Commodity Spotlight

USDA-Soil Conservation Service

Aquaculture Grows as Source of U.S. Seafood Supply

Over the last decade, U.S. average per capita seafood consumption has remained relatively flat, at around 15 pounds, roughly 2-3 pounds less than turkey consumption. The source of supply, however, has begun to shift away from wild harvest toward aquaculture. In 1997, U.S. production of processed catfish products was close to 1 pound per capita, imports of farm-raised shrimp were likely over 1 pound per capita, and the combination of farm-raised salmon, trout, tilapia, crawfish, and other aquaculture products probably added another pound. Aquaculture, at over 3 pounds per capita, now contributes more per capita to consumption than veal, mutton, and lamb combined.

Aquaculture has several advantages over wild harvest or catch. In particular, the quantity available and the quality of supplies are more reliable, an increasingly important advantage as fishing rights in certain waters have become an international issue.

Among the factors influencing the domestic aquaculture industry in 1998 are prices for catfish, the largest segment of the industry. Catfish prices are expected to increase, especially in midyear, as lower inventories of food-size fish tighten available supplies. However, large supplies of competing meats, especially pork and chicken, may put downward pressure on prices of aquaculture products. And Asian seafood exporters, with the devaluation of their currencies versus the dollar, should find the U.S. market more attractive.

Some Catfish Inventories Down

The catfish industry has been the most successful segment of U.S. aquaculture. Over the last decade, production has increased 87 percent, from 280 million to 525 million pounds. Production is concentrated in Mississippi, Alabama, Arkansas, and Louisiana, primarily due to their combination of warm climates, heavy soils for pond construction, and good water availability. These States produced 97 percent of total U.S. catfish output in 1997, with Mississippi alone accounting for 64 percent of production. In 1997, about 93 percent of all production was sold to catfish processors. The remainder was sold directly to retailers or consumers.

Growers reported starting 1998 with 8 percent fewer food-size catfish, as falling farm-level prices in 1997 led growers to cut inventories. Grower-held inventories were down for most categories of food-size fish, although small food-size fish (0.75 pound to 1.5 pounds) were up fractionally. Grower reports of the number of fish in inventory below food size were mixed—stockers (0.06 pound to 0.75 pound) were down 19 percent, but fingerlings (below 0.06 pound) were 18 percent higher than the previous year.

When the current food-size fish were being stocked in 1997, farm prices for catfish began to drop, and prices for soybean meal (50 percent of the catfish feed ration) were at a record high. The pressure these two conditions placed on producers' returns likely caused them to reduce stocking rates. However, soybean meal prices, after reaching their record in May 1997, declined sharply, reducing feed costs about enough to offset the decline in farm prices of catfish. Expectations are that soybean meal prices will decline even further in 1998, removing feed-price pressures on stocker inventories.

As of January 1, 1998, catfish growers indicated that their broodfish (breeding) stock inventories increased to 1.19 million fish, up 2 percent from 1997. The estimated weight of these broodfish, however, increased less than 1 percent. Since total egg production is a function of body weight, the less-than-1-percent increase in body mass of the broodfish will probably be more significant to production than the 2-percent increase in the broodfish inventory. Production of fingerlings and stockers in 1998 is expected to be roughly the same as in 1997.

Growers anticipated, as of January 1, 1998, that 173,010 acres of ponds will be in use during first-half 1998, down about 3,500 acres from 1997, which saw a large increase in acreage. Growers also reported plans to renovate or construct about 8,300 acres of ponds, only about a third of the estimate for the first half of 1997, reflecting falling farm-level catfish prices during 1997. Most of the acreage decline was in the four largest producing States—Mississippi, Arkansas, Alabama, and Louisiana. The number of growers in these States also declined, and the trend toward smaller numbers of larger farms is expected to continue as growers seek to lower their average production costs by spreading the costs of specialized equipment over larger operations.

Commodity Spotlight

Total Farm Catfish Sales Declined Slightly in 1997

Total sales by catfish farmers in 1997 fell 1 percent to $422 million, with lower revenues from sales of all categories of fish—food-size, stockers, and fingerlings. The poundage of food-size fish increased strongly (up 7 percent from 1996)—farmers reported total sales of food-size fish were a record 563 million pounds—but the higher poundage was offset by an 8-percent decrease in prices, from 77 to 71 cents a pound. Poundage sold of stocker and fingerling fish were both down, but the lower poundage of sales helped to hold up their prices. Average unit prices for both size classes showed no change between 1996 and 1997.

