DEPARTMENT OF AQUACULTURE

TWO DAY TRAINING ON FISH SEED PRODUCTION AT NATIONAL FISH SEED FARM (DEPT. OF FISHERIES, GOVT. OF KERALA), MALAMPUZHA, PALAKKAD – A REPORT

The batch of BSc. Aquaculture (2021Admission) containing 45 students attended the two-day hatchery training cum field visit conducted on the 1st and 2nd of August 2023; at the National Fish Seed Farm (NFSF) Malampuzha, Palakkad. They were accompanied by the faculties of the department Dr. K.Kesavan, Dr. Dhanya P.R., and Mr. Mohammed Areej E M. The team started the journey to Malampuzha at 7.30 AM on the 1st of August and reported at NFSF by 11.00 AM.

The objective of the training was to gain some practical knowledge on the induced breeding of freshwater fishes. A detailed report of the activities carried out by them in the seed production center has been described below.

In 1983-84 the fish seed farm Malampuzha was expanded to the status of National Fish Seed Farm under the Department of Fisheries, Govt. of Kerala. The farm was constructed with a Chinese circulatory hatchery style with scientifically designed pond complexes of various sorts, a laboratory, a conference hall, and all other infrastructure. The farm consists of 14 stocking ponds, 22 rearing ponds, and 91 nursery ponds of vertical design and slope ratio of 1:1.5. The farm focuses on the production of high-quality seeds of Indian major carp, though the farm recently started producing the seeds of freshwater ornamental also. They were able to see incubation tanks with the Chinese hatchery circulatory system, which helps in the transfer of eggs and hatchlings without direct human contact.

On the 1st day, the brood fishes were already caught by the farm workers early in the morning, based on their maturation. Then they have an introduction session on induced breeding conducted on the farm, and a brief profile of the hatchery facility by

Dr. Rajesh, Asst. Director of National Fish Seed Farm Malampuzha. Then Dr. Nithya, Asst. The Fisheries Extension Officer accompanied took them to the farm and had a detailed view of the construction system of the hatchery, introducing the types of ponds in the hatchery for incubation, rearing, stocking, and nursery ponds. After that farm workers showed them the sexing of brood stock. During breeding time in Rohu the pectoral fins of mature males are rough on the dorsal surface while in females are smooth. On the day of our visit *Labeo rohita* was selected for induced breeding, under artificial conditions. Each session concluded with a general talk on the application of the methods and the practical difficulties with the trainer. The farm laborers also shared their experiences on the activities on the farm. The fishes were injected with a synthetic inducing hormone namely SPAWNPRO containing Salmon Gonadotropin gonadotropin-releasing hormone Analogue and Domperidone. The details about the drug were noted by referring to the label on the injection vial. The female fish was injected (using a hypodermic syringe) with an amount of 0.4 ml and 0.2 ml for males. Then they were allowed for spawning and fertilization under natural conditions. The farm also had a fish feed mill, where the fish feeds were stocked and ground into smaller portions for easy consumption by fingerlings. Also, they were able to seegain knowledge on natural feed supplements used on the farm such as groundnut oil cake for better growth and development of fish.

In the early mooring on the second day (8.00 AM) the training started with the collection of eggs in the collection pond from the spawning tank and calculating the approximate amount of eggs produced, and calculation of fertilization rate, and hatching rate. The students were given samples to distinguish between fertilized and unfertilized eggs. The amount of eggs produced on that day was about 140 liters. Random samples were taken for the calculation of fertilization rate. Then the collected eggs were transferred to incubation tanks for hatching. The manual method of egg transfer was followed by collecting in buckets. The incubation tanks used in the farm were duck mouth incubation tanks, these tanks have two chambers and are provided with duck mouth valves fitted on the floor of the outer chamber. The water flows continuously through the duck mouths keeping the eggs in suspended condition for a

better hatching rate. The eggs hatch in 14 - 18 hours and remain in the pool for 72 hours. These tanks will be maintained with proper aeration and circulation to gain a better production rate.

After finishing the hatchery activities the students an interactive session with the guides and workers on the fisheries sector, opportunities, etc. The field visit was beneficial for all students in every way, they were able to see the application of the topics that we learned in our classrooms. This visit has enabled them to enhance their knowledge and skills so that they can apply their subject matters in real professional life situations.

The team returned to the College at 3 PM on 3rd August and reached the home destination at 6 PM.