

Achievement

College of Agriculture and Life Sciences

Developing Aquaculture with Flounder

Commercial culture of flounder, widely and profitably practiced in Europe and Japan, has not yet been attempted in the United States. Southern flounder has great promise for aquaculture, with a high market value and unusual ability to grow well in fresh water. Wholesale prices for fresh flounder range from \$5 to \$10 per pound, so the economic potential for cultured flounder is promising. Research by Dr. Harry Daniels and others at North Carolina State University is aimed at establishing practical culture methods and defining nutritionally balanced diets for the mass rearing of weaned fingerlings and commercial-scale production of fish. Researchers have produced commercial-scale quantities of weaned Southern flounder fingerlings. This research has defined the dietary protein requirements for juvenile Southern and summer flounder as well as the fatty acid requirements of larvae. Growth studies of fish cultured at different salinities show that Southern flounder can be raised in fresh water without affecting survival or growth rate. Advances in captive breeding of broodstock have brought us to the brink of important breakthroughs in genetic manipulation of the fish to produce faster-growing all-female fingerlings. Female flounder grow two to three times faster and are four to five times larger than males, so the production of all-female fish would have a significant impact on the economics of production by decreasing growout times and improving feed conversion efficiency.



Dr. Harry Daniels

The research done at North Carolina State University is recognized as the first in the U.S. to develop practical methods for Southern flounder production. Although there are currently no commercial flounder producers in North Carolina, the potential for flounder culture appears equal or superior to that of the hybrid striped bass industry, which has enjoyed a growth rate of 20 percent annually for the past 10 years in North Carolina and has an annual value of more than \$3.5 million in North Carolina. The economic potential of flounder farming in the United States could reach five-to-10 times the value of the hybrid striped bass industry within 10 years.

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