

# FRY-POND PREPARATION

## *for* REARING CHANNEL CATFISH

Preparation of ponds to receive channel catfish fry is critical to the success of any hatchery operation because it is the most important factor in fry survival. Depending on the preference of the individual operator, fry are usually stocked to ponds after having been fed fry feeds in the hatchery a few days. At this stage, the fry are still small and are subject to predation and starvation. Predation can be by other fish or by some adult and larval forms of insects. Critical at this time is the presence of a high-quality food source of proper size. Food sources can be natural, such as zooplankton, or artificial, such as commercially prepared fry feeds. Zooplankton are small, microscopic-size aquatic animals that feed on phytoplankton and other organic matter. Zooplankton are high in protein and are the primary food source for larval fish in nature. The following steps are suggested to maximize fry survival.

### REMOVAL OF ALL OTHER FISH

The best plan for preparing a fry pond would include draining it to insure removal of all other fish. In freshly drained ponds, inspect mudholes to confirm the absence or presence of other fish. If other fish are present, these holes can be treated with rotenone or potassium permanganate to eradicate unwanted fish before refilling. Green sunfish and brown bullheads, even in small numbers, are especially troublesome in fry ponds. These species will readily consume catfish fry and reproduce in large numbers, causing problems when surviving catfish fingerlings are harvested. Ponds clean of all fish can be refilled and fertilized at high rates or low rates with organic and inorganic fertilizers, depending on the interval before fry will be stocked. These blooms will serve as a food source for fry and help deter the development of aquatic weeds that obstruct harvest and feeding activities.

### QUICK PLANKTON BLOOMS

If a pond is to be stocked with fry within a matter of days of filling, a high rate of organic fertilization is recommended. Any good source of protein, such as cottonseed meal or sinking commercial fish food, can be applied to a dry or newly filled pond to quickly grow a natural food source (zooplankton). A one time, widely spread application of cottonseed meal or a catfish feed at 200 to 300 pounds per acre usually produces a good zooplankton bloom within 4 to 7 days. In addition, liquid inorganic fertilizers, such as 13-30-0, can also be applied at rates of 2 to 4 pounds per acre every other day for 8 to 14 days. The presence of zooplankton can be easily confirmed and evaluated by dipping water from the pond in a clear glass container and viewing it from the bottom held up to sunlight. Zooplankton appear as small, almost clear animals that swim constantly in the water column. These blooms can be main-

tained if 20 to 30 pounds per acre per day of commercial catfish feed are applied once fish are stocked. A fine ground material is best, but any high protein food will work if a good zooplankton bloom is already underway.

#### DELAYED POND STOCKING PLANS

If a pond is filled 4 weeks or more in advance of stocking, two possible treatments can be tried. If the pond has been used recently for growout of fish, refilling and inorganic fertilizer application as described may result in a fairly dense bloom. Or the pond may be organically fertilized with cottonseed meal or sinking fish feed at the rate of 20 to 30 pounds per acre per day for the 3 to 4 weeks before stocking. Ponds filled in advance usually benefit from the stocking of 15 to 25 grass carp per acre to control emergent aquatic weeds. If weeds begin to develop, stop use of inorganic fertilizers and use only organic fertilizers. This favors the growth of plankton rather than weeds.

#### WHICH POND TO STOCK TODAY?

Here is an additional tip for choosing a fry pond before stocking. If several ponds are available for stocking on a given day and only one is needed, sample all the ponds with a plankton net or simply dip the water from each pond into clear glass containers. Line up the containers to compare zooplankton density, and select the pond with the highest density for fry stocking.

#### PONDS WITHOUT PLANKTON BLOOM

If fry are placed in a newly filled pond without preparations for developing natural food sources, apply a finely ground feed (01 or 02 size) 3 to 6 times a day. Apply feed to as much of the pond area as

possible to avoid starving of the fry. Total feeding rates of 20 to 30 pounds per acre per day are essential in this case. This practice is continued until fry are feeding at the surface and are of a size where they can migrate easily to a feeding area. This is usually when fish are 4 weeks old and 2 to 3 inches long. Stocking an unprepared pond requires the most labor and the storage of special feeds. Distribution of a finely ground feed over a large pond area may also be difficult due to weather conditions such as high wind and rain.

#### BASIC FRY POND FEEDING PRINCIPLES

Regardless of what pond preparation plan is followed, apply feed at 20 to 30 pounds per acre until fingerlings feed actively at the pond surface, usually around the fourth week after stocking. At this time, the small fingerlings can be fed nearly to satiation once or twice a day with a floating feed. At this time, a small pellet, high in protein (36 to 38 percent) usually gives the most uniform, rapid growth.

**Remember!** In the first weeks after stocking, a relatively small proportion of feed applied to a fry pond is eaten directly by the fish. Uneaten feed is available to zooplankton that then becomes a food source. **Note:** In recreational sportfish ponds, aeration is not available and cost is more of a factor. Here, inorganic fertilizers are used to stimulate phytoplankton growth, which is a food source for zooplankton. In commercial catfish fry ponds, it is more efficient to directly apply high protein feeds to save time and to maximize survival.

There are no approved treatments for predacious insects in channel catfish fry ponds. Consult your Extension specialist or area agent for the latest information on this problem.

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