



# Use of PRO4000X in fish ponds

AQUAculture INFORMATION TECHNOLOGY

Biotechnology Benefiting Aquaculture



Cage Culture of Tilapia



Pond Culture of Tilapia

## PRO4000X

The accumulation of organic material in fish ponds is typically a result of accumulated fecal material and uneaten feed. As the density of the fish increase, the amount of feed being fed increases with consequent increases in fecal material and excess feed. The bacteria in PRO4000X have been selected to degrade this organic matter.

Freshwater fish production systems come in all sizes and shapes although the typical pond is a dirt pond. Some companies use fiberglass or PVC tanks while others use concrete tanks. Some use cages in reservoirs, lakes or even in large ponds. There are a number of different approaches that can be taken towards lessening the amount of organic material ranging from closing the ponds and allowing them to evolve to biofloc based systems to exchanging water at high rates to flush the accumulated material out into the environment. The latter is not considered to be environmentally friendly and typically systems of this nature are not sustainable. Large amounts of organic material flushed into riverine or estuarine systems poses a threat to indigenous fauna and flora as well as any other users of the resource.

Each pond is a unique environment. While there may be things in common, factors such as feed composition, feed quantity, feeding philosophy, biomass, composition of the soil (if the ponds are dirt), water exchange rates, water quality, etc. All impact the ecosystem that you are producing your fish in.

For these reasons we can offer you guidelines for the use of the product. You should adjust the dosage of tablets as you deem necessary.

### Suggested guidelines for use of PRO4000X

Ideally application should begin as early as is practical and continue on a regular basis throughout the cycle to allow the bacteria to maintain some control over the sludge as it accumulates. Application rates are based on how much work the bacteria have to do and what specifically your goals are. You should start out with relative low numbers of tablets and gradually increase them. Molasses should be added 12-18 hours after the tablets have been added. Do not flush the ponds for at least 48 hours after the tablets have been added. The table below is a guideline you can use to get a rough idea about how many tablets to use when. If you do not see a benefit within a short period of time, increase the number of tablets you are using.

Day	Week	Tablets/ha	Day	Week	Tablets/ha
7	1		119	17	
14	2	10	126	18	55
21	3		133	19	
28	4	15	140	20	55
35	5		147	21	
42	6	20	154	22	60
49	7		161	23	
56	8	25	168	24	60
63	9		175	25	
70	10	30	182	26	65
77	11		189	27	
84	12	45	196	28	70
91	13		203	29	
98	14	50	210	30	80
105	15		217	31	
112	16	50	224	32	100

This table is based on one ha surface area, one meter deep equal to 10 million liters of water. Quantities used should be adjusted proportionally down to about one half ha. Below that you should use the same number of tablets that you would for a one half ha. Adjust the dosage as you see the benefit.

**Example:** A dirt pond 10 by 32 meters, 1.5 meters deep is equivalent to approximately one half million liters of water or 5% of a ha. Using the table, start with 5 tablets per pond at week 2 and add tablets at 50% of the level indicated in the table.

**Additional Suggestions:** Prior to filling the ponds use our powdered product (AQUAPROB). Alternatively use our product in biodegradable bags that contain (AQUAPRO-EZ) nutrients that will help the bacteria grow in lieu of or in addition to tablet application.

**Benefits:** The bacteria in our product degrade organic material. *This is a fact.* Clients report cleaner water, cleaner pond bottoms (in some cases pond bottoms are completely free of organic material and in others some organic material remains), less water exchange, lower levels of ammonia, lower levels of hydrogen sulfide, shifts in the types of algae away from blue greens (end result could be less problems with off flavor), higher survivals, healthier animals, better feed consumption, etc. What you see will depend on your application rates and frequency as well as the nature of your environment. If you are looking for degradation of organic material, do not hesitate to use as many tablets as it takes to see the benefit. The bacteria in the tablets can not harm your animals. They do use oxygen though so be sure to maintain oxygen levels as required.

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