

# President Conner

What a beautiful day for a Koi club meeting. The weather was outstanding and our host Don & Dee Reece were outstanding also. Thanks for sharing your two Koi ponds with us. They were great.

Don't let this weather fool you. We just might have another cold spell. I would not say winter is over with us yet. Check your water and make sure everything is A-OK. Speaking of testing your water, we would like to thank Tom Ayers for his presentation about water testing and test kits. Thanks Tom!!

Let's not forget dues are due the first of March. Try to pay them early. This is going to be another exciting year. We hope to see you all. Remember this is your club and you do make a difference.

In just a couple of weeks and it is show time in San Diego. This is one of the largest shows in the country. If you can attend, what an experience you will have. If you can't, then head up to our friends in Phoenix the last weekend in February for the Valley of the Sun Koi Show. Support our friends and neighbors to the North. This is another great show. Hope to see you all there. Don't forget our February Club meeting will be at the Phoenix Show on Sunday at 10:30am. See you there.

March, its election time. Come cast your vote, it counts. If you have a desire to hold an office in our club come to the March meeting and be nominated for the office. You do make a difference.

April Home & Garden Show, will SAKA be there again this year? Stay tuned for further information. May Pond Tour 2003, what an exciting event. Is your pond on the tour? Can you help out? Contact Debbie Shaw (520) 400-0335. This will be the best tour ever. Thanks to all of you we have the best club anywhere. Thank you so very much. You make us all proud to be members of SAKA

For the love of Koi

**Robert Panter**

Robert Panter  
President, SAKA

## Quarantine

Erik L Johnson D.V.M.

Quarantine is the best method to reduce disease introductions. Let me outline a quarantine facility and protocol as if the fish we were discussing were quite valuable.

First, a large facility is required, 100-150 gallons is good.

It should have a fully cycled filter sponge or other type of effective nitrification system, fully operational. A quarantine with bad water is infinitely worse than no quarantine at all. Temperature should be 72 to 78 degrees in quarantine. People heat their fish to 86 degrees to kill Ich and it ends up accelerating bacterial overgrowth and decreasing oxygen capacity of the system.

pH should be supported with SeaChem neutral buffer dosed according to label instructions. You should dose the quarantine with 0.3% salt (Noniodized salt at 3 teaspoons per gallon).

The quarantine should be completely covered or you can float some foam on the surface. Koi like to jump out, and that can be costly.

You should check Ammonia and pH in quarantine each day. Ammonia should be ZERO. pH will normally crash in quarantine unless buffered.

You could feed an antibiotic food during the stay in quarantine. The facility can be safely treated with Dimilin while in quarantine, even with the salt, etc. This will stop the introduction of Lerneiid and Branchiurian parasites.

Once your new fish are in the quarantine, if it's possible, the first thing to be done is to find someone with a microscope to help you determine if there are parasites living on the surface of the fish. Even if you don't recognize what the "bugs" are, it helps to know from the outset that there is something eating at the fish. You can describe what you saw to someone like me, later. Notice things like: How fast the "bug" moved, how big it seemed to be, how it moved, whether it had a nucleus or two in it, what shape the nucleus was, and whether it was armed with hooks, flagella, or what. What is the general shape of the thing? All this helps.

Finally, the quarantine should be of a 14-21 day duration, so long as water quality can be supported with changes, etc. as needed.

The importance of cover is often under-estimated. If fish have cover, like a floating Styrofoam panel, you'll find that jumping is almost eliminated. I highly recommend a Styrofoam panel be floated in quarantine and hospital facilities because without this environmental provision, fish stress levels can be compounded.

### *What is it?*

Isolation to observe fish for disease before exposure of equalized population  
Importance of equilibrium to established populations  
Isolation of new fish for treatments  
Spares existing fish and environment from disease and resultant treatment  
Set up of Quarantine  
Round tanks preferable to narrow tanks or tubs.  
Cover for quarantine  
Filter requirements  
Ideal temperature but cautions  
Importance of partners  
Algae  
Lighting & Location  
Depth

### *Reasons for Quarantine*

Viruses  
Bacteria  
Anchor worms / Argulus  
Internal parasites  
Oodinium  
Ichthyophthirius

All of the above will survive salt dips or any other incoming technique

### *Reasons NOT to Quarantine*

Q-Tank filter is not cycled  
Q-Tank is small or crowded  
Main pond is already under treatment  
All fish in question are of limited value

"Because the store said the fish were already quarantined." >>NOT<<

Carrier (parasite/bacteria) states, temperature activated viruses, lies, salt resistant parasites.

