helps to call attention to the pattern on the Koi.

The Utsurimono is sometimes mistaken for the Bekko Koi. There are two differences to look for that will allow the observer to tell the two varieties of Koi apart. The main variation is that the Utsurimono is a black Koi with red, white, or yellow markings, while the Bekko Koi are either white, yellow, or red Koi that have black markings. The Utsurimono also feature black markings on their heads that run all the way down to their noses. The Bekko Koi do not have black markings in this area.

**Hikarimono (Ogon)**

The word “Hikari” translates from the Japanese to mean “metallic”. “Mono” means one particular single color. This means that the Ogon is classified as a highly metallic-colored variety of Koi. There are -

- Metallic silver, or Platinum Ogon,
- Metallic yellow, or Yamabuki Ogon.
These two colors are the most common, and the easiest shades of Ogon to purchase.

There is also the -

- Fuji Ogon, where only the head of the Koi is metallic
- Orenji Ogon, which is all orange like a common goldfish, with a red splotch on its back. Goldfish lovers are usually quite fond of the Orenji.

With the exception of the Fuji, the metallic color of the Ogon must be the same from the head to the tail, and even flow down to the ends of each fin in order to be considered “correct”. The size of the fins also matters a great deal. Everyone wants to see long fins on the Ogon, as they help to counterbalance the plain Koi body.

**Bekko**

The Bekko variety is a white, yellow or red Koi that can be identified by the unique black markings. This assortment has small and very simple black markings that are not included on the head of the Koi.

- The Shiro Bekko is white with black markings.
- The Aka Bekko is red with black markings
- The Ki Bekko is yellow with black markings, and is considered to be rare.

**Shusui**

The Shusui is the result of a crossbreeding that took place in 1910. One Yoshigoro Akiyama crossed an Asagi Koi with a Doitsu Mirror carp. He ended up with a fish he called the Shusui. The color of this Koi is comparable to that of the Asagi.

The Shusui has a head that is a bluish gray color, with red on the jaws of the Koi. The skin is a lovely sky blue, with darker fish scales outlining the lateral and dorsal lines. Lines of red run down the back from the gills to the tail. There are several types of Shusui, including –

- Hi Shusui
Koromo

The Koromo Koi is a relatively new type of Koi that appeared around 1950. The Koromo came into existence by crossing the Kohaku with the Naruni Asagi. The Koromo has a lovely pattern of deep red edged with black on a white background/body. The red is described as being in a lace pattern, and the markings of the Koromo are prone to variations, depending on which variety you are looking at. The most commonly seen varieties include –

- Budo Sanke
- Koromo Sanke
- Koromo Showa
- Budo Goromo
- Ai-Goromo
- Sumi-Goromo

Goshiki

In Japan, the word “goshiki” means five colors, which are red, white, black, dark blue and blue. All of these colors can be mixed on the body of one fish. The result of this is a Koi that has a rather purplish tint. Originally created by crossing the Asgai Koi with the Sanke Koi, the Goshiki has patterns that are quite striking. These surprisingly lovely fish are very popular with those who keep Koi as a hobby.

Hikarimoyo-mono

Any Koi that are metallic and have several colors, but do not come from Utsuri lineage are in this group. The Hikarimoyo-mono was created by crossing a Platinum Ogon with several other varieties, none of which had any Utsuri genes at all. This cross resulted in the –

- Gin Bekko
- Kujaku

There is another group in this classification, which has fish of two colors, either gold, orange, or platinum. These Koi are called Hariwake. The Orenji Hariwake and the Hariwake Matsuba are two examples of this variety.

**Kawarimono**

The Kawarimono classification is given to many non-metallic fish who do not seem to fit in any other variety of Koi. This classification should in no way be considered as a variety in which to dump the oddly marked Koi! Many gorgeous crossbred Koi come from the Kawarimono variety. Often, these are not bred on purpose, but appear in a spawning as a “sport” koi.

Generally, the Kawarimono are divided into three groups –

- Single-colored Koi
- Black Koi
- Other colors of Koi

**Cha-goï**

The Cha-goï is a part of the catchall class known as Kawarimono. “Cha” is the word for a tea-colored Koi that is a very fast grower. The Cha-goï is very easy to tame, and most people thoroughly enjoy having this variety in their pond.

