

## START UP PROCEDURE and MAINTENANCE for Full Recirculation System

A start up period and procedure is required to establish the bacteria in the biological filtering system; this period can take anywhere from four weeks to six weeks. The time required will depend on the type of water and the temperature the water is kept at, the colder the water the longer it will take. Bacteria will become dormant at temperatures below 46 degrees. For most system installations, the recommended temperature for the water is 50 degrees. During this time the bacteria will have a chance to acclimate to the cold water and will then colonize in the biological filters. The established bacteria will respond to the ammonia produced by a larger quantity of minnows in the tanks. **REMEMBER to NEVER let your bait dealer add their water to your system!**

When the MINNOW MASTER Live Bait System has been installed and is running, put in a small quantity of minnows. They will produce the ammonia needed to establish the bacteria. Larger quantities can be used, but will take more care and attention.

Recommended start up quantities are as follows:

**FRS1000 (1 Tub) – ½ gallon or approximately 4 pounds of minnows (or less).**

**FRS2100 (2 Tubs) – 1 gallon or approximately 8 pounds of minnows (or less).**

**FRS3100 (3 Tubs) – 1.5 gallons or approximately 12 pounds of minnows (or less).**

**FRS4100 (4 Tubs) – 2 gallons or approximately 16 pounds of minnows (or less).**

On the Second Day of having minnows in the live bait system (or as soon as there is ammonia present), add 2 ounces of X1 Bacteria supplied. Each day following, check the ammonia and add 1 ounce of the X1 Bacteria until the container is empty. A 32-ounce bottle of ABA X1 Bacteria is supplied with each Live Bait System. Once opened the bacteria is only good for 60 days. When exchanging the water is necessary, add the bacteria only after draining to exchange the water has been completed.

On the Third Day of operation with minnows in the system, check the ammonia level. The ammonia level will probably be in the 4.0 – 8.0 range (darkest green) on the chart in your ammonia test kit. If so, drain to exchange the water in the system. **With the incoming water still turned on, drain water from the system**, this drain to exchange the water will flush the system to dilute the ammonia in the water and filter media. Ammonia will concentrate in the biological filters and must be diluted to allow the bacteria to colonize more quickly and properly. Draining to exchange the water this way, will flush ammonia from the tanks as well as from the filters. **You can adjust the flow by partially opening the drain valve, so as not to remove all the water from the tanks during the flushing. The water should drop about 2-3 inches below normal. Drain and flush for 1 hour per tub.** Diluting the ammonia in this manner will give the bacteria, establishing in the filters, a better chance to multiply and overtake the ammonia.

After the bacteria supplied has been used up, every day or two for about the next two weeks check the ammonia levels and if necessary, repeat the drain and flushing procedure. You may need an additional bottle of bacteria. The ammonia level desired is 0 to 1.0 on the test kit chart. **Do not drain and flush when there is little or no ammonia present.**

**Each day remove all the dead minnows from the tanks; check for dead minnows under the air-stones and around tub drains. Clean the tanks as necessary.**

Minnows can be sold during the start up period.