### ***Duration of Quarantine and Why?***

Some say six months to a year  
Parasites would define a two week quarantine if over seventy DF  
If wintertime, leave in Q-Tank 'til late spring.  
If you treat and "do it right" it can be just a week. (Viruses?)

**Treatments During Quarantine and Why?**

Salt 0.3%  
 Dimilin or Program  
 Formalin  
 Potassium with reversal Day two, five, eight.  
 UV or no UV?  
 Microscope can define the above treatments.  
 Non-caustic anti-trematode therapies would include the more expensive Droncit® [praziquantel] or the more unpredictable Malathion therapy. See formulary for dosing instructions.  
 "A "shotgun therapy," dosing your fish with a series of medications in the hope that one of them will work, is rarely successful, and if ever used at all should be reserved for inexpensive fish of little sentimental value or perhaps in quarantine on otherwise healthy fish in the interest of prophylaxis.

Baytril has one of its greatest uses in the post shipment stress of larger fish. Many of us know that large fish generally survive shipment better than smaller fish; however the smaller fish are usually more rapidly adaptable once they land here in the States. In other words, if the little ones live to get here, they usually do fine once they get eating. On the other hand, many large fish will come into the country and simply retire to the bottom of the quarantine, moving only when prodded. You might notice their fins begin to develop red streaks. This fish, like many large Goldfish after shipment, is probably developing a bacterial septicemia. Many factors can contribute to this including a concurrent parasitism, and poor water quality in the shipping container. Check your water quality to make sure about it, and then consider Baytril as an effective therapy for this type of fish.

**Feeding in Quarantine**

>>>Freeze Dried Krill<<<  
 Medicated food  
 Tetra Tropical Fish Flakes  
 Feeding in quarantine is very important, and as mentioned, getting the fish to eat is as important as what they eat. It is recommended that highly palatable foods such as Tetra® Tropical Fish Flake food would be used, as well as bloodworms and crushed freeze dried Krill. Others suggest feeding a medicated food in quarantine and there is no

fundamental problem with this, from a fish health standpoint. One such food, called "MediGold" combines three different antibiotics in the same meal, and is well accepted by goldfish and Koi.

A fish with a full stomach is more "unlikely" to break with disease. The food should be simple and tantalizing

**What to do if Fish "Break" in Quarantine**

Establish water quality  
 Ammonia, Nitrite, NITRATE and pH  
 Ensure salinity  
 Encourage algae  
 Perform or request microscopic biopsy  
 Begin injections or other treatment as described.

*Rapid Cycle*

"Filter seeding"  
 KI-Nitrifiers  
 Visit [www.lymnozyme.com](http://www.lymnozyme.com)  
 KI-Nitrifiers are affordable  
 0.5 cc per 10 gallons of water  
 Prevents Ammonia or rapidly cycles the filter in under five days.  
 Stop UV while deploying

**Koi Herpes Virus, Spring Viremia of Carp - Basics -**  
 by Dr Erik Johnson

**Koi Herpes Virus - Spring Viremia of Carp - What You Should Know\***

**Overview:**  
 Koi are generally hardy fish. They're descended from the common carp and are tough, essentially omnivorous fish with the ability to withstand a range of living conditions.

As an ornamental specimen, the Koi is beautiful, and sought after for its highly strained color varieties.

Koi health and disease is essentially a balancing act or "equilibrium" created between stocking density, water-and-environmental conditions, parasites, and the fish itself.

It was once said that "if you take care of the environment, the fish

will take care of themselves". This was true until some of these viruses started showing up with increasing regularity.

**Introduction to the Viruses**

There are two known viruses of importance to Koi. There are other viruses but these are important from the perspective that they can quickly **kill** the fish and are both **highly** contagious.