Grower sales of food-size fish to processors accounted for 525 million pounds of total sales. The remaining 38 million pounds were sold through other channels, such as directly to consumers or restaurants, or to brokers or wholesalers.

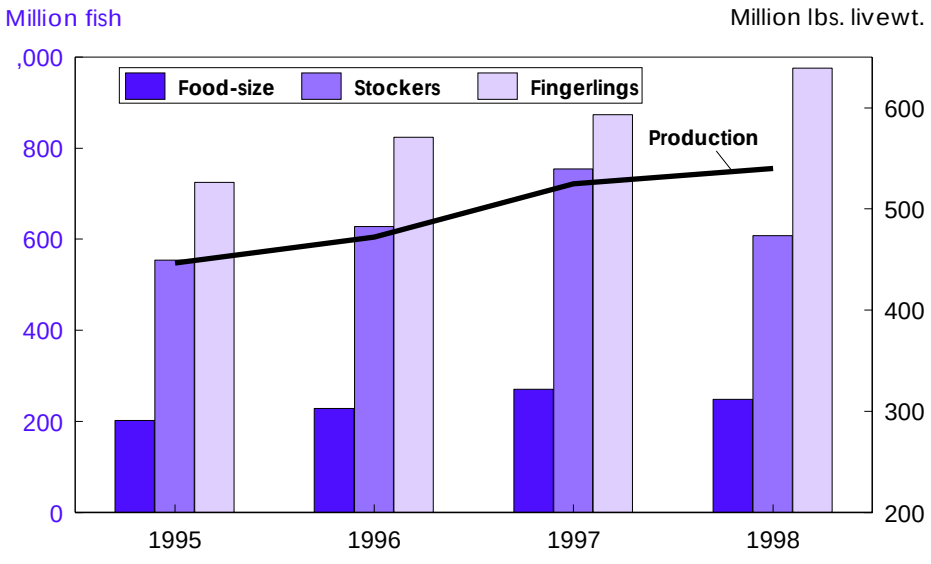
Processor sales rose in 1997 for the third consecutive year. After increasing 5 percent in 1996, sales were up an additional 10 percent to 262 million pounds in 1997. Sales of both fresh and frozen product were at record levels overall, posting double-digit increases in 1997.

The only category of processor sales that declined in 1997 was frozen whole fish, which accounted for only 5 percent of processor sales.

The increase in processor sales was enough to offset a 4-percent decrease in overall processor prices, the second year in a row that overall processor prices have declined. Gross processor revenues in 1997 increased by just over $30 million to $591 million. Processor prices were lower throughout 1997 compared with a year earlier and were lowest during the summer months, when sales volumes posted their strongest gains. In 1998, gross processor revenues are again expected to increase, this time as a result of a small increase in sales volume combined with slightly higher prices.

Much of the future growth in catfish sales is expected to come from fillets and other prepared products. Many chain restaurants and food services now use portion-controlled ready-to-cook products, and with increasing time pressures, many U.S. consumers are also looking for fully prepared products. Processor sales are expected to expand in 1998, but prices are expected to be under competitive pressure from other seafood products and meat products.

Farm Production of Catfish Rising More Slowly As Stocker and Food-Size Inventories Decline



Economic Research Service, USDA

Catfish Sales & Prices Outpace Early Expectations

Based on inventories reported by growers at the start of 1998, catfish production had been expected to grow only modestly in 1998. Grower prices were anticipated to increase slowly in the second and third quarters as supplies of food-size fish tighten. However, sales have been much stronger and prices have increased much faster than expected. During the first quarter of 1998, sales of catfish to processors have been at record levels and prices have risen from 69 cents per pound in January to a reported 80 cents per pound in March. The expected result will be very tight supplies of food-size fish into at least the third quarter, with prices at or very close to record levels.

Slower Growth in Catfish Output To Strengthen Prices in 1998

Based on grower inventories reported for January 1, catfish sales by growers to processors in 1998 are forecast to expand to 535-545 million pounds, up only 2-4 percent, after increasing 11 percent in 1997. The smaller inventories of food-size fish are expected to reduce the supplies of fish for consumption in early 1998. Processors' inventories of catfish products were also down slightly from the same time the previous year, compounding the tight supplies resulting from lower grower inventories. At the same time, strong demand for catfish is anticipated from the restaurant and foodservice sectors, estimated by the U.S. Department of Commerce's National Marine Fisheries Service in 1995 to account for over two-thirds of all seafood sales.