**Ochiba-Shigure**

Ochiba-Shigure is an interesting name for a Koi. The words translate to mean “dead leaves on the water”. These fish are clothed in the basic colors of gray and green with a network of brown lines, rather like the stems of a dead leaf.

**Onagaoi**

Also known as American Koi, Butterfly koi, Longfin Koi, and Dragon Koi, the Onagaoi has beautiful long fins reminiscent of a butterfly’s wings. The Japanese bred these Koi, hoping to improve the hardiness of all Koi by doing so. A type of wild fish called Indonesian Longfin river carp were captured by these breeders to use in breeding experiments. These carp were bred with koi that were more traditional in appearance. The fish that resulted from this breeding had the long fins and the resiliency that was hoped for.
Koi Purists Dislike the Butterfly

Other breeding experiments were carried out in the hopes of setting the different patterns of traditional koi onto the long finned. This attempt at crossbreeding was mostly successful. Many koi purists are adamantly against the Onagaoi. This is the reason why many of the people who sell koi do not offer this variety. Famous breeders in Japan would not think of breeding the Onagaoi. These koi are not popular anywhere in the world except for the United States.
If you are planning to breed koi, then you must start out on the right foot. You cannot simply find someone who is selling koi, bring a few back home with you, then toss them into a five-gallon bucket and expect them to thrive in this “new home”. Koi are hardy, but this treatment would certainly not be good for any fish, much less the Koi. These fish have the potential to be very time consuming, but you can curtail this somewhat by doing your homework before even purchasing a few Koi.

A Pond for You

If you want to keep koi, then you need a pond. It is best to build the biggest pond you can afford, because these fish can grow in length to reach twenty-four inches or even more. You will also want to make sure that you have plenty of room for spawning when the time comes to breed your koi. You may want to design your own pond, and do all the work needed to build it yourself. You may want to hire someone to design and build a pond for you. You may decide to purchase a pond liner, filter, and pump from a dealer who specializes in fish ponds.

Formal or Informal?

One of the best ways to decide exactly what kind of pond you want is to look at what others have done to create theirs. Keep in mind that you must decide on how large it will be, and what shape will fit best in the area of your yard that you have selected for a pond. Ponds can be formal, or informal, and it is up to you to decide which one of these styles will work best for you.

Pond Size Counts

Pond size is everything when keeping koi carp. Large or small, your choice of size is going to affect how many koi you will be able to keep, what kind of filtration system you will need to keep the pond water fresh and clear, and how much time, effort, and money it will cost you to do daily upkeep and routine maintenance on your pond.
Koi experts agree that if you enjoy koi enough to want to breed them, you need to build the largest outdoor pond you can afford. You certainly do not want to go to the time and expense of building a pond (or having it built) only to have to build another one because your fish are outgrowing the first one!

**Pond Depth and Width**

Keep in mind that you need to consider not only how wide and long your pond will be, but also how deep. Long time breeders insist on ponds that are at least four feet deep, as they claim the fish grow larger and have better conformation when living at this depth.

Koi also need a pond that is at least twelve feet in length, and has at least one hundred forty square feet of water surface. Once you see the number of fry that come from the first spawning in your pond, you will understand why lots of room is essential!

You can certainly have a smaller pond, and enjoy watching your koi swim and frolic about, but you will not have much luck in breeding your koi. Pond size is crucial when it comes to breeding.

**Where to Build Your Pond**

You will want consider carefully the area on your property that you choose for the location of your breeding pond. You will want your koi pond to be accessible to you, so that you do not have to put forth an effort to get to it. If you choose an area that is difficult to maneuver in during good weather, it may be impossible to navigate come winter.

The same goes for a breeding pond that is built during the fall, after the leaves are gone. If your pond is too close to shrubs or trees, things may get a bit crowded in the spring when they leaf out and/or bloom again. You will also have to put up with leaves dropping into your pond.

It is best to place the breeding pond as close to your house as possible, so you can see your fish from a window while inside. This makes it much easier to check on them during bad weather. It also makes it much easier to feed them if they are just a few steps away from your door.