- **SVC** / Spring Viremia of Carp (Rhabdovirus carpio)
- **KHV** / Koi Herpes Virus

These viruses are similar and dissimilar. Some of their differences and similarities are important.

	<b>Spring Viremia of Carp</b>	<b>Koi Herpes Virus</b>
Recently Discov- ered?	No. This virus was described in the literature more than forty years ago.	No. KHV was reported in Japan fully <b>ten</b> years before its first outbreak or discovery in Israel. The earliest documentatio n I can find is from the 1980's
Kills Fish?	SVC has recently been shown to kill groups of fish when experimentally injected with the virus; <b>earlier</b> researchers maintained that the SVC only allows opportunis- tic bacterial infections which then can kill the fish.	KHV kills upwards of 70%-90% of exposed fish which have not been previously exposed to KHV.

	Mortalities may be 20-30% if supportive care is given and the environment is optimized.	
Seasonal	Yes - Spring	Yes - Spring and Fall
Endemic (native) to the USA?	<p>Yes and No: The 'party line' is that the virus had not formerly been found in North America but there is emerging evidence that the virus was indeed being encountered in fish kills in Wisconsin almost a decade ago.</p> <p>Reported "absence" of SVC from American waters may have been due to a lack of testing. I personally (ELJ) think that SVC is an endemic, and highly morbid contributor to many of the Springtime die-offs and illnesses we've seen every year for the past two decades.</p> <p>The problem is that testing for SVC can</p>	<p>Doubtful. This KHV virus seems to be infecting "groups" of exposed fish which go on to infect others, or simply die off en masse. Its own virulence (aggressiveness) is probably limiting its morbidity.</p>

Lesions	<p>Pale white lesions may result due to the co-infection by bacteria. Fish may develop a pink or red color in the skin as infection progresses.</p>	<p>Yes. Pale white lesions may appear in the gills of affected fish. Excess slime, especially on the head and nape of the fish seems common. Body-color of the fish may become blotchy and the internal organs may be damaged or even liquefied.</p>
Diagnostic Challenges	<p>People don't want to submit for, nor do some labs want to test for; SVC because of the maelstrom it causes. SVC is an RNA virus and requires an extra step when using PCR technology to diagnose it. When the virus is not in a vulnerable host or is not in its ideal temperature range for replication, its diagnosis is</p>	<p>The PCR test and the other culture and swabbing techniques available are quite accurate for infected fish but false negatives can occur. When the virus is not in a vulnerable host or is not in its ideal temperature range for replication, its diagnosis is essentially impossible. Diagnosing "occult" (hidden) carrier-states of KHV may be impossible with current technology.</p>

	essentially impossible.	
Immune Carrier States?	<p>Fish often survive SVC; but their carrier state is unconfirmed.</p>	<p>Survivors of KHV are said to be clear of the virus and cannot be re-infected with KHV.</p> <p>The lack of virus in post-infection specimens is <b>probably</b> due to the difficulty in detecting virus in asymptomatic fish or fish outside the viruses' ideal range.</p>
Kind of Virus	RNA virus, rhabdo (bullet) shaped.	DNA virus. (Herpes virus)
Testing	Can be cultured, there is a reverse PCR test for this virus.	Can be cultured, can be detected via novel nucleic acid tests (swabs), and can be detected by PCR testing.
Reportability	This morbid virus is reportable by law.	This highly virulent virus is not legally reportable and is as yet unregulated.
Prevention	Prevent exposure to the virus.	Prevent exposure to the virus.
Control - Treatment	SVC: If fish are supported in ideal environments and secondary infections are controlled through aggressive antimicrobial	<p>KHV: Mortalities may be kept below 70% if the fish are rapidly warmed to above 80 Degrees Fahrenheit.</p> <p>To put the brakes on a late-summer outbreak, you can let the</p>

therapy, including antimicrobial food and injections, 70+ percent survival is possible.	temperature sail down into the forties instead of heating, and the losses will slow down as the virus is deprived of its ideal temperature range. Fish may still die from <i>prior</i> damage done by the virus.
	Sooner or later, the fish will have to be warmed up.
	During an outbreak; if possible you can move the fish as quickly as possible to temperatures higher than 80 °F, or lower than the seventies (in F°)

**Spring Viremia:**

The real issues concerning SVC are its status as a reportable virus. It's very possible that **many** breeder and wholesale facilities (as well as many residential ponds) have fish which harbor this virus. Testing is currently possible, but is not being undertaken on a widespread basis, because of the cost, the lack of centralized and unified regulation, and a reluctance of civilians, and researchers to open that "can of worms". Retailers concerned that their stocks could harbor this virus **would** put themselves out of business by soliciting SVC testing by a laboratory and receiving a positive result \*.

