

Delaware Study Shows Good Potential

Catfish—A New Farm Crop?

Editor's Note. We're sure most of our readers know what catfish are. Catfish abound in the Susquehanna River and in local streams. Many fishermen find them to be good sport. But did you know that catfish are a very profitable crop in many states, particularly in many of the Southern states? Many items cross our desk on the subject. This one proposes catfish production a little closer home. While we doubt if our readers are interested in growing the finny crop, we think they'll enjoy reading about how it's done.

Delaware's newest crop needs lots of water

It takes water to grow catfish—plus quite a bit of know-how

But grain-fed channel cats can be a profitable crop with a ready-made market, according to Kenneth Lomax, University of Delaware assistant professor of agricultural engineering

His small-scale retail sales test showed that an enthusiastic market does exist. Consumers wrote him, "It's better than trout," "mild," "no fishy taste."

As one old-timer put it, "This fish compares to channel cats I caught off Bowers Beach in the 1930's."

The test catfish sold for \$1 a pound. Lomax says this price would allow for a profit of four to six cents per pound for the farmer—slightly more if he cleans and dresses the fish himself.

Farmers who already have a pond can grow catfish in a cage in the pond either for sport or as a source of a little extra income, he says. Before putting in a pond, however, check the soil type. Clay holds water best.

However, tank-raising offers several advantages to growers who want a more substantial profit.

Catfish can grow all year round

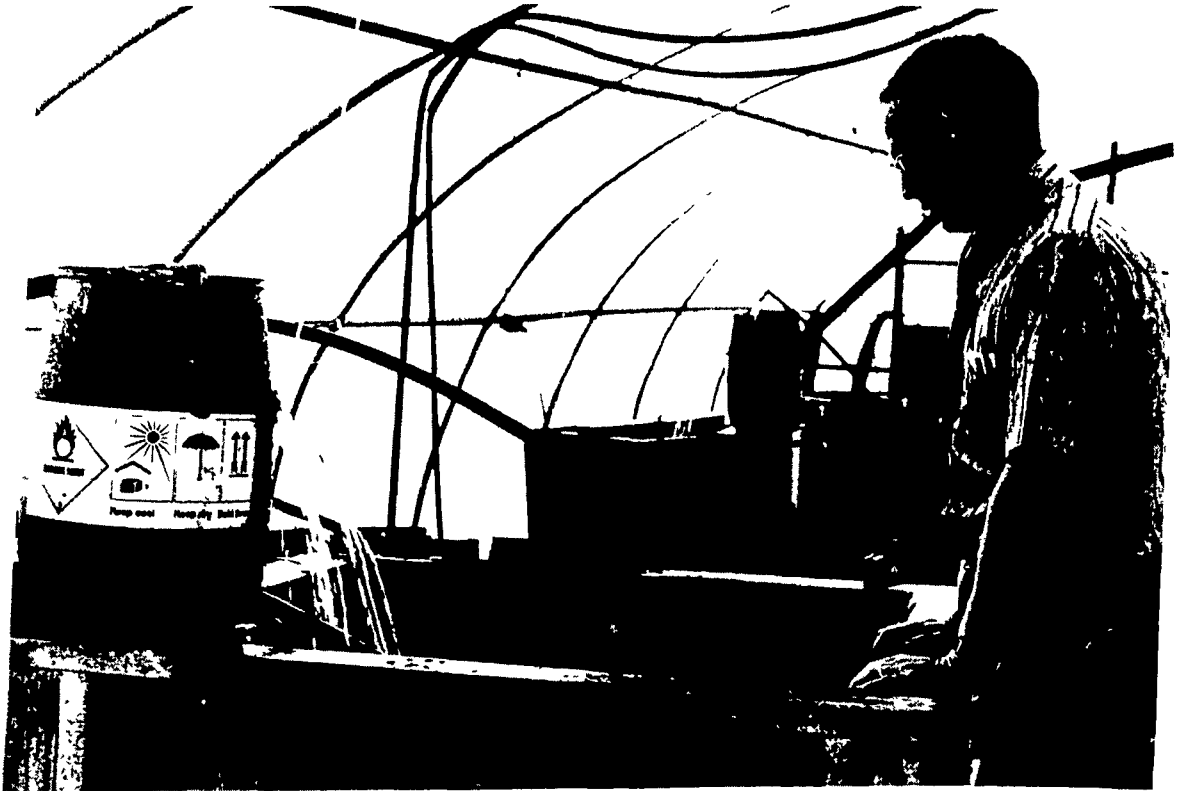
in tanks because temperatures can be controlled. Lower pond temperatures during Delaware winters don't kill the fish, they merely stop growing or lose weight. In a tank, it takes 10 months for a catfish to grow to eating size from a fingerling—12 months from eggs.

A search for inexpensive temperature control methods led Lomax to his work with "catfish under glass." He put a plastic greenhouse structure over the tanks. Two layers of plastic are inflated over steel ribs, similar greenhouses are used for growing plants. "This keeps the fish cooler in summer and warm enough in winter."