The much smaller increase in production expected in 1998, combined with the demand fueled by a strong domestic economy, is expected to exert some upward pressure on both farm and processor prices. As prices for food-size fish move slowly upward, prices for stockers and fingerlings should also show some upward strength. If corn and soybean prices move lower and these declines result in reduced feed costs, prices for smaller fish (stockers and fingerlings)

could see additional upward pressure, as growers may increase feeding rates to attempt to get their smaller fish to market size sooner. The impact of lower supplies of all food-size fish, however, may not be felt until the second quarter.

The expected lower prices for pork and chicken products in the first half of 1998 may tend to blunt any strengthening in catfish farm prices. Prices for hogs are expected to average over a third lower in first-half 1998 compared with a year earlier, and wholesale chicken prices are expected to decline about 7 percent. Competition for catfish may also arise from lower priced imported seafood items from Asia, such as tilapia and shrimp products. The currencies of Thailand and Indonesia, both major seafood exporters to the U.S., have fallen considerably versus the dollar since third-quarter 1997.

Sales to processors in January 1998 were 47 million pounds, up 10 percent despite the lower inventories of food-size fish at the start of the year. Sales through the first quarter of 1998 are expected to average about 5 percent above the 136 million pounds of a year earlier, normally the strongest sales period. Prices are expected to average around 70 to 71 cents a pound, down from 73 cents in first-quarter 1997.

In the second and third quarters, the 19-percent decrease at the start of the year in reported inventories for stockers is expected to lead to tightened supplies. As a result, prices to farmers should strengthen. While many of the stockers currently in inventory will likely achieve market size during first-half 1998, most of the fingerlings in inventory will not be ready for market until the latter part of the year. If processor demand remains strong during the second and third quarters, there could be periods of reduced supplies of food-size fish before the fingerlings achieve market weight.

Tilapia Imports Continue Upward

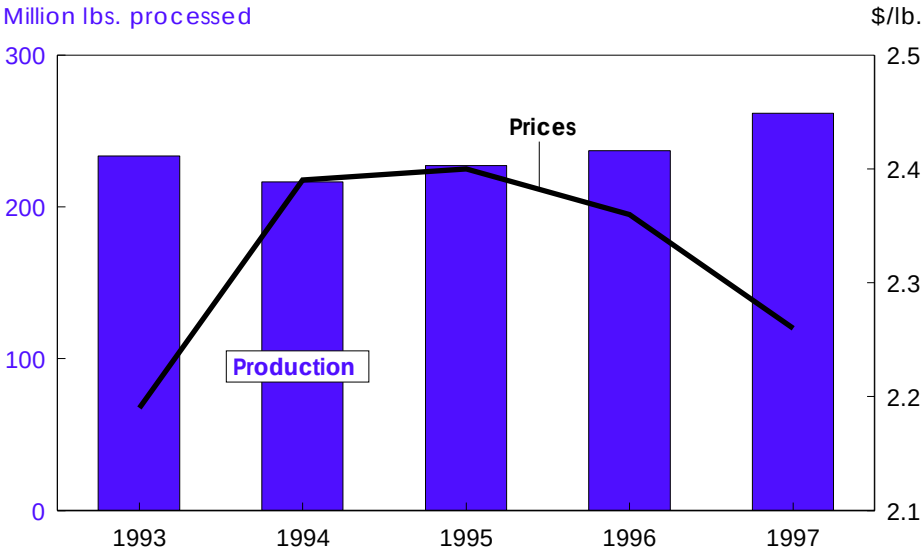
Tilapia is a commonly grown species in many Asian countries, and U.S. sales have benefited from a growing Asian population in the U.S. While more grocery chains and seafood stores are carrying tilapia products, restaurants are still the primary sales outlet. The value of tilapia imports in 1997 increased 15 percent to $49 million, following a 26-percent increase in 1996. The volume of tilapia imports in 1997 increased 28 percent to 53.9 million pounds, with 42.2 million pounds imported as frozen whole fish and the remainder as fresh or frozen fillets. On a liveweight basis, U.S. imports of tilapia in 1997 were the equivalent of 82 million pounds of foreign production.

Imports of tilapia were higher in 1997 for all of the import classes. On a quantity basis, frozen whole fish imports make up 78 percent of total imports, but growth in imports of fresh and frozen fillets has pushed their percentage of the market, on a value basis, to over 50 percent. Prices for frozen fish averaged only 57 cents per pound in 1997, down markedly from 71 cents a pound the previous year. Imports of fresh fillets come chiefly from Central and South America, regions close enough for quick transport to the U.S., while frozen fillets are from Southeast Asia and Taiwan. Frozen whole fish come mostly from Taiwan.

