

# Farm O'Fillet

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**by Tom Green**

**I**T'S NOT EVERYONE'S VISION OF FISHING AND IT doesn't sound like farming, but aquaculture is catching on. More than 75 percent of the seafood consumed in the United States is imported; fish farming offers an alluring local solution to the growing demand for fish as part of a healthy diet. "Fish grown regionally for human consumption comes with a number of benefits," noted SDSU Farm Management Economist Burton Pfluger. "Beyond being readily available to local markets and providing a tasty, affordable protein source, fish raised in controlled environments are rich in Omega-3s ['good fats'] with none of the sometimes toxic, heavy metal chemicals (such as mercury) present in ocean fish."

However, most aquaculture in South Dakota and Minnesota primarily focuses on growing fingerlings for bait and sport fishing industries. Pfluger says production from the area's fish hatcheries far exceeds demand despite numerous waterholes and higher-than-average fishing participation.

"You might be surprised to know that fish hatched in South Dakota are marketed, stocked

and even used to catch fish in states as far away as Arkansas," he teased. "Fish farms for food production are growing much slower, but there have been some successes, especially with tilapia."

Now in its 10th year of operation, MinAqua Fisheries in Renville, Minn., is one of those successes. This unique plant uses waste heat generated by the nearby Southern Minnesota Beet Sugar Cooperative processing plant to help heat 40 indoor fish tanks and a re-circulating water system. That waste heat provides big energy savings and has allowed MinAqua to become one of North America's largest tilapia growers. Each week, MinAqua ships about 30,000 pounds of live fish via special tankers to Canadian markets in Vancouver, Calgary and Toronto and a growing list of businesses in the Twin Cities.

Cooperatively owned by 308 farmers from 33 surrounding counties, MinAqua's \$4.5 million facility has weathered plenty of difficulties. From increased energy and feed costs, to mortality issues and rolling commodity prices, the plant faces many of the same challenges that test traditional agricultural operations. Even with



the struggles, more than 75 percent of the project's original financing has been repaid.

MinAqua Board President Mel Stocks is optimistic about the future. "Research trials are indicating we can substitute up to 20 percent of our current soybean-based feed diet with dried distillers grains which could substantially lower our costs. Also in 2008, growing consumer demand boosted live tilapia prices to their highest levels in the history of the cooperative."

Tilapias are a hardy, fast-growing cichlid native to North Africa, a cousin to some of the tropical fish varieties found in home aquariums across the world. Tank-raised tilapia go from fingerling to finished in eight months. At about a pound and a half – perfectly sized for eight-ounce fillets – tilapias are ready to market. The fish are shipped live, but starved for two to four days in a purging tank before loading. This prepares the tilapia for filleting at a processing facility or for sale to Asian/specialty markets, restaurants and groceries across North America.

Chefs celebrate the firm texture and mild, sweet flavor of tilapia and its ability to absorb unique flavors and seasonings added during cooking.

"It is a very good fish," offered George Waldner. "Some people say it's like cod – white, flaky and tasty. Once you try it, you want to eat it again. It blends well with other ingredients."

Waldner is the leader of the Hutterville Hutterite Colony. The colony jumped into aquaculture nearly three years ago and now produces regular 10,000-pound shipments of tilapia in a dedicated facility at the colony site near Stratford, S.D. Fish raised at Hutterville are trucked to Colorado for Whole Foods, Inc. Through an arrangement with the Colorado Corrections Industry, the fish are processed by prison inmates to limit labor expense. Fillets are then rapidly shipped to retail markets.

The U.S. Fisheries Service says almost 500,000 pounds of fresh tilapia fillets are sold in the United States every week, about half of which are imported. Despite tremendous gains, U.S. tilapia production can't match imports. On average, tilapia raised here cost about \$1 per pound to produce (barely below market price). In Ecuador, one of our leading tilapia suppliers, the fish cost only 50 cents per pound to produce.

"Labor costs restrict tilapia expansion here," added Stocks. "Outside the U.S., labor is \$10 a day and skilled workers can fillet a tilapia in about 15 seconds. They can market as many fish in a day as we can in a year."

Additionally, fish farms outside the country skirt

**Left: John Waldner of Hutterville Hutterite Colony near Stratford, S.D., feeds tilapia in two of the colony's 32 tanks of fish. The fish are fed four times a day. Photos by Tom Green**



**Above: When tilapia reach a pound and a half, they are ready for market. Top: Hutterville Hutterite Colony's George Waldner, right, points out a portion of the fish operation's filtering system to Northern Electric Cooperative manager Jim Moore. The colony is a member of Northern Electric.**

environmental regulations and often use lakes, lagoons and ponds for their crops. Obviously, growing tilapia outside the umbrella of stringent disease screenings and without careful attention to water Ph levels and chemicals would be much cheaper.

"It can be difficult," Pfluger cautions. "Capital investments are much higher than producing fish outdoors in warmer climates."

One of the biggest costs in the Midwest is keeping tank water constantly above 80 degrees. MinAqua taps another plant's heated waste water to offset costs. Hutterville uses radiant, in-floor electric heat in the concrete floors below to keep its 32 fiberglass tilapia tanks toasty.

Another challenge is filtering the waste, bacteria, algae and uneaten food pellets from the tanks as fish grow.

To encourage a healthy appetite, Hutterville uses a special blend of tilapias' favorite natural food: seaweed. The Colony also recycles the sediment collected in each tank's filter as fertilizer to enhance the soil of their local gardens.