**Sun, Shade, and Tree Roots**
You do not want to build a breeding pond that will be in the sunlight or in the shade all the time. A little sunshine is good for koi. However, koi can sunburn unless they have a place to go in order to get out of the sun. Too much shade can inhibit the growth of the fish. Watch out for the roots of any large trees that may be nearby. They can snake out much further than you would think. Many an area chosen for a koi breeding pond has been abandoned because of the massive root systems of elderly trees.

You can either be sure to choose an area that is not around any large trees, or choose the type of tree that you would like around the pond. Many people choose palm trees, as the roots of this tree cannot hurt a pond. Palm trees are not messy like most trees are as they shed their leaves.

If too many leaves make it into your pond before you have a chance to use a net to get them out, the resultant decomposition is going to make your filter work much harder than it needs to.

Providing a breeding pond for your koi may mean a lot of work for you if you choose to design and build it yourself. However, you will be rewarded tenfold by taking the time to do the job properly.

**AERATION AND FILTERING NEEDS**

Aeration and filtration are both necessary if you want your koi to reach their full potential. You are probably thinking, "Wait a minute! I’m not sure I want to the amount of breeding that would require me to have to worry about all of this!"

Whether you just plan to sell off your excess koi in order to help to offset some of the cost of keeping them, or you have grandiose plans of developing a new variety of Koi right in your backyard pond, you DO need to worry about aerating and filtering the water in that pond.

**Treat Your Koi as Your Pet**

The Koi you will be keeping in that pond should be considered as much of a pet as your dog or cat. As such, your fish deserve the best of care. That includes water to swim in that has been filtered to remove any harmful material and the waste products from the fish. What would happen to your pond and to your koi if you decided to do without filtration?

- Your pond will very quickly turn a sickly shade of green due to algae build up in the water.
- Fish parasites enjoy murky, algae-filled water, as do other creatures that may well harm your fish. If just one fish in your pond is infected by a
parasite or injured by another creature in the water, the chances are good that all of your other koi will experience the same fate.

- Standing water that is full of algae and parasites really smells horrible and looks pretty awful, too. Do you really think your koi could live in all of that muck? Here is a hint – They cannot breathe or live in water like this.

**Choose a Good Filtration System**

You will definitely have to plan what kind of filtration you will use in your pond. Do not try to save money by purchasing the cheaper filtration system. You may well regret it if something goes wrong with the filter and causes you to lose all of your koi. Most experts recommend that you choose a filter that is able to handle 33% of the total amount of water in the pond.

As an example, a pond that is capable of holding 3000 gallons of water needs a filter that can circulate 1000 gallons of water. If you must dip lower than this percentage in order to get a filter you can better afford, you should not choose a filter that circulates less than 10% of the total water volume.

Your pond filtration system should consist of two types of filtration. These are –

- Mechanical filtration
- Biological filtration

**How Filters Work**

Mechanical filtration works by trapping debris and fish waste as they flow through the water with the use of brushes, pads, sand, or small beads. Biological filtration involves a natural method that changes the fish waste into amalgams that will not hurt the fish. All koi have ammonia in the excretions, and a build up of ammonia can kill any fish. Bacteria that are present in a biological filter change the ammonia and nitrates in the pond water to nitrites, which are safe for koi.

Your filtration system will also need a pump. You have two choices of what type of pump to place in your koi pond. The types of pumps available are -

- Submersible
- Recirculating
The submersible pump is a good choice for a smaller pond. If your pond will feature a waterfall, a submersible pump can be used to handle the volume of the waterfall alone.

A recirculating pump is usually what is used for good-sized ponds. They are sturdy and efficient, and most will serve you for a long time.

**AERATION**

Your Koi need oxygen to breathe, just like you. Aeration places oxygen in the water so that the fish can breathe it in through their gills. If there is no aeration, there will be no oxygen, and the fish will die. If you are keeping too many koi in a small pond, or if there is an overgrowth of algae, oxygen levels are rapidly depleted.

**Waterfalls**

You have probably seen koi ponds that feature a beautiful waterfall. Pretty as it is to look at and to hear, that waterfall is not there for looks only. The constantly moving water helps to aerate the pond. If a waterfall is not for you, plan to purchase an air pump. This, along with one of the pond accessories that bubbles, can help you to get oxygen into your koi pond.

