

# DT's Live Marine Phytoplankton - Storage Requirements

## The short version: Keep it refrigerated and shake it up once a week.

### 1. Refrigeration:

Without proper refrigeration the phytoplankton will quickly lose its nutritional value, even though it stays alive. See the graph below that is based on research published in the 2002 Marine Fish and Reef Annual by Fancy Publications. **Refrigeration should be in a range from the mid to upper 30's.** Proper refrigeration temperatures cannot be reached in a wine cooler because the lowest setting is 46F/8C. Warmer temperatures will increase the odor and more quickly lower the nutritional value.

### 2. Odor: The odor of DT's Live Marine Phytoplankton is primarily because it is alive.

It is not a complicated matter to understand the reason for the increased odor of DT's Phytoplankton during storage. Waste products build up in the culture and are most noticeable in the air that is trapped in the bottle. That is why a half empty bottle smells more than a full bottle, and a large bottle smells more than a small bottle. Some species such as the *Chlorella* simply smell stronger. Odor intensity is almost impossible to describe; it is normal for a stronger odor to be detected, particularly in DT's that has been in storage for a while. **If a significant amount of the phytoplankton is dead, the intensity of the odor is very strong and ammonia may be noticed.**

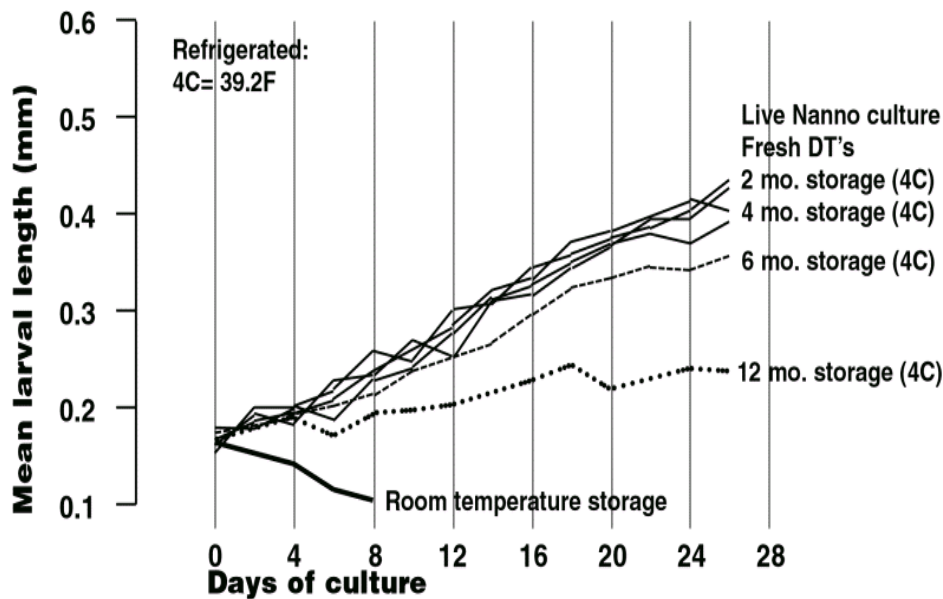
### 3. Shaking it up at least weekly:

Phytoplankton settles out of suspension and will die if left packed down on the bottom. Shaking it up vigorously with the bottle upside down for several seconds is necessary to wash the cells off the bottom. Shake at least once a week to prevent the phytoplankton from packing down. **Keeping up this maintenance is extremely important for the storage of this product.** Shaking it up at least once a week is sufficient although some of the phytoplankton settles out of suspension quickly.

### 4. Shipping:

It is also important to maintain the phytoplankton at cold temperature during shipping. We do realize that for many reasons it is not possible to prevent some change in the temperature during shipping or delivery. We ask that if a distributor or retailer ships this product, that care is taken to ensure that the quality is not affected by over-heating or freezing.

**LARVAL GROWTH ON DT'S PHYTOPLANKTON**



Refrigerated DT's performed equally well for up to 4 months. At 6 months there was a slight but significant decrease in larval growth rates. Our "best if used by" date is based on a 5 month shelf life from the date of harvest. Larvae cultured on DT's that was left at room temperature for just a few days, had a rapid decline in health and died within 8 days.