Comparing Production Processes

Common Production Process Used by Competitors

There are various ways that fish fertilizers are produced; here are the basic parameters for the three most common methods:

1. **Fermentation:** Fish waste, or "trash fish" are ground up into a slurry, which is then pumped into large holding tanks. Sulfuric acid is added, and the fish is left to anaerobically digest (rot) in the tank for 30-60 days. During this period of anaerobic activity, much of the beneficial nutrients are "gassed off". The material is then filtered to remove remaining contaminants and packaged.
2. **Emulsions:** This is the most popular method. "Trash fish" is ground into a slurry and cooked at very high temperatures. The oils, collagen and lipids are then removed for other products. What is left is called "stickwater". This "stickwater" is then boiled to drive off the water and concentrate it. Sulfuric acid is then added to stabilize the emulsion, and it is filtered to remove contaminants. It is now ready for packaging.
3. Acid Digest: Fish waste, typically from a wide variety of sources, many of low oil content, is ground into a slurry and pumped into a processing tank. Phosphoric acid is added, and the tank is slowly stirred and heated for at least 24 hrs. More acid is then added to stabilize the fertilizer and it is filtered to remove contaminants. This process uses more acid and has a higher P2O4 content.

The Organic Gem® Production Process

Organic Gem is produced by a unique proprietary process. We are the ONLY Company consistently using deep water, North Atlantic Dogfish for our raw material.

Our process is a low temperature, aerobic, enzymatic digestion. We DO NOT remove any of the beneficial oils, collagens, or lipids. We start by receiving fresh dogfish offered from the numerous processors in New Bedford, MA (largest fishing port in North America).

We then load the dogfish into our EDU's (enzymatic digestion units) add our proprietary enzyme blend, and agitate at low temperature. The whole digestion process requires about 1.5 - 2 hrs. to complete. We then course filter to remove the cartilage from the hydrolysate.

This cartilage goes on for further processing as a dietary supplement.

Phosphoric acid (or citric blend) is added at this time to stabilize the hydrolysate, and then we filter for a second time over a fine 150 mesh filter to remove any remaining particulate. The Organic Gem is pumped to holding tanks for final QC. It is then ready for packaging.

Please note, high quality hydrolysates will separate or fall out after a period of time. You should see three distinct layers in the container:

- Top layer of oil
- Middle layer of protein
- Bottom layer of collagens and gelatins

For best application results, always remember to agitate Organic Gem well before adding water.