

# **“UN-QUARANTINE” PROTOCOL**

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New fish, of any origin and price range, are “high risk”. They WILL be swapping germs with your existing fish. Run down or stressed from transport, they may be carrying “bugs” (infectious organisms), or they themselves may be susceptible to the routine low levels of parasites and bacteria found even in your healthy pond. Serious hobbyists eventually develop quarantine tank (Q-tank) facilities, sufficient to effectively house, treat, and quarantine ALL new fish. If you do not have a Q-tank, consider the following minimal protocol when introducing new fish into your pond. Consider developing a Q-tank facility as well, though, before you lose a special fish, or even a large part of your collection!

## **WHAT THIS WILL NOT DO:**

This “UN-QUARANTINE” protocol is not designed to cure sick fish. It will not prevent or eliminate KHV or other contagious viral diseases. It guarantees nothing. BUT... If you can't quarantine, or have to mix in new fish, this protocol gives you better odds. This simple yet surprisingly effective technique is designed to (rather brutally, some will opine) strip off numerous parasites, harmful or not, and put new and established fish together in the cleanest environment possible. CONSIDER THIS A BARE MINIMUM if you cannot provide an effective quarantine period.

## **WHAT YOU'LL NEED:**

- Two tubs (buckets will work for small fish) large enough to comfortably hold your largest new fish (in water) for ten minutes or so, with cover or netting.
- **Dip Tub #1** filled with a known number of gallons of fresh clean pond water. Ideally, air pump and stone, as well.
- **Dip Tub #2** (fresh, clean, well aerated pond water). Ideally, air pump and stone, as well.
- Know your **total pond volume!** You'll be treating the whole pond as well.
- Dechlorinator – **sodium thiosulfate (STS)** (preferred) or Am-Quel.
- F/MG - **Formalin / Malachite Green solution** (Pro-Form – C and Rid-Ich are two effective, easy to find brands)
- Salt (sodium chloride) – UN-IODIZED **solar salt** or **rock salt** is best. 8 – 10 lbs per 1000 gallons of pond.
- **Trichlorfon / Dimilin** (organophosphate insect development inhibitor (IDI) – 1 gram (1/2 teaspoon) per 1000 gallons if any crustacean parasites are noted.

**WHAT YOU'LL BE DOING:** 1) **Cleaning and pre-treating the whole pond at or before new fish arrival;** 2) **Inspecting new fish;** 3) **Dipping and rinsing new fish;** 4) **Treating any sick new fish;** 5) **Follow up treatments to pond**

## **STEP ONE – PRE-TREAT MAIN POND**

Have the main pond cleaned up and ready to go in advance of delivering new fish. Remove dead fish, dead plants, and loose bottom debris; clean and flush settling chambers, pre-filters, bead filters, etc. as necessary.

- A) Perform a 30% water change after pond and filter cleanup. Treat new water with dechlorinator.
- B) Salt pond to .1% (point one per cent = eight pounds salt per thousand gallons of unsalted water).
- C) Treat main pond with **F/MG** (formalin/malachite green – **Pro-Form C** or **Rid-Ich**) to achieve a 25 parts per million (**ppm**) concentration of formalin. See dosing examples below. This treatment on the main pond will not harm a mature bioconverter (BC), yet, **with the follow up series**, will drastically lower baseline overall numbers of parasites, fungi, and bacteria. Maximize oxygenation and water flow rates when using formalin.

### **25 PPM FORMALIN DOSAGE EXAMPLE – MAIN POND**

- With a standard 37% formalin solution, 10 ml per 100 gallons of pond yields 25 ppm. If your product states that its label dosage yields 25 ppm of *formalin*, use as directed.
- Pro-Form C and Rid-Ich have a package dose of only 15 ppm of formalin. Adjust the manufacturer's suggested dosage rate to achieve 25 ppm. Simply multiply the recommended dosage by a correction factor of 1.66 (*25 divided by 15*) for a total of 25 ppm. So with Pro-Form C and Rid-Ich, the dosage formula to yield 25 ppm is 16.6 ml per 100 gallons (10 ml X 1.66). In a 1500 gallon pond, with this product, you would need 250 ml (16.6ml per 100 gal X 15 hundred gal) to achieve 25 ppm of formalin. 250 ml is about a cup.

## **STEP TWO – INSPECT NEW FISH**

- Fill both of your treatment tubs with fresh clean POND water. Keep in shade.
- Start the air stone in **Dip Tub #1**. If new fish does not appear stressed by bag or temperature conditions, float bag in pond or first tub for ten minutes max to help equalize water temps a little before unbagging fish. While in bag, carefully inspect each fish up close, top and bottom, for the presence of any skin lesions, macroscopic parasites, fin rot or mouth rot, swollen eyes or gills, fungus spots, red streaks in fins or tail, etc, which will be treated separately.
- If any anchor worms or fish lice are noticed, add TRICHLORFON or DIMILIN to pond every week for three weeks, then monthly, to treat and prevent these crustacean parasites. Add AFTER water changes.

