

## Bacterial Infection and Using Medicated (2.7g/kg) Pellets



### ***Why do my fish get bacterial infections and die?***

Your aquarium or koi pond (or any recirculating water environment) is a closed system; water stays there. Fish constantly feed and emit waste products in the form of ammonia nitrogen, or  $\text{NH}_4$ . Unless you have a perfect bio-filter, the water becomes unfit for fish health. Harmful bacteria thrive in these conditions. Bacterial infections eat away at your fish's fins, body, or organs until they pass the stage of recovery. You do not necessarily need to know if an infection is caused by *Columnaris*, *Aeromonas*, etc. The treatment is the same in most cases.

### ***Can I eliminate harmful bacteria?***

Bacteria are difficult to eradicate completely. They exist in small amounts in almost any aquatic environment. That is why the best "cure" is prevention. Healthy, unstressed fish can better fight off infection. Make sure your Oxygen ( $\text{O}_2$ ), Carbon Dioxide ( $\text{CO}_2$ ), Nitrite ( $\text{NO}_3$ ), ammonia ( $\text{NH}_3$ ), alkalinity, pH, and other chemical parameters are under control. Watch what you put into your fragile aquatic system. Feeder fish are notorious vehicles of harmful bacteria.

### ***Why should I use Medicated food?***

This is not a perfect world, and your fish will get stressed! Therefore, fish professionals have developed a way to prevent bacterial infection when you know your fish will get stressed (moving, changing water, breeding, etc.). Medicated food (2.7 g/kg Terramycin) should be used before stressing your fish so they will have antibiotics in them before they need it. This is called prophylactic treatment. That should be an easy word to remember!

***Will the antibiotics hurt beneficial bacteria?***

Terramycin kills most bacteria, including Nitrosomonas and Nitrobacter, the beneficial bacteria that power your bio-filter. But because some survive, they will slowly build up to normal populations. For this reason, reduce feeding rates and change water more frequently over the following two weeks. This is the reason I do not recommend salt treatments in koi ponds unless you subsequently change all the water. Though salt is an antibiotic, it stays in the water forever and even increases concentration with evaporation, depressing the growth of beneficial bacteria.

***What if my fish won't eat?***

A stressed fish loses its appetite first, so how are you going to get it to eat your medicated food? Injection is possible, but much more complicated and expensive. Most of you already know how hard it is to cure an infection with water treatments or baths. Injection is the last resort. As with all treatments, the earlier the better. And, with medicated food, you can even beat earlier! You are in good company. I have personally lost millions of fish in the last 15 years of commercial fish production. You can learn from my mistakes!

***What should I do with unused food?***

Store it in the freezer or fridge and it will keep for six months to a year. Feed only for 10 days or you might create a Terramycin-resistant strain of bacteria!

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