

## FRY HARVEST AND PRE-TRANSPORT TREATMENT

by

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### INTRODUCTION

Fry intended for stocking in ponds situated far from the hatchery undergo pre-transport treatment. This involves acclimatization of the fry to lower temperature ranges before they are packed for transport. Lowering the temperature slows down metabolic activity inside the containers thereby cutting down oxygen consumption. Moreover, the release of carbon dioxide as by-product of respiration is also minimized, thus reducing the possible fatal effects of CO<sub>2</sub> poisoning.

### FRY HARVEST

The fry are harvested from the hatchery and concentrated in small wooden tanks. Harvesting is done by draining the tanks with the use of siphon until the depth of the water is about one-half meter or less. The siphon is fitted with a screen box in order to prevent the fry from being sucked during the siphoning process. Lowering the level of the water also reduces the pressure of the water coming out from the tank as soon as the valve of the drain pipe is opened. Thus, mechanical stress that would possibly be inflicted on the fry during the draining process would be minimized.

Two methods are being used in collecting the fry from the drain pipe of the hatchery tank. One method employs a cylindrical plankton net, one end being fitted to the drain pipe and the other free end held by one worker. The drain pipe is opened trapping the fry inside the plankton net. Then at a proper time the worker holding the free end of the net loosens it to flush the trapped fry into a bucket held by an assistant. Another method employs an inverted rectangular net with an opening fitted with an elbow which is oriented upwards to prevent the water carrying the fry from rushing directly to one side of the net. The fry collect inside the net when the drain pipe is opened. They are then transferred to small wooden tanks by buckets or scoop nets.

The temperature of the water in the wooden tanks where the fry are concentrated is lowered  $5^{\circ}\text{C}$  below the temperature of the hatchery tank. The fry stay at this temperature for 30 minutes to one hour. This temperature is further lowered to  $18^{\circ}\text{C}$  or  $20^{\circ}\text{C}$  before the fry are packed in plastic bags measuring about 50 cm x 96 cm. Under this temperature condition the fry are in a state of stupor and therefore exhibit less movements.

Fry density is estimated by using a population sample of head-counted individuals-placed in a basin with a predetermined volume of water. This becomes a standard or basis for determining

the fry density of subsequent hatches. The basin containing the standard is placed side by side with another identical basin where the succeeding batches of fry are to be estimated. The fry from the wooden tanks are transferred to this basin until the fry density would equal or approximate the density of the standard. The estimated fry are then packed and the process is repeated all over. By experience, 40,000 P<sub>15</sub>-P<sub>20</sub> can be packed in one plastic bag containing 16 liters of chilled seater, notwithstanding the density, this still results in high survival rate.

The plastic bags containing the fry are charged with oxygen before they are sealed. This will supply the oxygen needs of the fry while in transit. These bags are placed inside styrofoam boxes with crushed pieces of ice added to maintain the temperature inside the bags during transport. Proper arrangement should be made inside the styrofoam boxes such that the contact of the crushed pieces of ice with the water is avoided, as this may drastically lower the temperature of the water beyond the fry's limit of tolerance. The fry cannot tolerate temperature ranges below 15°C.

The fry can be transported by land, by sea or by air depending on the practicality of the mode of transport. However, it should be borne in mind that the fry inside the plastic bags are in a condition which may be considered

critical and therefore should reach their destination the shortest possible time. Fry transport experiments to SEAFDEC Iloilo involving 8 to 9 hours of travel have given excellent results (ca. 100% survival in most cases). On the other hand, fry transport to Legaspi, Albay, involving 37 hours of travel gave a 12.5% survival.\* These two examples illustrate the point that time is a vital element in the transport.

Upon reaching their destination, the fry, are again acclimatized to the temperature and salinity of the nursery or rearing ponds before they are altogether released.

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\*Travel was delayed due to some unavoidable circumstances.