FORUM

Valuing U.S. Aquaculture

In 2012, the average American ate 14.4 pounds of seafood—reflecting a slight drop from the 15 pounds eaten in 2011. However, this does not necessarily mean that we want to eat less fish. These figures are a result of an increasing U.S. population and a decrease in commercial fishery catches used for food, according to the National Oceanic and Atmospheric Administration.

Our appetite for seafood is expected to surpass the slowing rate of global harvesting from the wild, making the success of the U.S. aquaculture industry even more crucial in meeting the demand for fish and shellfish. Aquaculture, also known as "fish farming," is the propagation and rearing of animals and plants in aquatic environments, under controlled or selected conditions.

More than 91 percent of the seafood Americans consume is imported. While about half of all seafood consumed in the United States is produced from aquaculture, only about 5 percent of this seafood comes from the United States, which produces oysters, clams, mussels, catfish, salmon, trout, and yellow perch. As a nation, we are the world's third largest consumers of seafood, yet we rank 15th in total aquaculture production, according to a 2012 United Nations Food and Agriculture Organization report, "The State of World Fisheries and Aquaculture."

Although the United States is a small producer in the global aquaculture industry, it is a leader in advanced technology and has world-class research capacity. It has the natural resources, markets, and feed grains essential for commercial success, too.

Like crop, livestock, and poultry production, aquaculture is an agricultural industry, with a promising future for growth driven by innovations and entrepreneurs. It is the fastest growing animal-protein sector worldwide and is the most efficient animal-protein production system.

World economies will continue to compete for available seafood, both wild harvested and farmed, as demand increases. Simplifying regulatory barriers and streamlining the permit process can stimulate more investment and growth as demand for high-quality aquaculture products increases. Aquaculture investors are looking for locations near large markets, while small businesses are supplying local markets. The lack of access to sites in marine waters is creating strong markets worldwide for many farm-raised shellfish products. A concerted effort among governmental agencies can help make the United States an attractive country for investment to supply these markets.

The U.S. Department of Agriculture supports research through its Agricultural Research Service aquaculture national program to enhance production of freshwater and marine aquatic animals. Scientists investigate fish health, nutrition, genetic improvement, reproduction and early development, and production systems. They have recently started examining the development of ready-to-eat products and uses for processing trimmings.

ARS research includes breeding programs, in partnership with universities, to develop fast-growing finfish and shellfish that also have enhanced disease resistance, improved yield, and better reproduction. For example, the article on page 4 of this issue highlights some of ARS's work with yellow perch. Research also involves collaborations with ARS national programs dedicated to natural resources and sustainable agriculture, nutrition and food safety, and quality and utilization of agricultural products.

To help U.S. fish farmers remain internationally competitive, ARS scientists examine methods to reduce production costs, which include investigating alternative protein sources for fish feed and developing more efficient production systems and practices. This research helps to improve the quality, safety, and variety of aquaculture products available to consumers.

New projects under way are focusing on the health aspects of fish oil in the human diet. Farmed salmon is a main source of the fish oil consumed by people in the United States. Fish physiologists at ARS salmon and trout laboratories are working with ARS nutrition experts to explore the nutritional and health value of fish.

In Hagerman, Idaho, scientists are looking at genetic differences in the ability of trout to accumulate healthy fish oils—omega-3 fatty acids—in their flesh. They are investigating the potential to selectively breed fish for enhanced capacity, on the same feed, to yield a product higher in nutritional value.

Americans eat an average of one seafood meal a week. However, USDA's dietary guidelines recommend eating twice as much as that, because research suggests it improves cardiovascular health. It's also a good idea to choose seafood grown in the United States because of our strict environmental and food safety regulations. Buying U.S.-grown fish and shellfish ensures that consumers are getting food that meets rigorous state and federal standards while supporting America's aquaculture farmers.

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