## **STEP THREE – SALT & FORMALIN / MALACHITE GREEN (F/MG) DIP (flukes, fungi and protozoans)**

#### **DIP TUB #1: 2.5% SALT, 250 ppm F/MG**

**A) SALT** - To **Dip Tub #1**, add one pound (about two cups) of **solar salt** (UN-IODIZED SODIUM CHLORIDE crystals) per 5 gallons water. This yields about 2.5% salt. Stir / agitate until salt is completely dissolved. **FISH UNDER 6"**, **USE HALF THE SALT.**

**B) F/MG (Pro-Form C or Rid-Ich):** To the well dissolved salt solution in **Dip Tub #1**, add enough F/MG product to achieve a dose rate of **250 ppm**. **THIS IS TEN TIMES NORMAL STRENGTH.** Use one teaspoon (5 ml) of **F/MG** per five gallons of water.

**WHEW!** Now, introduce new fish, one at a time, (without any of bag water) into covered **Dip Tub #1** (salt and F/MG dip), with airstone, for **five minutes MAX. Watch fish closely.** Fish may act disturbed, but remove to rinse tub sooner if they appear really stressed (losing balance, gasping at surface, etc).

#### **DIP TUB #2: Rinse Tub: Clean, well aerated pond water**

After maximum of 5 minutes in the salt / formalin dip, transfer each fish (without potentially parasite laden dip water) to **Dip Tub #2** (fresh, clean, well aerated pond water). Observe the fish while it rests in the aerated second tub for several minutes. If no further treatment is planned after inspection, bypass step four, and introduce fish directly into main pond (no tub or bag water).

#### **STEP FOUR – TREAT FISH WITH BACTERIAL INFECTIONS**

If, upon close inspection, your new fish already have problems, let's handle them right now. Any fish with streaked or bloody fins, open sores or ulcers, fin rot, or other signs of bacterial infection, should really be quarantined for separate treatment, but should at least be treated before release into main pond. While fish is resting in the aerated second tub, choose **ONE** of the following options:

- A) • Swab sores with iodine solution on a Q-tip (do NOT get into gills), blot dry, and apply Neosporin ointment to sores.
- B) • Dip fish for five minutes in a solution of Tri-Cide Neo or similar product, per package instructions. If you want to just mix up a small quantity, use ½ teaspoon Neocide powder per 12 oz. distilled water.

#### **STEP FIVE – FOLLOW UP FORMALIN TREATMENT SERIES - MAIN POND**

In the next week, at appropriate time intervals, (dependent on water temperature - see below), repeat 25 ppm F/MG treatment to the entire main pond. Again, I adjust the manufacturer's dosage rate to achieve 25 ppm formalin with all treatments. With Pro-Form C and Rid-Ich, that would be 166 ml (about 2/3 cup) per 1,000 gallons). Use your own judgment.

#### **FORMALIN DOSAGE TREATMENT SCHEDULE**

< 60 °F ; repeat every 5<sup>th</sup> day for 4 total treatments

60-65 °F, repeat every third day for 4 total treatments

65 °F and over, repeat every other day for 4 total treatments

#### **STEP SIX – ENJOY FISH!**

• Watch all fish carefully for first day or two for jumping out (the grass was always greener in the old pond), and overall for several weeks – you may need follow up or repeat applications of treatments above.

**NOTE: This protocol has been compiled from a number of sources, and tested by a number of people. However, your fish are your responsibility, and the information contained herein is to be used at your own risk.**

**QUESTIONS? COMMENTS? I welcome both.**

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#### **Suggested reading and research:**

- Nick St. Erne, DVM “**Advanced Koi Care**”
- Eric Johnson DVM “**Koi Health and Disease**” ( [www.koivet.com](http://www.koivet.com) )
- Koi Health Advisor program text – Associated Koi Clubs of America ( [www.akca.org](http://www.akca.org) )

#### **Local koi product resources:**

Rancho Del Koi – 886-8797; feed, equipment, consulting

Desert Pet Center – 745-5158 “Rid-Ich”

Mountain View Koi – 520 378-3710

(in Sierra Vista); plants, fish, equipment

#### **Online koi product resources:**

[www.koivet.com](http://www.koivet.com)

[www.aquaticeco.com](http://www.aquaticeco.com)

[www.keirinponds.com](http://www.keirinponds.com)

and many others