Fortunately, SVC isn't a terribly efficient killer of fish and could be considered 'mild' at least compared to KHV. Well-cared-for

fish can often survive the virus not unlike the way healthy people survive the Influenza virus, and optimally housed fish may not even break out with signs of infection.

I for one do not spend much time worrying about the SVC condition because I would neither subject my customers to diagnosis (and potential persecution caused by an SVC diagnosis), nor would it change my treatment, which is antimicrobial support "past" the ravages of the virus . I am, as a healthcare provider to fish, almost alone with this opinion \*.

**KHV:**

The real issues concerning KHV is it's predilection for a narrow temperature range for infection, and it's ability to hide when it's outside those temperatures in asymptomatic (not sick) fish. If you grind up a healthy-looking fish which you think might have or be carrying KHV looking for virus, you can easily miss the diagnosis **unless** the fish is actually viremic. When a fish **is** symptomatic and sick with a KHV infection, the virus can usually be cultured into certain cell lines, detected by enzyme linked PCR tests, or even detected by unique nucleic acids in it's structure.

**What it boils down to is this:**

*If you're considering buying some nice new fish this Spring, how do you know the fish isn't just sitting there; ready to explode with KHV as soon as it hits seventy degrees Fahrenheit?*

You don't have **any** security unless the fish has been through the following cycle of cold-then-warm, which are believed to be important triggering events for KHV infections:

1. Stress
2. Cold water,

3. Warming, to the viruses ideal range in the seventies (°F) allowing virus to replicate and damage the fish.

So, a fish which has endured, and survived, a temperate (North American) climate change from winter to summer could be regarded as the safest fish to buy but does not rule out that the fish could be carrying the virus. Some dealers are artificially inducing these cold-then-warm cyclic changes in their recent imports to try and bring these cases out of the woodwork before sale by chilling and then warming the fish after importation, creating a "mini" cycle.

Testing for KHV can prove the fish to be without the virus and "not currently infected" but since the carrier state is a relative "unknown" at the present time, there is little security in a negative KHV test in a healthy fish. A negative KHV test in **sick** fish could be considered much more reliable as most fish with active infections have virus which is capable of detection by available means.

**Quarantine will become a necessity, not an ideal, in 2003. This quarantine could arguably be 8-12 months to allow a complete "cold-warm-cold" cycle in order to reveal occult KHV or SVC infections.**

**An actual case:**

KHV Strategy

The following was used on one of several cases of KHV which broke out in the Fall of 2002. The fish were being heated despite the onset of wintertime temperatures outside, to support the fight against what appeared to be a severe bacterial infection. Then an Arkansas laboratory indicated it was KHV. We had stopped the losses initially with Tricide Neo but

the losses resumed a week after the Tricide dipping which made us even more suspicious that we were dealing with a virus. (In quotes, my customer communication)

"Your losses have not been on par with the others, most folks lose 70-90% of their fish in a week or two. This is not a cause for optimism. It may be because you used the Tricide-Neo it could also be because temps were falling as they broke....

However, **now** most of the fish \*are\* symptomatic and as the Arkansas specialist indicated, you COULD let the heat off and the virus COULD (should?) go dormant.

In the spring, here's the possibility: Since most of the fish are showing signs, it's safe to say they are "viremic". If they are chilled \*\*\*RIGHT NOW\*\*\* (today!) - could they not chill down, stop the virus / viremia / replication, and with warming in the spring, perhaps mount an immune response???

Yes, it's possible. Researchers I spoke to know that we cannot re infect KHV survivors. Did they survive the KHV with natural immunity or luck?; or do they develop specific immunity afterward, from incomplete (non-terminal) infection???