An adequate oxygen supply is a vital factor in tank fish farms, although it's rarely critical in ponds unless they're too heavily stocked. In Lomax's research, an electric pump cycles water through a filter and bubbles it back into the tank. The bubbling supplies oxygen.

A standby generator and an alarm system that signals electric breakdowns are needed. Tanks should be without pumps for no more than two hours.

Lomax has designed an ingenious filter system that removes waste products so efficiently that tank water doesn't



This ingenious filter system recycles water from catfish tanks so efficiently that they can thrive in the same water for 10 months. Kenneth Lomax, University of

Delaware assistant professor of agricultural engineering, grows sea plants, fertilized with fish waste, which can be dried and fed back to the fish.



"Catfish under glass," a new system of raising catfish in large tanks under a plastic greenhouse, has been developed at the University of Delaware. Catfish will grow at any time of the year, despite Delaware winters.

duckweed might be dried and used as fish food.

"That's really recycling," Lomax laughs. "From fish to plant to fish food."

His tanks are concrete, set in the ground and hold 4,000 gallons of water each. However, for farm systems he recommends wooden tanks holding 1,000 gallons each. Each tank, with the necessary pump and filter, would cost approximately \$200. About one fish per gallon could be stocked.

One man could care for as many as 52 tanks by himself even without a fully automated system. And, 52 tanks could produce 1,000 pounds of catfish each week—year round.

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need to be changed at all during the 10 months the fish are growing. The small filter tank sits above the large growing tanks.

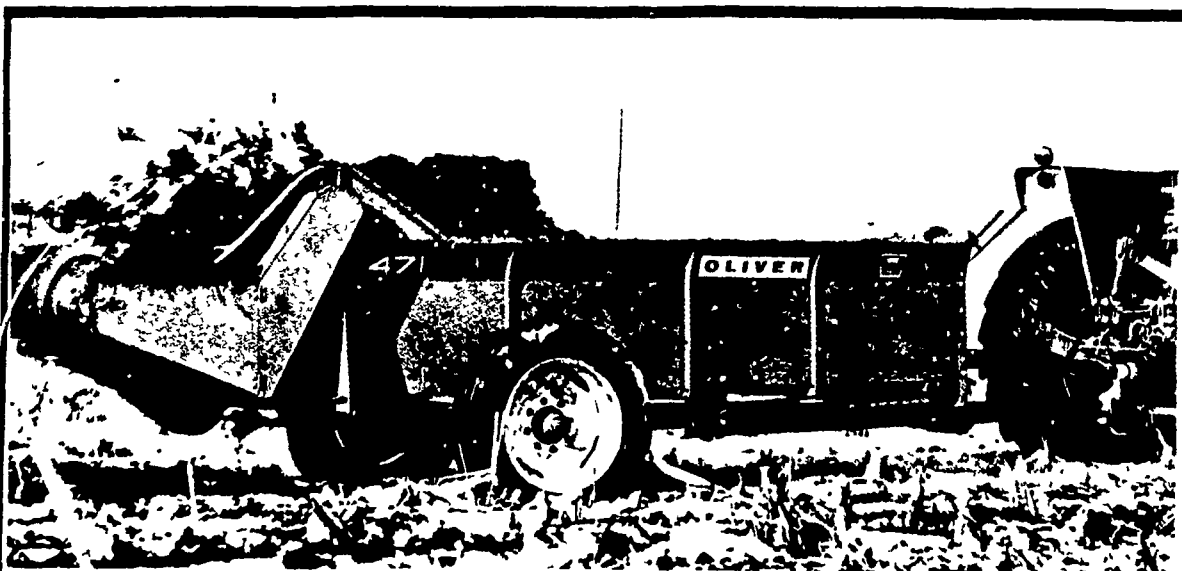
Three layers of gravel in the filter act as a mechanical sieve to remove uneaten food and other solid wastes.

Bacteria on the gravel break down the liquid fish wastes to the point where they can be used by plants. For instance, Lomax has duckweed and watersprite, two

water plants, growing in the filter tanks. Watersprite could even be sold as an aquarium plant and



Tank-raised catfish reach eating size in 10-12 months.



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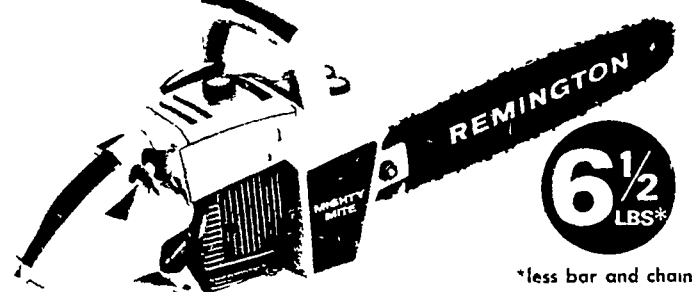
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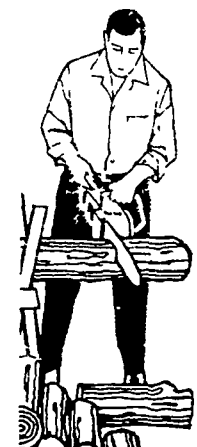
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