The value of imported tilapia increased as a drop in average price, from $1.03 to 92 cents per pound, resulted in an increased quantity of tilapia entering the country. Larger shipments and declining prices for frozen whole fish were primarily responsible for the falling average import price. The average price for fresh fillets—at $2.25 per pound, much higher than that for frozen whole fish—declined only slightly, and the average price for frozen fillets— $2.05—increased by 5 cents per pound.

U.S. imports of tilapia are forecast to expand in 1998. The rapid increases in tilapia imports over the last several years have fueled expectations that further reductions in price will increase demand. If that is true, imports could increase markedly in 1998 as currency devaluations in some of the major Asian supplying nations (Thailand and Indonesia) reduce prices. Tilapia demand may also be increasing as more U.S. consumers become familiar with the relatively new product. Domestic production is expected to increase, but will be limited by the extent of growth in the live market, the biggest outlet for domestic producers. Live fish and frozen whole fish go mostly to Asian markets and Asian restaurants in the U.S., where many dishes call for whole fish.

Processor Prices Fall as Processed Catfish Production Increases



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Commodity Spotlight

U.S. Imports At Record Level for Salmon . . .

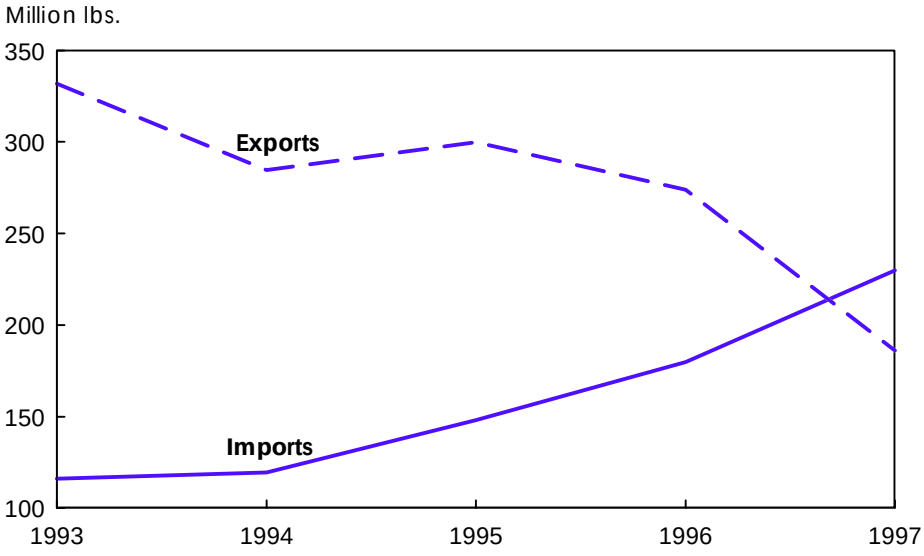
Final figures for U.S. farm-raised salmon production in 1997 are expected to show little or no growth from the 1996 output of 33 million pounds. The picture for domestic growers in 1998 looks much the same, with little or no growth in production and with strong competition from wild salmon harvests in Alaska and from producers in Chile and Canada. With no great increase in new site approvals expected, any increase in production would have to come from higher yields at present production sites.

Atlantic salmon imports to the U.S., both farm-raised and wild-catch, reached 165 million pounds in 1997, up 30 percent from 1996. The 78-percent increase in imports of fillets, to 58 million pounds, accounted for a large part of the overall increase, although shipments rose in all three categories—fillets and fresh or frozen whole fish. With an increase of almost 26 million pounds between 1996 and 1997, fillets now account for over one-third of all Atlantic salmon imports, up from only 19 percent in 1995.

Most of the increase in imports came from the Canadian and Chilean salmon industries, which combined to supply 93 percent of all Atlantic salmon imports. Chile is the dominant supplier of imported salmon fillets, but imports of fresh whole salmon from Canada rose by 23 million pounds, and Canada was again the largest supplier by product weight and value. Benefiting from a strong domestic economy and a lower domestic wild salmon harvest, average prices for Atlantic salmon imports rose 6 percent, even as supply rose 30 percent.

Farmed production accounts for almost all of the increased imports of Atlantic salmon products. Atlantic salmon are not native to Chile—100 percent of their production is farm-raised. Canada has some wild Atlantic salmon runs, but almost all of its commercial exports come from farm operations. Over the last several years, a slowdown in U.S. salmon exports and a rapid increase in Atlantic salmon imports has started to change the U.S. salmon industry. Preliminary trade data show the U.S. was a net importer of fresh and frozen salmon for the first time in 1997. The U.S. remains a net exporter of salmon overall because it ships large amounts of canned salmon overseas.