**MAINTAINING AND CLEANING THE KOI POND**

Pond maintenance helps you to maintain the proper water quality for your koi. It is vitally important for the sake of your koi that you keep the quality of the water as pristine as possible. Water quality has to do with much more than keeping the water clear. You will need to purchase a water testing kit so you can check the pond water for –

- pH
- Oxygen
- Ammonia
• Nitrates
• Nitrites

You will also want to make use of a pond skimmer to get the leaves, insects, and other organic debris out of your pond.

Deep Cleaning

Deep cleaning of your pond is usually done twice a year, in the spring and fall. There are pond maintenance services that you can hire to do this for you, or you can tackle the job yourself. It really is not a difficult task. You will need to do the following –

• Remove any debris you can see in the water
• Fertilize and prune any plants that live in the pond
• Remove any algae from the pond
• Do a thorough inspection of your filtering system and your pump.
• Check the hose and connectors of your pond equipment
• Check out any pond lighting or pond vacuums you may have
• Drain the pond and add fresh water
• Check the water chemistry, and then take care of any irregularities that pop up.

Removing the Koi

It is understood that you will remove your fish before this deep cleaning takes place! All sorts of debris and muck will be floating in the water, and you do not want your fish to struggle for breath while trying to swim. Koi quarantine tanks are available for purchase in many places.

What is in the Tap Water?
When first setting up your pond, you will probably use a garden hose to fill it with water. This is fine, but you will also need to add a chlorine neutralizer to the water. Chlorine is deadly to fish, and can kill them very quickly.

Chloramines are also in tap water, so make sure the neutralizer you use will take care of them as well. Use your water testing kit each time you add fresh tap water to your pond to make sure there is no kind of problem with the water. About once a month is often enough to change out or add new water to the pond. You can bump this up to every three weeks if the water looks especially needy.

**Parasites, Keep Out!**

Keep a close watch on your pond for any type of parasite. You can purchase chemicals to add to the water that will kill any parasites that may be there, and will also prevent any new parasites from entering the pond.

**To Salt, or Not To Salt?**

Many people who keep Koi insist on adding salt to their ponds. It can be a good idea in quarantine ponds, as it can help those fish that are suffering from stress. However, salt may cause more trouble than it is worth in a pond for breeders or young Koi. When a sufficient quantity of salt is placed in the pond water, the skin of the Koi gets slightly irritated. This causes them to have to produce an extra thick slime coat. That slime coat helps to protect them from parasites and bacteria, which sounds good.

The reality is that salt kept in a pond all year can cause the parasites that plague your Koi to slowly but surely build up a resistance to the salt. This will make it harder than ever to kill off the parasites and rid your fish of them once and for all.

A little salt is fine in the Spring to boost the immune system of your breeders, but make sure to do your regular water changes in order to clean all the salt out of your pond when this “spring tonic” is used.
BUYING YOUR FIRST KOI

It is exciting to choose and purchase your first Koi, but do not be too quick in deciding where you will go for this transaction. If you have done your homework, then you know about Koi behavior and care. What you now need to decide is what type of Koi you want to buy. You must also have your pond area complete and ready to go before buying any fish.

You will probably want to purchase young Koi for your pond. Older Koi are usually more expensive. As the Koi does not mature all the way until it is eight years of age, you have the opportunity to watch it grow. Koi will live to be around forty years old if they are taken care of properly, so you will be able to enjoy young fish for some time to come.

Where to Buy Koi

You will want to avoid buying Koi at the first place you see them for sale. Take your time, and go to all of the Koi dealers in your area to see what they have to offer to you. Do a visual inspection of every shop you go in. You want it to be clean and free from any odors of dead fish or ammonia. Look at the quality of the water in the tanks where the koi are kept. Do the fish look healthy? Are they swimming happily, or sitting on the bottom of the tank looking miserable?

Purchasing Koi from the Internet

If you decide to succumb to the lure of the ads selling Koi that give a web site address, you will want to make sure that the seller has a stellar reputation. Look for feedback from others concerning this dealer. You may want to ask those who are more knowledgeable than you are if they have heard of this dealer. It would be a good idea to contact the dealer directly and ask a few questions before making a commitment to purchase koi from them.