**So, here are my recommendations for Winter KHV Outbreaks:**

**1) STOP HEATING NOW if the fish have KHV.**

**2) STOP the water falls; to prevent the phenomena of "super cooling" from chilling them too fast.**

**3) Maintain mid-water circulation to maintain aeration and to degas the pond.**

**4) Remove dead as they show up.**

**5) In the spring - when the Arkansas specialist, you, and I have talked, we should "accelerate" the heating process. \*NOT\* letting them warm up slowly, naturally.**

**We should do a sort of: "On your mark, get set, go!" and move them as quickly and safely as possible through the warming process, for example, when water naturally hits 45-47 °F we could suddenly take them "5-degrees-per-day" to a whopping, most "KHV-unfriendly" eighty °F Six day warm up. Window in the seventies: TWO**

**Crazy?** Maybe. Kill all your fish? Not like the virus probably would if water temperatures were suspended in the seventies...

Finally, you \*do\* see the problem with complete disinfection, "depop-repop" plans. If you sacrifice all your remaining fish, to get new healthy ones; what on earth will prevent you from restocking with 49 healthy fish and ONE MORE KHV carrier? Nothing.

So I am not really in favor of a wholesale depopulation at this time.

Best regards

Erik Johnson DVM

**Outcomes:** When the pond was cooled, the losses basically stopped. The fish became lethargic and went to the bottom. A few of the worst fish which were about to die when the water was warmer continued to become sicker and died.

Some other fish were brought inside and rapidly warmed to 80 °F, and made remarkable recoveries. Spring 2003 is not here as of this writing but there is some encouragement that if rapidly warmed, these fish may recover.

**Post Script:**

**It bears mentioning that it is the professional opinion of most researchers and ornamental fish health specialists in this field, which in the interest of the health of our nation's Koi and carp livestock, all individuals and retailers suspecting that their fish might be infected with SVC or KHV should request testing for these infectious agents.**

My (ELJ) position has been to recommend that retailers and wholesalers decline SVC testing and to destroy fish which might be infected. **This represents irresponsible behavior** on the part of the dealer and puts the hobby at risk because it will hamper attempts to detect and eliminate the SVC virus. However, the position is a result of the following:

**Currently, if your fish are diagnosed with SVC you will be summarily bankrupted by the following processes currently in place:**

1. There is **no financial compensation for lost livestock** which may be tested and slaughtered. You will not be compensated for lost business-days while under quarantine. Requests to operate under a new business name with new broodstock and new production ponds will probably be (and have been) denied.
2. No official process exists to formally determine the length of impound and quarantine. **You may be under quarantine for an indefinite period of time.**
3. There are **no mechanisms to protect your identity** and you may be informed of your SVC infection along with the rest of the industry, simultaneously.

There is **no standard format, nor standard interval for testing** of your peers or competitors, so you may be the **only** organization subjected to the penalties associated with reportable SVC infections

\*Errors or omissions in the above are possible but are unintentional. Some of the above is based on hearsay, opinion or verbal exchanges with researchers in the field. Newer information may be available. Errors in fact can be corrected with a much-appreciated fax which could be sent to: 928 244 2772 if any of the above information is proprietary or was not intended for the public domain please alert us using the above fax number



## 22nd AKCA Seminar 2003

The Atlanta Koi Club is hosting the 22nd Annual Associated Koi Clubs of America (AKCA) Seminar. For over 20 years, AKCA has been sponsoring seminars in exotic locales to educate Koi keepers from around the world in beautiful settings like Atlanta, home of the 1996 Olympics.



### Hotel:

The Hilton Atlanta Airport & Towers will be our home for four days, June 26th-29th, 2003. The Hilton is a beautiful 4-diamond hotel conveniently located 1 mile from the Hartsfield Atlanta International Airport. We have negotiated a special room rate of only \$89 a night. Call for reservations at 1-800-Hiltons prior to June 1st.

### Seminars:

The more you know about Koi, the more there is to know. This series of seminars is being developed to introduce novices as well as advanced hobbyists to the intricacies of Koi keeping, pond building, and filtration concepts and methods. We're planning a varied series of speakers, panel discussions, demonstrations and workshops. Everything will be centrally located in the hotel conference center. More details later.

