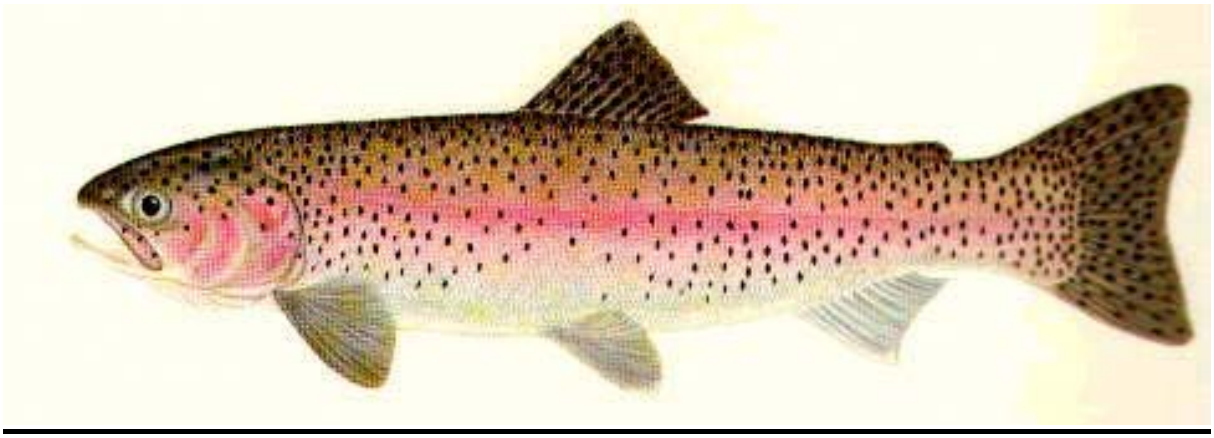
MICHIGAN RAINBOW TROUT TRIAL 2002

(*Salmo Gairdneri)*



Luther, Michigan

1. Overview

The trial is located at Luther in the North of Michigan some 70 miles south of Traverse City and 60 miles east of Lake Michigan. This site was chosen primarily for the quality of the water which is spring fed and ranked in the top 5 locations in the United States. The ponds are also isolated from any other water source providing an ideal environment with no possibility of contamination.

This property has been used for raising and breeding fish since the late 1800's with the

original hatchery building still being used along with a number of ponds. The ponds have rock and concrete walls with sandy bottoms. One of the original ponds is pictured left with the walls exposed after being drained and deepened.

All water is spring fed. The ponds are out in the open although even with the severe winter temperatures they do not freeze over due to the temperature of the water from the springs at 48°F and continuous flow of the water.

The initial objective of the trial was to determine what effect introducing biocite into the diet would have on the trout from hatchling through to fingerling. Key factors included water quality, general health of the fish, weight gains, oxygen levels in the water.

The trial commenced on September 5 2002 with approximately 10,000 hatchlings, 5,000 as the control which were fed the standard diet and 5,000 fed with a diet incorporating the biocite powder. The fingerlings right, were then transferred to two identical tanks pictured below.

The two photos below show the size of the fish in the two tanks taken on December 15, 2002.

Tank A

Tank B

To the naked eye it was easy to distinguish that the fish in Tank A (left) were bigger than in Tank B.

1. Test Objectives

General

To evaluate comparatively the performance of trout feeds containing BIOCITE™ as opposed to normal feed from fingerling to commercial farm size.

Specific

a) To measure the feed consumption rate of trout supplied with feed containing Biocite™, compared with the equivalent consumption rates when the feed had no additive content.

b) To measure the rate of weight gain

c) To measure the variation in digestibility between standard un-treated feed, and the same feed with Biocite™ added.

d) To measure the bactericidal and fungicidal effects of the Biocite™ by means of micro-biological analysis of feed pellets.

e) To measure the death/loss mortality rate

f) To determine whether there is any improvement in the feed out time.

g) To determine whether there is any positive or negative effect on the general health of the fish.

h) To determine whether there is any effect on the water quality in terms of nitrates and BOD

i) To determine whether there is any reduction in pathogens in the fish population

j) When the fish are transported whether there will be any reduction in mortality rates when using Aqualife.

k) To determine whether the overflow from the trial pond would have any effect on the larger fish.

