Effect of Carbon Dioxide Scrubber Sticker during fish transportation

Research Proposal

JULY 25, 2016

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Introduction

Water quality during the transportation of fish depend on load of fish concentration and the length of time for which the fish are transported.

During transportation, Fish metabolism is three times higher. Carbon dioxide is the one of major metabolic wastes produced during transporting.

With the increasing transport time, fish respiration cause to produce CO_2 and shifts water pH towards acidity.

Rapid changes in pH stress fish, and finally it is badly affect to the quality of fish.

It is better to lower the accumulating CO_2 amount while transporting fish.

Objectives

To check the effect of CO2 scrubber sticker by packing current fish density

To check the effect of CO2 scrubber sticker by increased stocking density

Methodology

Guppy fish (*Poecilia reticulata*) was selected for this experiment.

As a controller, guppy fish to be exported in normal way will be selected.

150 individual guppy fish will be taken with the conditions and quality as same as when they are to be exported.

During the preparation, it will be checked,

- pH
- Ammonia level
- Nitrite level
- Stress level

CO2 scrubber sticker will be placed inside the top of the sealed polythene bag prior to shipment.

Figure 1 : CO_2 scrubber sticker

After 48 hours, again

- pH
- Ammonia level
- Nitrite level
- Stress level and
- DOA will be checked.

Then the fish will be stocked in a glass tank and allow them to stay several days. DOH will be checked day by day.

Simultaneously, the same procedure will apply using 175, 200 individual guppy fish.

Finally, data will be analyzed.

Literature Review

- http://www.fishshipping.com/
- http://www.fao.org/docrep/009/af000e/AF000E02.htm
- http://www.reef2reef.com/threads/an-easy-way-to-increase-your-tanks-ph-with-a-co2-scrubber.57609/
- http://www.advancedaquarist.com/2004/5/aafeature