



Supplementary Material

Studies of the Wintering effects on Growth and Survival of *Catla Catla* Fingerlings in Polyculture System Employing Greenhouse Technology

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Supplementary Table I. Fortnightly Means \pm SE of Temperature, DO and pH

Treatments	Fortnight	Temperature ($^{\circ}$ C)		DO (mgL^{-1})		pH	
		Mean \pm SE	Min-Max	Mean \pm SE	Min-Max	Mean \pm SE	Min-Max
T1 (without cover)	1	19.4 \pm .2829	18.1-21.4	5.15 \pm .1184	4.86-6.65	8.27 \pm .0437	8.07-8.67
	2	17.3 \pm .2572	16.0-18.9	4.12 \pm .2406	3.99-5.32	8.19 \pm .0427	8.01-8.53
	3	17.7 \pm .3656	15.2-19.5	5.93 \pm .3656	3.05-7.02	8.27 \pm .0264	8.11-8.45
	4	17.2 \pm .1790	16.4-18.3	5.40 \pm .2850	4.41-6.69	8.26 \pm .0166	8.17-8.39
	5	17.9 \pm .2642	16.7-19.7	4.81 \pm .1981	3.05-5.47	8.23 \pm .0164	8.13-8.35
	6	21.7 \pm .4698	19.9-23.1	4.86 \pm .3847	3.68-5.99	8.31 \pm .0843	8.19-8.90
	Overall	18.4 \pm .2031	15.2-23.1	5.86 \pm .1690	5.86-7.69	8.25 \pm .0160	8.01-8.90
T2 (with cover)	1	24.7 \pm .1653	23.5-26.0	3.68 \pm .0932	2.08-5.41	8.16 \pm .0213	8.03-8.31
	2	24.6 \pm .2147	23.0-25.8	3.66 \pm .1338	2.09-5.27	8.24 \pm .0557	8.05-8.69
	3	24.6 \pm .2401	23.2-26.0	4.38 \pm .1431	3.61-6.78	8.28 \pm .0491	8.11-8.61
	4	24.3 \pm .2974	22.5-25.9	3.52 \pm .1396	2.65-4.05	8.16 \pm .0188	8.07-8.29
	5	23.9 \pm .1893	22.1-24.9	4.61 \pm .1689	3.63-5.27	8.22 \pm .0293	8.11-8.41
	6	36.0 \pm .1264	25.4-26.5	3.37 \pm .0669	3.19-4.77	8.27 \pm .0129	8.21-8.33
	Overall	24.6 \pm .1085	22.1-26.5	4.43 \pm .0986	3.08-6.05	8.22 \pm .0157	8.03-8.69

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Supplementary Table II. Multivariate analysis of variance (MANOVA) applied on growth of carps.

Fortnight	Dependent variable	F-value	Multivariate tests of significance †	Significant univariate F-test *	Difference
Initial	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	.249	p = 0.862	-	-
1	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	7.321	p = 0.001	<i>L. rohita</i> (p = .000)	T1 < T2
2	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	15.696	p = 0.000	<i>L. rohita</i> (p = .000) <i>C. catla</i> (p = .001)	T1 < T2 T1 < T2
3	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	26.402	p = 0.000	<i>L. rohita</i> (p = .000) <i>C. mrigala</i> (p = .008) <i>C. catla</i> (p = .000)	T1 < T2 T1 < T2 T1 < T2
4	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	21.083	p = 0.000	<i>L. rohita</i> (p = .000) <i>C. mrigala</i> (p = .000) <i>C. catla</i> (p = .000)	T1 < T2 T1 < T2 T1 < T2
5	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	32.382	p = 0.000	<i>L. rohita</i> (p = .000) <i>C. mrigala</i> (p = .000) <i>C. catla</i> (p = .000)	T1 < T2 T1 < T2 T1 < T2
6	<i>L. rohita</i> <i>C. mrigala</i> <i>C. catla</i>	44.267	p = 0.000	<i>L. rohita</i> (p = .000) <i>C. mrigala</i> (p = .000) <i>C. catla</i> (p = .000)	T1 < T2 T1 < T2 T1 < T2

*, p < .05; †, Multivariate tests of significance include tests of Pillais, Wilks, Hotellings, and Roys. The value of Wilks' Lambda was used as the F-ratio;
Note: T1, Without green house and T2: With green house.