CHOOSING HEALTHY KOI

Know what to look for when picking out the Koi you want to add to your pond. You would be crushed if you brought home sick fish to add to the pond that you
worked so hard to build. Ask if the Koi have been quarantined at the dealers. Most of the time, Koi are kept in quarantine for at least a month. You will still want to quarantine your new Koi when you get it home to avoid contaminating the water in the pond should the fish be ill.

**Look at the Fish First**

It is not difficult to tell if a fish is not healthy. Koi that are in good physical shape will swim efficiently around the tank. Check the gills of the fish. They will move regularly and in unison. If you see otherwise, the fish may well be in respiratory distress. The koi should not have any sort of physical deformity. It is easy to feel sorry for the poor koi who is missing fins or has a crooked spine, but it is best not to but trouble.

Ask the dealer to feed the koi while you are there, or call beforehand and find out when the regular feeding times are so you can show up on time to watch. If a koi does not rush for the food like all the others, chances are good that this particular koi is sick, and you should not buy from that tank.

**How Many Koi Does Your Pond Need?**

Koi experts state that you should have 1000 liters of water for EACH koi you plan to place in your pond. Remember, Koi can grow to be quite large, so they need this room in order to reach their full potential. If you are buying Koi for the first time, don’t get all of the fish you will need at one time. Buy just a few, and make sure your pond is set up correctly for koi before you shell out the money to completely stock it.
FEEDING YOUR KOI

Like a human baby, a Koi can grow and reach full potential only if it is fed properly. Koi are hearty eaters, but the water temperature can affect their appetite. Water in the pond should be around 15 degrees Celsius to allow the young Koi to feed generously and grow quickly. Koi have the ability to grow all through their lifespan. Warm weather temperatures cause Koi to grow faster, and this is why many koi owners who are into breeding will heat their ponds and feed their fish generally year round. Once a Koi has reached the age of sexual maturity, a lot of the food eaten is used to get the body ready for spawning.

Watch the Water Quality

Well fed pond Koi are known to reproduce and grow on a continuous basis because of all the good, nutritious food they consume. If by chance the water in the pond is not meticulously maintained, their appetite and even their metabolism is affected, which can cause stunted growth.

Commercial Diets and Your Koi

Koi do have certain nutritional requirements that must be met by feeding them a good commercial diet. If the Koi in your pond are of all different sizes, remember that the smaller Koi will need a smaller food to fit their mouths. You will need to feed both small and large sized commercial foods in order to take care of all the Koi’s needs.

Types of Food

Choose from floating food or sinking food for your Koi. Most people prefer the floating food, as this enables them to watch the Koi while they feed. You can also use the floating food to hand train the Koi. With a little practice, they will recognize you, and come to the surface to eat from your hand. Feed enough food, but not too much. A good practice is to feed the Koi only as much as they can consume within a five-minute period.

Color Enhancers

There are certain food supplements that can be used to enhance the colors of your Koi. However, you should read the ingredients on these, as some additives that are meant to make the red parts of the Koi redder can also turn the white points of the Koi red as well! Fish that are in good health generally do not need any sort of color enhancing.
Breeding your koi is not a decision to take lightly. It is definitely not something you can accomplish in a weekend! You need to realize that breeding koi will be a long-term investment of both time and money. The prime time to breed koi is from April until July, so if it is later in the year when you are reading this, all the better. You will have plenty of time to plan and prepare for koi fish breeding.

**Healthy Koi Mean Healthy Offspring**

You will need healthy koi for breeding, of course. Pick your healthiest Koi for this venture, as this will assure that they are able to spawn offspring that will be of high quality. Choose koi that are around 25 cm in length. This will ensure that the fish are sexually mature. Your Koi male needs to be about three years old and no more than five years old. The female koi should be around four to six years old. Interestingly, the age of the female Koi has a lot to do with how hard the shells of her eggs will be. Thin-shelled eggs may not live, while eggs from a female older than five will have such hard shells that the sperm from the male is not able to penetrate them.

**Time is of the Essence**

Once you have picked out the fish you want to breed, it is best if you do not rush into breeding right away. Take some time to feed up and condition your fish so as to assure yourself of good results. Set up a tank or a pond for spawning, and then place one male and two females in this area when they are ready for best spawning results.

