

CONTROL OF CRABS AND SNAKES IN FRESHWATER FISH SEED FARMS

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ABSTRACT

A design has been developed to adopt in freshwater fish seed farms for controlling crabs and snakes. The method is convenient and effective. It prevents the entry of crabs and snakes into the ponds.

Crabs such as *Scylla serrata*, *Sesarma taeniolata*, etc., and snakes have been reported to cause considerable leaks to farm ponds and loss to fish fry and fingerlings in brackishwater farms. Their control measures have been suggested by earlier workers (Hora and Pillay, 1962; Pillai, 1962; Djajadiredja, 1957; Ling, 1960). A few methods have been suggested to control the loss being caused due to potamonid crabs and snakes in freshwater. Screens made of split bamboos have been recommended to fix around the breeding and hatching hapas to protect the carp eggs and spawn from crabs by Chonder (1980). A few poisons are in use to prevent the entry of potamonids and snakes into the nurseries. Indiscriminate use of the poisons in and around the fish farms may directly kill the spawn, fry and even large fish. These poisons may also accumulate in the pond soil, and the use of poisons in the long run may result in biomagnification.

Therefore, a design has been developed to adopt in freshwater fish seed farms, and is described in this paper. Adoption of this design does not threaten the fish life in the farm. The design is shown in the transverse vertical cross section of a model pond (Fig. 1) and in aerial view of a series of model nurseries (Fig. 2).

The design shows a plastered brick wall around each nursery pond in the farm. The wall should have a width of 12.5 to 25 cm and a height of 60 cm above the ground level. The top of this wall may preferably be with fringed lips projecting on both the sides about 10 cm. This wall serves as a barrier and physically prevents the entry of crabs and snakes from outside. The water inlets and outlets are fitted with boxes, each made of galvanised iron on the four sides and fine mesh (iron) at the bottom with top open. The length, width and height of the box may be 2 m, 1 m and 1 m respectively. Crabs cannot climb the vertical sides of the box and do not pass through the fine mesh at the bottom. The box and mesh are to be painted with antirust paint and checked from time to time. The ground on both the sides of the barrier wall upto 25 to 30 cm is to be made plain. Growth

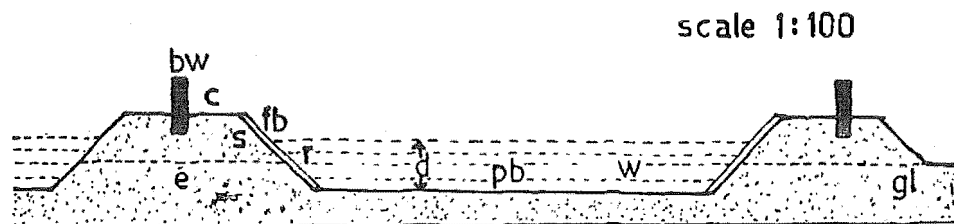


Fig. 1. Transverse vertical cross section of a model pond for prevention of crabs and snakes. (bw) Barrier wall, (C) Crest, (d) Depth, (e) Embankment, (fb) Freeboard, (gl) Ground level, (pb) Pond bottom, (r) Revetment, (s) Slope, and (w) Water.

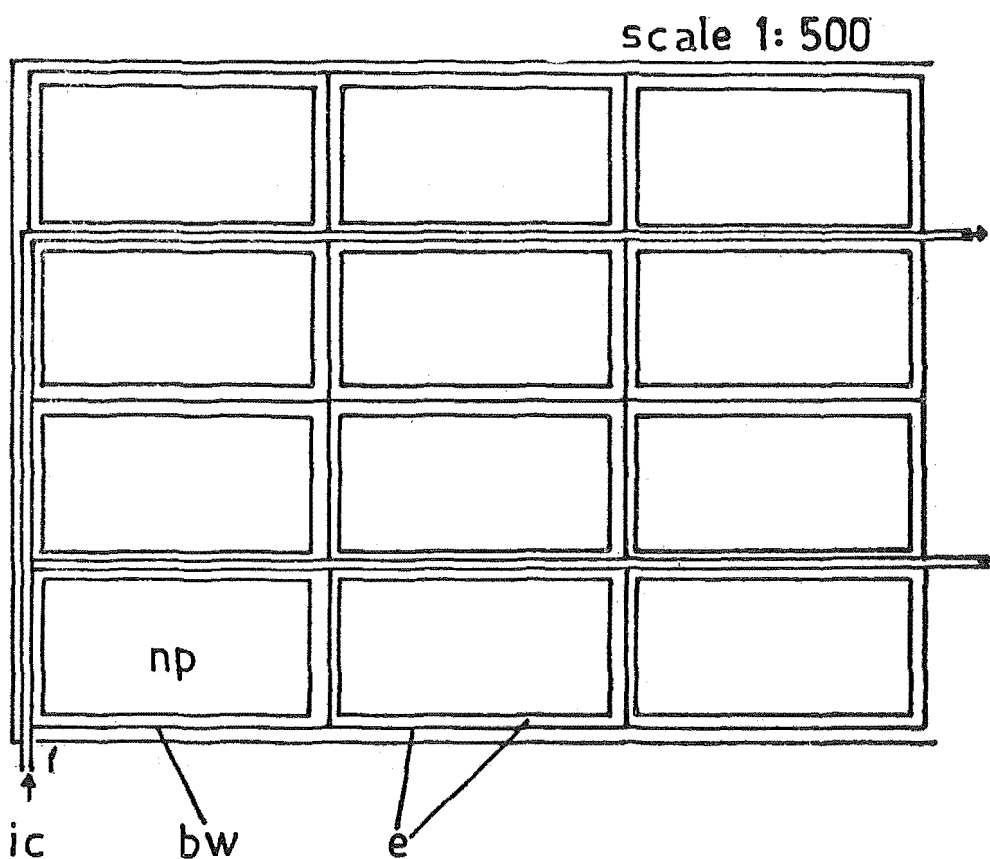


Fig. 2. Aerial view of a series of model nurseries for prevention of crabs and snakes. (ic) Inlet channel, (np) Nursery pond and the remaining as in the first figure.

of weeds and grass is to be prevented by frequent cutting. The embankments may be revetted with stones, stone slabs or bricks to protect the bunds and the barrier wall against wearing off of the bund material and to prevent the crabs from burrowing. Such revetted embankments will not provide shelter for crabs and snakes.

If crabs and snakes are already existing in the farm ponds before construction of the barrier wall, they may be killed by poisoning or manually after drying the ponds. The farm ponds will then become free from crabs and snakes for ever, if the meshes of the inlets and outlets are maintained carefully. The barrier wall lasts for a number of years without any special care. Entry of any cattle should be stopped by fencing all around the farm to minimize the maintenance cost of the barrier wall. However, due to the absence of snakes, the rodent population may increase causing damage to the bunds. These rodents may be killed by filling the water into the ponds, 15 cm over the bund level.

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