### Vendor Faire:

We have prepared a floor plan layout for 50 vendors 8'x10' spaces all conveniently co-located with the seminars, lunches and dinners in the hotel conference center. The Vendor Faire is free admission open to the public

### Sightseeing Tour:

**Carter Center Library and Museum:** The Library consists of archives and a museum and is approximately 70,000 square feet in size. It is not a library in the usual sense but is a research facility and a museum. The archives is a repository of approximately 27 million pages of Jimmy Carter's White House material and papers of administration associates including documents, memoranda, correspondence, etc. There are also 1 million photographs and hundreds of hours each of audio and visual tape. A recent addition is President Carter's Nobel Peace Prize that will be on display.

**CNN Center:** Tour the studios at The CNN center and see how CNN brings the world the news. To see an interactive view of the tour we will be taking, visit their web site at <http://www.cnn.com/StudioTour>

**Atlanta Cyclorama and Civil War Museum:** One of Atlanta's historic landmarks, the Cyclorama houses the world's largest painting "The Battle of Atlanta." The painting vividly depicts a charge led by General "Blackjack" Logan as well as other events occurring during that Civil War battle including the intense battle in the

vicinity of the Troup-Hurt House. Although the painting accurately depicts the fighting, it definitely takes a Union perspective. General Sherman can be seen near the Augustus Hurt house while General Hood is not in the painting. For more information on the Cyclorama see: [Frommer's Atlanta: Cyclorama](#).

### Wet Lab:

The newest addition to the normal seminar events on Thursday will be a full wet lab conducted by Dr. Erik Johnson. Our plans are for every attendee to have a microscope and the University of Georgia will provide plenty of fish to use

### Cost:

**Package I:** Includes Entry to All Seminars, Friday Lunch, Saturday Lunch, Saturday Banquet, and Sunday Pond Tour (Box Lunch)

Single \$250.00

Couple \$375.00

**Package II:** Entry to All Seminars only

Single \$175.00

Couple \$255.00

### Money Saving Special

Early Bird Registration (before April 1 2003)

Save \$30 for Single, or \$50 for couple

First Time Special (never attended an AKCA Seminar)

Save \$50 for Single, or \$75 for couple

### Additional Activities:

#### Thursday, June 26:

**Sightseeing Tour** \$60.00 per person

**Carter Center Library and Museum:** The Library consists of archives and a museum and is approximately 70,000 square feet in size. It is not a library in the usual sense but is a research facility and a museum. The archives is a repository of approximately 27 million pages of Jimmy Carter's White House material and papers of administration associates including documents, memoranda, correspondence, etc. There are also 1 million photographs and hundreds of hours each of audio and visual tape. A recent addition is President Carter's Nobel Peace Prize that will be on display.

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**Shopping Tour** \$10.00 per person

**Lenox Square Mall**

A bus will leave the hotel at 10 AM for an excursion to Lenox Square Mall. At Lenox Square are Macy's, Neiman Marcus, and Rich's as well as 230 specialty stores, kiosks, eateries and sit-down restaurants. This center boasts the most unique specialty retailers in the area with BCBG, Bally of Switzerland, bebe, Bernini, Brooks Brothers, Cartier, Hermes, Nicole Miller, Max Mara, St. John's Knits and Versace Jeans Couture. Included in the mall complex are fine restaurants such as the new Clubhouse, Brassiere le Coze and Prime. A 6-screen movie theatre, luxury hotel and a high-rise office building round out the property

**Wet Lab** \$60.00 per person

**Wet Lab:**

The newest addition to the normal seminar events on Thursday will be a full wet lab conducted by Dr. Erik Johnson. Our plans are for every attendee to have a microscope and the University of Georgia will provide plenty of fish to use

**Friday, June 27:**

Cocktail Party Free for Package I  
Friday Lunch \$30.00 per person

**Saturday, June 28:**

Saturday Lunch \$30.00 per person  
Saturday Banquet \$50.00 per person

**Sunday, June 29:**

Pond Tour & Box Lunch \$45.00 per person

**Registration:**  
**Nong Tarlton**  
847.381.9203  
[ntarlton@acm.org](mailto:ntarlton@acm.org)

**Chairperson:**  
**Eric Lunsford**  
770.719.1698  
[EricL642@mindspring.com](mailto:EricL642@mindspring.com)

**New Club Web site!!!**

Come visit it and make your comments. It is your site and I need your help. Go to <http://www.SAKioA.org>

Have Fun Surfing it.

