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Limnological Parameters affecting the Survival & Growth of Fishes of Govt. Fish Seed Farm Maharajganj, Bhadohi

Rajesh Kumar Dubey

Department of Zoology, Govt. P.G. College Chunar, Mirzapur, U.P. (India)

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ABSTRACT

Government fish seed farm Vikrampur which is situated 1.5 Km, distant from Maharajganj, Aurai has been studied for hydro biological factors with special emphasis on survival and growth of fishes. To assess the impact of various toxicants present in the water of all the nine ponds of Government fish seed farm Vikarampur, breeding experiments were conducted in the fish farm during two consecutive years. On the onset monsoon the breeders of major carp netted out of the rearing pond and selected for breeding experiment. Three sets of experiment where each had females and males in t he ratio of 1:2. It was found that there was net reduction of 1,16,695 eggs in the fecundity of fishes. The result have shown cancel water contains high amount of pH, alkalinity, BOD, COD, TSS, TDS, chlorides nitrates, chromium and sulfer with the chronic problem of low dissoloved oxygen (DO) Level. From the experiment it is just clear that the farm receives polluted water causes reduction in fecundity of fishes.

1. Introduction

Fishes are very sensitive to even slight change in their natural surroundings. Therefore, it is essential to conserve our inland fishery resources on priority basis. The U.P. state Government proposes to double the existing level of fish production by the end of the "Tenth five year plan." To meet the demand of fish seed it is imperative to monitor already existing fish farms cautiously various aspects of water pollution and its managements has been studied by number of workers.

Chacko et. al. (1950); George (1962); Chakravarty and Gupta (1982); Kudesia and Singh (1988); Dutta et. al. (1993) and Sharma and Agrawal (1999); The Government fish seed farm Vikarampur was established in 1965-66 and since them it is major source of fish seed supply all over the U.P. and is an important center of induced breeding aquaculture.

Fish farm receives water from Sikhar canal. Sikhar canal originates from river Ganga at Tela Ghat near Sitamadhi in Sant Ravidas Nagar from its origin. Upto this farm it covers a total distance of approximately 60 km. Sikhar canal water receives various pollutants from the surrounding area. All the villages that exist in the vicinity of the track of Sikhar canal. Villagers have disturbed or turned off the boundary of Sikhar canal here and there and from there agricultural run-off mixes with canal during rains. Berides, a large number of small scale carpet manufacturing units as well as dyeing units are also working in villages. Physicochemical characteristics of canal water analysed monthly, in the upstream section during 2015-2016, to evaluate the extent of pollution. The results have shown that canal water contains high pH, alkalinity, BOD, COD, TSS, TDS, chorides nitrates and chromium and shows with the chronic problem of low dissolved oxygen (DO) level. From the data it is very clear that the farm receives already polluted water.

2. Material and method:

Before the breeding season (June), starts a number of mature male and female breeders were segregated from the brood pond and stocked sex wise in the rearing pond No. 1 and 2, and are referred to as segregation ponds. There fished were fed with rice bran and mustard oil cake daily but feeding was topped on 23th June (15 days before breeding).

On the onset of monsoon the breeders of major carp netted out of the rearing pond and selected for breeding experiment.

Following sets of experiments were arranged, each set had one healty female and two males of the same species as mentioned below :-

Set I	*Labeo rohita* (1 female, 2 males)
Set II	*Cirrihinus mrigala* (1 female, 2 males)
Set III	*Catla catla* (1 female, 2 males)
Set IV	*Cyprinus carpio* (1 female, 2 males)

3. Results And Discussion:

In the first three experiment sets *(Labeo, Cirrihinus, Catla respectively),* a single dose of ovaprim/ ovatide was administered 08.07.2015 during the first year in the morning between 9 to 10 am. The doses were 0.4 ml/kg body weight in case of *L.rohita* female, 0.3 ml/kg body weight for *Cirrhihinus* female and 0.5 ml/kg body weight for the female Catla. Similarly, a single does of 0.2ml/kg body weight was administered to each male in all the three sets during the year 2015 *Cyprinus Carpio* is a fish which breeds naturally in confined water of ponds so there was no need of any dose.

The sets of injected females and males (1:2) were then introduced into breeding hapa. Total number of eggs laid in the first set were 5,00,350. In the second set which had C. marigla, 2,78,120 eggs were laid and in the third set having *Catla* 4,78,210 were laid during first year of the study. Out of them 90% eggs were fertilized in the third set. During 2015 further induced breeding was followed in all the three sets of experiments. Breeding was induced on the same date (08.07.2016) and it resulted in the production of total 11,39,985 eggs in all the three sets as compared to 12,56,680 eggs produced in the previous year (2015). There was net reduction of (1,16.695 eggs) in the fecundity of fishes.

All the climatic conditions which influence the breeding growth and survival of fish fry and fingerlings viz temperature, weather and water flow.

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