

## Analysis of Fish Fertilizers

<b>Client:</b> Great Pacific BioProducts
<b>Samples Received:</b> 3/8/2006
<b>Fish Fert A:</b> Pacific Natural 2-3-0
<b>Fish Fert B:</b> Agrolizer 6-2-0

### Direct Microscopy

Assay	pH	Electrical Conductivity	Volume of Sample	Active Fungi	Active Bacteria	Total Fungi	Fungal Dia.	Total Bacteria Cell Count/ml	Interpretation
<b>UNITS</b>		mS/cm	ml						
<b>Sample #</b>									
<b>1308</b> Fish Fert. A	3.22	18	1.00	0.0	0.0	0.0	-	1.6E+10	Sample #1308 has more Total Bacteria (including both biomass and total cell counts) than Sample #1309, by a factor of 225.  All cells are alive but dormant. Under the right environmental conditions these cells become active.
<b>1309</b> Fish Fert. B	4.43	170	1.00	0.0	0.0	0.0	0.0	7.1E+07	E+ "number" means the decimal place moves this "number" of spaces to the right. For Example: 1.6E+10 = 16,000,000,000 1.7E+07 = 71,000,000
<b>Difference: A-B</b>								225 to 1	

### Functional Group Assessment

UNITS: Colony Forming Units/ml (cfu/ml)

Assay	Sporeforming Bacteria	Cellulose Degraders	Total Pseudomonads	Nitrogen Fixing Bacteria	Total Fungi	Interpretation
<b>Sample #</b>						
<b>1308</b> Fish Fert. A	7.70E+05	2.00E+02	3.60E+04	2.50E+04	2.80E+04	The Nitrogen Fixing Bacteria convert sources of N unavailable to a plant to Nitrate N, which is the form of N plants need. Therefore the more Nitrogen Fixing Bacteria there are, the more Nitrate N will be available for uptake.
<b>1309</b> Fish Fert. B	3.00E+03	1.00E+02	6.00E+02	1.00E+02	3.00E+02	The Sporeforming Bacteria can survive high stress conditions such as too high or too low pH, desiccation (drought) and so on. They will become active, allowing for a greater uptake of nutrients, when environmental conditions become less extreme.
<b>Difference: A-B</b>	257 to 1	2 to 1	60 to 1	250 to 1	93 to 1	All of the other forms of Bacteria and Fungi either improve nutrient uptake, provide a direct food source, or both.