

Study of fish production in Khandru river & co-existence of lowland area with particular reference to the paddy field.

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Abstract

Fresh water fish culture aims at achieving the highest possible fish production from pond, tanks, swamps, hill streams, lakes, and reservoirs.

The techniques of fish cultivations involve both management of soil and water physicochemical and biological parameters. However, unlike major agricultural crops, fish do not consume water and compared to any bird or mammal used for husbandry process. They have the highest fecundity. These two criteria go very much in favour of fish cultivations. Besides fish have the property to high food quality rich in protein and vitamin and contain fat calcium, phosphorous and other nutrients necessary for human health and growth.

Introduction

Besides fish culture in flood prone areas of Rural Chapra (North Bihar), it is extensive and well developed though it has suffered as setback through the use of pesticides for the rice crop. Recently areas occupied for this composite culture declined from more than 2 million ha in 1968 to about 0.08 million ha in 1974^{7,8}. However, in different countries like

Philippines insect – resistant, high yielding rice variety IR26 was tested for its suitability for paddy-cum-fish culture with encouragement results.

Recently this system of culture has been tried in a number of countries in Africa, widely practiced in Madagascar, Central Countries of Europe, Latin America, Southern State of the USA^{7,8}. Nepal has introduced paddy cum fish culture into certain areas where common carp is cultured. In India it is practiced in Bengal and Kerala on large scale. The fish-cum-paddy culture in flood prone areas in North Bihar was carried.

For extensive and huge apply of this culture we selected areas that is accumulated with water annually or more.

Materials and Methods

A large part of the water accumulated areas due to flood activity were selected for this purpose, and prepared for physico-chemical analysis for one year applying special kit for water analysis. Various parameters were selected to check the status of water, *i.e.* Temperature, pH, D.O., T.D.S., E.C. ^{2,8,9,10}. After calculating physico-chemical properties of paddy field which contained Sonan variety and hybrid variety of rice where fishes Catla catla, silver carp golden carp, were reared ^{7,8}. Ultimately the measurement of the fishes growth and per ha yield of rice in that backward area was calculated.

Result and Discussion

For the preparation of various type of fish culture in paddy field there was monthly analysis of aforesaid parameters of water collected from different flood prone areas⁵.

After culture the fish community attained their growth with the development of 2-7% in the gross body weight while paddy yielding

increased upto 10-12% ^{6,7,8}. However, this variation could vary with the change of fish species types during the growth in whole year.

Table – 1 Analysis of water for fish

	pH	D.O.	TDS	EC	DOB
Jan.	7.42	5.2	192	342	4.1
Feb.	7.46	6.1	201	349	3.2
March	7.61	5.9	210	315	3.4
April	7.88	5.8	221	340	3.0
May	7.61	5.7	218	349	3.0
June	7.69	5.9	219	310	3.9
July	7.88	6.1	218	318	3.9
Aug.	7.28	6.3	231	319	3.8
Sep.	7.27	5.9	242	342	3.7
Oct.	7.22	5.8	311	350	3.7
Nov.	7.21	5.7	220	351	3.6
Dec.	7.31	5.6	233	358	3.7

Table – 2 Analysis of water for fish (2005-2006)

	pH	D.O.	TDS	EC	DOB
Jan.	7.61	5.4	201	421	5.2
Feb.	7.78	5.9	204	420	4.1
March	7.62	5.9	210	418	4.3
April	7.65	5.4	240	435	4.2
May	7.65	5.5	249	425	4.9
June	7.65	5.6	265	460	4.6
July	7.63	5.6	262	449	4.11
Aug.	7.69	5.7	301	450	4.10
Sep.	7.69	5.6	301	410	4.12
Oct.	7.44	5.7	310	395	4.33

Nov.	7.50	5.9	345	400	4.32
Dec.	7.51	5.4	360	401	5.1

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