

PROJECT REPORT ON APPLICATION OF START SMART

EXPERIMENT TITLE : REARING OF SPAWN TO FRY STAGES

1. Protocol

- 4 ponds, 2x2x0.8 m = 4m² two each for treatment and control
- fill 1" soil and condition the water for three days
- liming – 25 g/pond
- cow dung – 4 kg/pond
- leave for 10 days
- stock rohu spawn – 4000/pond
- duration 1 month
- feeding powdered RB+GOC
- first fortnight: double the BW, second fortnight: thrice the BW
- Weekly sampling

Application of product

- Apply start smart (liquid), 1 quart/pond/week for 4 weeks – only for treatment ponds
- For the initial dosing, add 1 quart 24 hrs before stocking the spawn

2. Results

(a) Weekly variations in water quality parameters in the control (C) and treatment (T) ponds.

Date of sampling: 31-8-2011

Pond	Air Temperature (°c)	Water Temperature (°c)	pH	DO (mg/l)	Alkalinity (mg/l)	CO ₂ (mg/l)	Ammonia (mg/l)
C ₁	26.5	27.5	6.8	7.42	51	0.88	0.00259
C ₂	26.5	27.5	6.8	7.03	51	1.76	0.00263
T ₁	26.5	27.0	6.8	6.64	53	1.76	0.00596
T ₂	26.5	27.0	6.8	6.25	53	2.64	0.00581

Date of sampling: 09-9-2011

Pond	Air Temperature (°c)	Water Temperature (°c)	pH	DO (mg/l)	Alkalinity (mg/l)	CO ₂ (mg/l)	Ammonia (mg/l)
C ₁	27.0	27.0	6.8	5.86	62	2.64	0.00732
C ₂	27.0	27.0	6.8	6.25	51	2.64	0.00285
T ₁	28.5	28.5	6.8	5.08	52	1.76	0.00016
T ₂	28.5	28.5	6.8	5.47	63	0.88	0.00095

Date of sampling: 16-9-2011

Parameters	Air Temperature (°C)	Water Temperature (°C)	pH	DO (mg/l)	Alkalinity (mg/l)	CO2 (mg/l)	Ammonia (mg/l)
C ₁	25.0	26.0	6.8	4.69	54	3.52	0.00120
C ₂	25.0	26.0	6.8	5.08	52	2.64	0.00155
T ₁	25.0	26.0	6.8	5.86	45	1.76	0.000778
T ₂	25.0	26.0	6.8	5.08	48	0.84	0.000864

Date of sampling: 23-9-2011

Pond	Air Temperature (°C)	Water Temperature (°C)	pH	DO (mg/l)	Alkalinity (mg/l)	CO2 (mg/l)	Ammonia (mg/l)
C ₁	27	27.5	6.8	5.86	65	1.76	0.00259
C ₂	27	27.5	6.8	6.25	62	1.88	0.00605
T ₁	27	27.5	6.8	5.08	70	1.52	0.000691
T ₂	27	27.5	6.8	4.69	50	1.20	0.000770

Date of sampling: 30-9-2011

Pond	Air Temperature (°C)	Water Temperature (°C)	pH	DO (mg/l)	Alkalinity (mg/l)	CO2 (mg/l)	Ammonia (mg/l)
C ₁	26.5	28	6.8	5.47	53	2.64	0.00129
C ₂	26.5	28	6.8	5.08	54	1.76	0.00155
T ₁	26.5	28	6.8	4.30	46	1.64	0.00029
T ₂	26.5	28	6.8	5.08	48	1.52	0.00051

3. Observations & Recommendations

1. All the parameters were well within the recommended levels with dissolved oxygen above 5.0 mg/l in most of the cases with a few exceptions.
2. Reduction in the Ammonia levels is evident in treatment ponds as against to control ponds.
3. The start smart application in treatment ponds has significantly lowered the free carbon dioxide level – this would probably affect the primary productivity as evidenced by more clear waters (from 10 day onwards) in treatment ponds during the course of investigation period.

4. The spawn were never appeared in surface waters in the treatment ponds probably owing to low ammonia levels, while they were found surfacing in the control ponds.
5. The growth of rohu was superior and uniformly consistent in treatment ponds as against to control ponds where the growth was inferior and erratic.



Close-up view from treatment pond (T1)
Note the uniform consistent growth



Close-up view from control pond (C1)
Note the erratic growth