1. Feed

The picture right shows the normal feed (right container) and the same feed with biocite added (left container)

The fish are fed 3 times a day

The two photos above are two samples taken from the overflow pond each weighing almost 2 lbs. Many of the fish in this larger pond weigh between 1½-2lb. The owner has advised that since this pond had been receiving overflow water from the trial tank he had noticed these fish had increased in size much quicker than he had expected.

TANK "A"

3¾" 9 Grams

4¼ 13 Grams"

4" 11 Grams

4¼" 11 Grams

TANK "B"

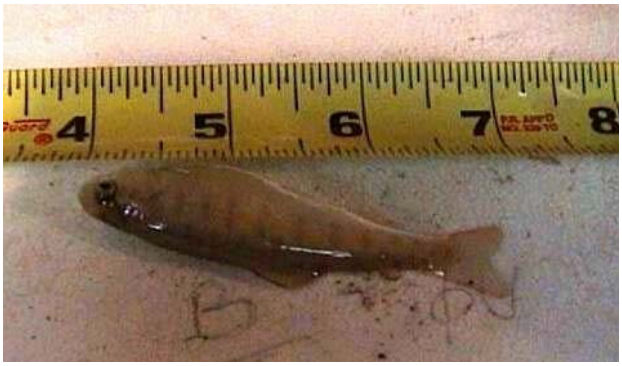
3¼" 6 Grams

3½" 7 Grams

3½" 7 Grams

3¼" 5 Grams

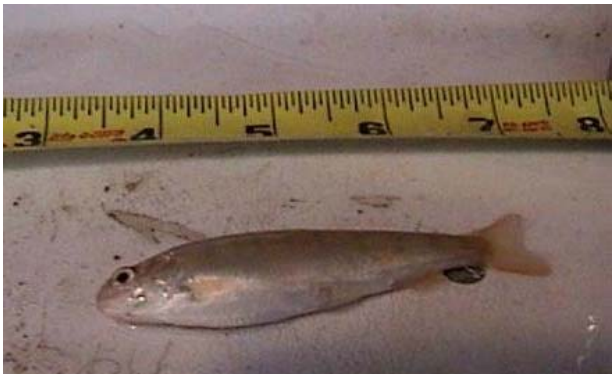
3¾”



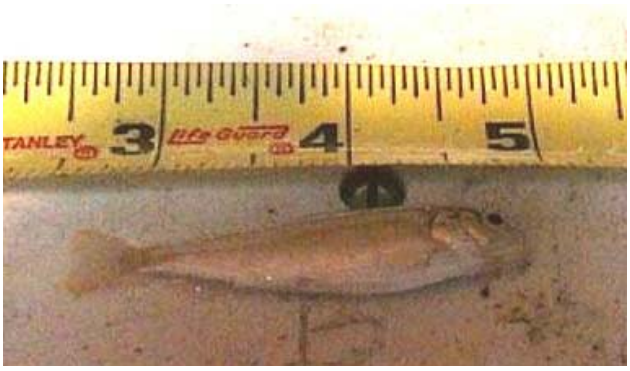
2¾”

3¾”

3”



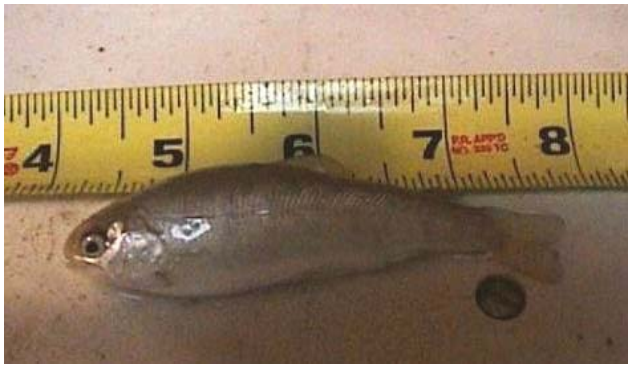
3½”



2¼”

3¾”

2½”



TANK “A” 3¾”

TANK “B” 3¼”