**Signs of Spawning**

The white, raised spots on the pectoral fins and on the head can help you spot males who are ready to spawn. These are called breeding tuberdes, and if you were to touch them, you would find that they feel rather rough, something like a day old growth of facial hair. The breeding tuberdes are used by the mail to try to encourage the female to spawn.

**Your Koi Breeding Area**
While you are waiting for your Koi to show signs of spawning, it is a good time to get the breeding pond or tank ready for them. A place to lay eggs is needed by the fish. This can be as simple as some evergreen branches tied together, or a piece of plastic pipe attached to an old, half-unraveled piece of rope. The eggs of the koi are quite sticky, and they need something available for them to stick to.

The Koi Eggs

You should be able to see the eggs with the naked eye. Any eggs that are going to be infertile will turn opaque. Fertile ones will be clear, and you might have to look harder in order to see them. When it is almost time for the eggs to hatch, you can see a couple of tiny black spots inside them. These are the eyes of the baby koi.

Remove the Parents

Once you think the Koi have spawned, you will want to remove the fish from the breeding pond or tank. This is because the parents will eat the eggs first chance they get if they are allowed to stay in the tank. Keep the temperature in the breeding area around 23 degrees Celsius for the next few days until the Koi fry hatch out.

Look at Those Eggs!

When the fry have hatched, do not feed them for three days. Keep the temperature at around 70 to 75 degrees, a perfect temperature for growing Koi fry. If your female Koi are like most, you are going to be astonished at the number of eggs you will see. Estimates have placed the number of eggs a female Koi is capable of releasing at up to 300,000!

The Babies are Here

Koi fry have marvelous instincts. They know to hide in any kind of cover they are able to find in the breeding tank or pond. Many people use spawning ropes for this purpose. The fry are specially equipped with a sticky pad on their heads. This enables them to attach to either the walls of the pond or tank, or the fronds that make up the spawning rope.

Still Developing

Baby Koi do not yet have a mouth, a vent, or a swim bladder. They are able to absorb oxygen that is in the tiny capillaries that are in the yolk sac of their egg. The fry need plenty of oxygen during this stage, or you take a risk of losing all of them.
The baby koi have just one posterior fin when they first hatch out. They grow quickly, and develop their vital organs, the rest of their fins, and a mouth fast than you can imagine. At two days old, many of the fry are swimming to the surface in order to fill their swim bladder with air. At three days, all of the fry should be swimming around in the tank or pond.

**Feeding Koi Fry**

Any fry that have developed this far should be ready to eat. Remember that at this point, their taste buds are not mature, and the only way they will know that food is available is to see it floating around them. Most Koi hobbyists use hardboiled egg yolk as the fry’s first food. Brine shrimp are also a fine choice of food for baby koi once they have reached about seven days old.

**Keeping Things Clean**

Feeding the fry is a messy chore that can really make the water dirty. Keep it as clean as possible using a siphon, then add fresh water as needed. This will help to take out both the nitrates and the ammonia from the water. Make sure you have let any tap water sit for at least twenty-four hours so that the chlorine can evaporate from it.

After around four days or so, you will want to take out the material that was placed into the tank or pond for the eggs to stick on. By now, the healthiest eggs have already hatched. Since you do not have a filter on your fry pond or tank, you want to keep it very clean. Taking out the leftover eggs will help the ammonia levels.

From the beginning, Koi fry need water changes several times a day. This can take up a couple of hours of your time, but is essential if you want your baby Koi to be healthy and vibrant.

**Growing Up**

By this time, your baby Koi should be ready to go into what Koi hobbyist called a growing space. This can be another pond or a good-sized aquarium. You will need to watch the babies carefully when they are at this age, as it is not unusual for the larger babies to eat the smaller fry. If you see this happening, you should certainly take out the larger fry that are munching on their brothers and sisters.

**Proper Temperature is Crucial for Growing Fry**

The tank or pond that holds the growing baby koi should be kept at a temperature of about 20 to 25 degrees Celsius, which is 68 to 77 degrees Fahrenheit. This is to make sure that the growth rate of the babies stays steady. Just be careful that these babies do not grow too fast! This can cause the fish to lose their color.
A baby koi that is a week old is going to need to eat five percent of his or her body weight in order to grow properly. The trick to this is not to feed too much, but to feed them just a little several times per day. Once the babies get a little bigger, they will only need around two percent of their body weight in food.
Raising Koi for Profit

If you started your Koi pond with the intentions of selling Koi and making money, you must understand the koi market. Selling Koi is something like selling coins from a coin collection. Common coins sell for less than the rare ones do! Into which one of these markets do you intend to market your koi? If you choose to sell the rare and special Koi, you are going to need a lot of experience and a good sized investment in order to be able to compete with the vendors that are already selling their prized koi.