Fresh and Frozen Salmon Imports Surpass Exports



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The transformation of the U.S. from a net exporter to a net importer of fresh and frozen salmon has been caused by several factors. The wild salmon harvest was lower in 1997, especially for sockeye salmon, the largest U.S. salmon export product. Also, exports to Japan, by far the largest U.S. market, have been weak as a result of slowing economic growth and strong competition from Chilean and Norwegian producers. At the same time, the strong U.S. economy has helped boost restaurant sales and kept domestic wild harvest salmon supplies in the U.S.

. . . & for Shrimp

After declining the previous 2 years, total shrimp imports in 1997, both farm-raised and wild-catch, were a record $2.95 billion. The increase stems from both a higher volume of imports—648 million pounds, up 11 percent from 1996—and a 34-cent increase in the average unit price of imported shrimp—from $4.22 to $4.56 per pound. Imports of frozen shrimp (shell-on or peeled) and prepared shrimp (e.g. breaded, canned, pre-cooked) rose substantially in 1997.

While the total quantity of imported shrimp products has stayed within a fairly narrow band—582 million to 648 million pounds since 1992—there has been a steady growth in imports of prepared shrimp products. Shrimp imports are still dominated by frozen shell-on or peeled products, but the value of prepared products has more than tripled between 1992 and 1997. At almost $375 million, prepared shrimp products now account for about 13 percent of the value of all shrimp imports.

This steady growth in imports of prepared shrimp is likely to continue for a number of reasons. First, almost all seafood exporters are looking for ways to add value to their products. At the same time, as farming accounts for a larger percentage of total shrimp production, the full-year capacity of these operations, in contrast to the seasonality of wild harvest, makes it profitable for companies to establish processing plants. Finally, most major shrimp farming countries have a significant wage rate advantage over the U.S., increasing the cost-effectiveness of processing shrimp outside the U.S.

Over the last decade, imported shrimp became a much greater component of total U.S. shrimp supply. Data from the National Marine Fisheries Service indicate that domestic landings of shrimp

have been steady or declining slightly while shrimp imports are rising, increasingly supplied by the growth in farmed production. In 1988, imports of shrimp products were 2.6 times greater than domestic landings. By 1996, the ratio of imported shrimp to domestic landings had risen to 3.7.

The U.S. shrimp farming industry has remained small, with an annual production of only several million pounds, the result of a combination of economic, climatic, and technological constraints. Unlike all but a few areas of the U.S., most shrimp farming regions have tropical climates that allow year-round shrimp farming. In addition, shrimp farming requires a coastal location, and in the U.S., the cost of most coastal property makes shrimp farming economically unfeasible. Intensive water recirculating systems would theoretically make shrimp farming possible in many areas of the U.S., but the technology has not yet proved economical.

In 1998, shrimp imports are expected to continue to expand as a strong U.S. economy creates increased demand and the devaluation of several Southeast Asian currencies is expected to reduce the relative price of imported farmed shrimp products. In addition, the problems in the economies of many Southeast Asian countries are expected to reduce their domestic consumption. Coupled with a slowdown in the Japanese economy—Japan has traditionally been the world's largest market for shrimp—this decline will lead many shrimp exporters to more heavily target the U.S. market.

There are a number of potential downsides to the current economic problems in Asia for shrimp exporters. Currency devaluations may sharply increase the cost of imported supplies critical to shrimp farming, causing a decline in production. And if the economic crisis becomes too severe, it could hamper the ability of firms to conduct normal business operations and thus interfere with exports. Any declines in Asian production, however, would create opportunities for producers in such countries as Mexico and Ecuador, and would not necessarily reduce supplies of imported shrimp to the U.S.

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Upcoming Reports—USDA's Economic Research Service

The following reports will be issued electronically on dates and at times (ET) indicated.

May

*13 Cotton and Wool Outlook (4 p.m.)***
*Feed Outlook (4 p.m.)***
*Oil Crops Outlook (4 p.m.)***
*Rice Outlook (4 p.m.)***
*Wheat Outlook (4 p.m.)***
19 Livestock, Dairy, & Poultry (3 p.m.)
*20 Agricultural Outlook**
*21 Sugar and Sweeteners**
*22 Transition Economies**
U.S. Agricultural Trade Update (3 p.m.)
*29 Agricultural Exports**

*Release of summary, 3 p.m.
**Available electronically only.

IN THE NEXT AGRICULTURAL OUTLOOK . . .

The first production and price forecasts for field crops in 1998/99 and for meat in 1999.