

Use of PRO4000x in high density production environments

The bacteria in our products have been selected for their ability to degrade organic matter. They do not digest dirt and they will not digest huge amounts of organic matter that has accumulated as a result of a production process. The best way to get the maximum benefit is to start adding the tablets early in the cycle. The number of tablets and added nutrients (typically molasses at 15 to 20 liters per ha equivalent added 6 to 12 hours post addition of the tablets) should be adjusted as the cycle progresses. There is no ideal frequency and rate of addition. Every production environment is different and even ponds right next to each other will not behave the same way. When water is exchanged, it must not be done in a manner that flushes the bacteria out of the ponds. Give the bacteria at least 48 hours to work before flushing.

Each pond contains thousands of bacterial species. This ecosystem is dynamic and changes in response to inputs and outputs. In a "normal" pond there can be many millions of bacterial cells per ml of water, as well as fungi (yeast is a fungus), algae and blue green algae (actually bacteria), etc. The bacteria in the tablets function because of their ability to utilize nutrients as a result of their production of enzymes. Bacillus species are widely used for this purpose.

Day	Tablets/ha	
	Density/m ²	100 45 (or less)
0	10	0
7	15	5
14	20	7
21	20	10
28	25	12
35	30	13
42	35	15
49	40	17
56	50	20
63	50	25
70	60	30
77	60	27
84	75	35
91	75	40
98	90	40
105	90	45
112	90	45
119	90	45
Tablet No.	925	431
kgs	14.9	7.0

As production cycles progress, higher and higher levels of nitrogen are added to the ponds. Often farmers are persuaded by feed companies to use higher levels of protein in the feeds than they need. In high density production systems where a biofloc is formed this is especially problematic as the types of bacteria that are in the biofloc are impacted by these excessive protein levels.

The schemes in the table are guidelines only. If you are contemplating adding the tablets into ponds that are well along in the production process and significant amounts of organic matter have accumulated you will need to add a large number of tablets at once. It is critical that there be more than enough aeration at all times that these products are used. The bacteria bloom and use oxygen as they break the organic matter down. If there is not adequate aeration the DO levels can drop low enough to stress your animals. However since the bacteria use oxygen it is very important to make sure that it cannot happen by adequately aerating your ponds.