Genetics 101

Hopefully, you are aware that you cannot take just any two Koi, put them together, and expect to get a batch of champion Koi for your efforts. You may wind up with 500,000 fry that are the color of mud, and good luck selling them! You must breed like to like in order to produce Koi that people will want to buy. It is a good idea to do some investigating, and find out what Koi variety is the most popular where you live. For example, in the United States, the metallic Koi are extremely popular. In order to breed what sells in America, you might want a trio of the Utsuri variety and the Hikarimoyo-mono variety in order to capitalize on this craving for fish bling!

In dog breeding, if you breed two poodles together, the outcome of that breeding will be poodles. The same is true with the Koi. For example, you must breed Kohaku to Kohaku in order to get that variety. There are people who enjoy crossbreeding the Koi that are of the Kawarimono variety to see what they get, but you should not depend on this idea to provide yourself with baby Koi to sell. Think of this combination more as an experiment, to be done after you have become proficient at breeding.

Sources for Quality Koi

In order to make a profit from selling Koi, you are going to need to locate a source for nice, healthy breeding Koi that are of good quality. Most of the people
who sell Koi in a location other than a storefront are breeders themselves. Realize that it is going to cost you more to breed your own Koi and sell them than it would to buy quality Koi in bulk from a trusted vendor, and then resell them. Expect to pay a nice sum for the sexually mature Koi that will soon be ready to spawn.

Koi as a Package Deal

Many of the people who are interested in Koi are suppliers of pond equipment, or are so experienced in either the building of Koi ponds or equipment supply. These people have chosen to sell their Koi as part of a package deal that includes a supply of equipment for a Koi pond, or the building of a Koi pond to go along with the fish. Often, this can get you an exceptionally good price on a group of young Koi.

Learning to Ship Koi

You will also need to learn the ins and outs of shipping Koi unless you are certain that you are only going to sell them locally. You may well want to reconsider that choice as you become more experienced in all things Koi. You could also take advantage of the packing and shipping expertise that is shared by members of a Koi club in your area.

Koi Competitions

In order to become better known in the Koi world, you may want to enter your Koi into one or more Koi competitions. You would need fish that are as near to perfect an example of their type as possible. The color of the Koi must be just right, and size will also makes a difference. When it comes to a Koi show, color and size are used to classify the fish for the competition. You can find shows both hear to your home as well as far away by perusing fish magazines, or doing a search online for Koi competitions. Some shows are free, while other shows require an entry fee. You may also be asked to join a Koi organization that is sponsoring a show before you will be allowed to exhibit your fish.

A Koi competition can also give you valuable feedback on your Koi. Comparing your fish to those of others can help you to see any flaws your fish may have. On the other hand, you may see quality in your fish that you were not aware of.

Be careful of buying fish at a Koi competition. They are stressed out, and many may harbor parasites. You are taking a chance with your money and the health of your fish at home when you buy a Koi you are unsure of.

Selling Your Koi
You have probably figured out that selling Koi is not quite as simple as it looks when you see people in a pet store buying fish. You will not be standing with a smile over a holding tank of fish, netting them out as crowds of people clamor to buy their favorite! Selling Koi can take a lot of time and effort. You are going to need a good-sized holding tank for the young fish you want to sell.

**Quarantine for Your Own Sake – And Your Fish**

Moving fish from one setting to another can be stressful. If you purchased Koi from a dealer and plan to resell them, you will want to place these fish in quarantine before you sell them to others. Sometimes these fish will have parasites, which can cause them to develop a bacterial infection. Both of these maladies are contagious to other fish. Stress can also kill Koi.

Even Koi of your own breeding can be stressed when moved from their familiar tank to another one. If you are planning on breeding Koi, you are going to need a lot of room outdoors for quarantine tanks or ponds, nursery tanks or ponds, breeding tanks or ponds, and hospital tanks or ponds. After you have been in Koi for a while, you will probably come up with a few more reasons to have multiple places at your disposal to keep Koi in.