**Club Ads**

**Pond for Sale**



60 Gallon Pond and 20 gallon filter with plumbing, all for \$30.00. Call Winton & Faye Hall (520) 297-1253



**Kawarigo Korum**

**Special Events Coming UP**



**February 14 - 16, 2003**  
San Diego Koi Show  
Del Mar, CA



**February 21-23, 2003**  
Valley of the Sun Koi Show  
Phoenix, AZ

**February 23, 2003**  
Valley of the Sun Koi Show  
Go to the Koi Show Site

**March 23, 2003**  
Warren & Rose Ann Essig

**April 27, 2003**  
Martha & Dan Cover

**May 18, 2003**  
Faye & Winton Hall

**June 22, 2003**  
Laurel Nason



**June 26-29, 2003**

**July 27, 2003**  
Kurt & Lisa Ogren

**August 24, 2003**  
Dennis & Kathy Leonard

**September 28, 2003**  
Rick & Barbara Shook

**October 26, 2003**  
Linda Wallace

**November 7-9, 2003**  
24<sup>th</sup> SAKA Show

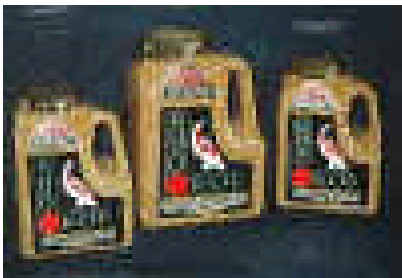
December 13, 2003  
Open

We are looking for members to host the open dates. (Contact Tom Ayers)

It is a great chance to show off your pond and everybody would like to see it know matter what the size is, big or small.

It's That Time of Year

It is time for SAKA to do our group purchase for SHO KOI IMPACT Food. I will need to make the order February 9<sup>th</sup> so I can pick it up at the San Diego Koi Show and will be available February 18th. If you have any question you can call Tom Ayers @ 247-3322. The cost again this year will be \$3.50 a pound.



**SHO KOI IMPACT** is a premium Koi food that also contains an immune stimulant to help boost your fish's immune system and help to keep them healthy.

**Sho Koi Impact Food**

**Ingredients:** Anchovy Fish, Whole wheat, Wheat germ, Alfalfa, Gluten Protein, Soy Meal, Spirulina, Hydrolyzed protein meal, Marine Fish oil, various vitamins and minerals, Aquagen Biogenic Enhancer.

**Sho Koi Impact Food  
Guaranteed Analysis:**

38% Protein, 2.55% Fiber, 6% Fat, 4.36% Ash, 1.01% Calcium, .093% Phos. T, 10% Moisture.

Southern Arizona  
Koi Association



Annual Membership

Dues are \$25.00 per family from March 1 to February 28 or 29 of the next year. If paid after August 1 \$17.50, September 1 \$15.00, October \$12.50, November \$10.00, December \$7.50.

Membership Type

\_\_\_\_\_ Renewal

\_\_\_\_\_ New Member

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip: \_\_\_\_\_

Phone #: \_\_\_\_\_

Today's Date: \_\_\_\_\_

# of Koi \_\_\_\_\_

Years Keeping Koi: \_\_\_\_\_

Pond size: \_\_\_\_\_

Make Checks payable to: SAKA

Mail to:

Faye & Winton Hall  
6775 North Los Arboles Circle  
Tucson, AZ 85704-4110

SAK A  
10%

Discount  
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**Boyd Equipment Center**

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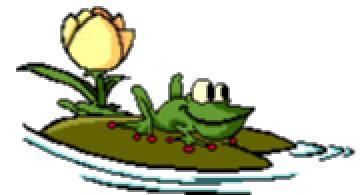
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