

# StartSmart Increases Fish Yield in Test vs Control Study

Conducted by Dept. of Aquaculture, College of Fisheries, MANGALORE 575002, KARNATAKA, INDIA

This study proves, that even in ideally operated test (treated) and control ponds, where all parameters are tightly regulated and typical real world problems did not occur, that yield improvement is directly due to StartSmart Probiotic use.

In real world applications, with real world problems, typical yield improvement is from 14 to 40%!

## Protocol

The experimental conditions were as follows:

- 4 ponds, 5x5x0.8m= 20m<sup>3</sup> each (25 m<sup>2</sup>), two ponds for StartSmart treatment (test) and two ponds without StartSmart treatment (control)
- liming – 50 g/pond (@250 kg/ha)
- cow dung (initial dose) – 25 kg/pond (@10,000 kg/ha) + monthly dose of 4.0 kg/pond (@1600kg/ha)
- leave for 10 days
- stock fish fingerlings (Common carp with mean weight of 3.0 g)
- 18 fingerlings/pond (@7,200 fish/ha)
- feeding powdered RB+GOC (@ 5% BW)
- fortnightly sampling (every 14 days)
- duration of 7months or 210 days

**DAYS 1 through 100: No StartSmart aerated prep tank**

**DAYS 100 through 210: StartSmart aerated prep tank dosing**

## Fish Yield / Harvest

The total grow out period in this study was 210 days. The tables below show:

- Average growth (grams per fish)
- Surviving fish in test and control (out of 18 introduced at the beginning)
- Total biomass (mean fish weight x survivors)

***Fish biomass yield in control (C) and treatment (T) ponds at the end of 210 days of grow out experiment:***

Ponds	Total Biomass (weight in g)	Mean Biomass (weight in g)	(%) increase in biomass over control
C1	1191.72	1353.75	14.82%
C2	1515.79		
T1	1359.38	1554.38	
T2	1749.67		

***Note: All StartSmart used in this study was stored in India at room temperature for 18 months before dosing for the grow out experiment. The excellent ammonia reduction results and the yield increase with product aged for 18 months at 30 C shows the incredible shelf life of StartSmart Probiotics for Aquaculture!***