**Never Sell a Sick Fish**

It would be difficult to maintain a good business if you were to sell sick fish to your customers. Some vendors do not want to take the time to wait out a quarantine period of any length. They are in a hurry to get back the money they spent on the koi they are reselling. This is why it is better to raise and sell your own Koi. Even though it may take longer for you to get started, you will be glad you waited.

If you choose to sell fish you have bred yourself, then you will need to cull the young koi. Any of them who have an off color, poor markings, or some sort of a deformity should definitely be culled. Do not feel too bad about doing this! You would not want to take the chance of one of your fish being accidently bred, and passing on its genetic defect.

When selling Koi that you have bred yourself, it is up to you to maintain an environment for them that is as stress free as possible. Keep an eye on the Koi you have for sale, and remove any of them that show one or more of the following signs –

- Sitting on the bottom of the tank or pond with its fins tightly clamped
- Sunken eyes
- Listlessness, swimming half-heartedly
- An ulcer anywhere on the fish
• Blood streaks on the fins of a fish
• Fins that have started to rot away

Most people start out selling Koi in their own town. You may have friends and family who own water gardens, and have admired your Koi. While you will not be able to sell too many Koi in this manner, people will spread the word about your fish all over town, which may very well bring you some customers.

Selling Your Koi on eBay

You may decide to concentrate on selling your Koi on the Internet. This gives you the advantage of allowing your potential customers to see photos of your koi and ask questions about them before they decide to buy them. People are able to bid on the Koi they like, and the highest bidder gets the Koi. Selling online may suit you and your schedule much better than having people come to your home at odd hours looking for Koi to buy.

Other Online Sites for Selling Koi

Other auction sites online deal in tropical fish and supplies. A little research would probably unearth an auction for nothing but Koi and Koi supplies. You can also post online want ads to tell interested people what you have for sale. If you can, choose a want ad that allows you to show photos of your fish. In the United States, Craigslist is a good place to sell young Koi. Each large city has its own Craigslist, and many of the ads can be placed for free.

Some of the online sites such as Fish.com have their own rules that the seller must follow. They usually have a “delivered alive” guarantee, which tends to make people feel more secure about buying online.

Shipping Your Koi

You must make sure that you have come up with a foolproof method of shipping as well as a couple of alternate plans before you attempt to send a live fish halfway across the country. The exact method will depend on the –

• Size of the Koi

• The season of the year
- Your climate, and the climate of the location where you are sending the Koi
- How long it will take the package with the Koi to arrive at its destination

**How to Pack Koi for Shipping**

Most of the time, you will want to pack the Koi in a plastic bag filled about halfway with water. A canister of aquatic oxygen should be on hand so you can place a couple of generous blasts into the bag. This insures that the Koi has enough oxygen to last it until it arrives at its new home. During the winter, there are special heat packs you can use to provide warmth to the fish. There are also ice packs to use during a hot summer.

From the outside, the box you pack the Koi in should look just like any package. It is not wise to arouse the curiosity of anyone who may come into contact with the box, for people have been known to tear into packages to see what is inside if they think it may be an item they would like to have. Seeing a fish inside a plastic bag, the majority would toss the box in the trash. This is not what you want to happen to your precious Koi.

The best thing to do when shipping Koi is to use a package delivery company that can deliver packages overnight. In the United States, you have your choice of FedEx and United Parcel Service. Both offer Next-Day Delivery, and are an excellent method for shipping Koi too far away places.

The Koi may be one of the only products that increase in value from one year to the next. You may decide to raise your young Koi for another year or so in order to be able to sell them for more money. You can also get a better idea of a young Koi’s pattern and coloration if you do not rush to sell it as soon as it becomes old enough. Letting your Koi overwinter in a pond with a mud base can reveal some lovely fish to sell come spring!

Breeding Koi can be extremely rewarding in spite of all the pitfalls that may pop up along the way. The first time you see a batch of fry from your own breeding trio, you will be amazed at their sheer number. As they grow, you will have a hard time keeping yourself from just camping out beside the Koi pond 24/7. This is just how fascinating baby Koi can be!