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Facing Deadly Fish Virus, Chile Introduces Reforms

By [ALEXEI BARRIONUEVO](#)

RIO DE JANEIRO — With a deadly virus threatening its fish farms, [Chile](#) has introduced measures to improve the sanitary conditions of its salmon industry and reduce the levels of antibiotics used to treat the fish.

Chile exports more salmon to the United States than to any other country besides Japan, but it has drawn sharp criticism from environmentalists and other experts in recent months as a virus has killed millions of its salmon. The illness, infectious salmon anemia, or I.S.A., continues to spread, underscoring how the crowded conditions of Chile's fish farms and other sanitary concerns are giving rise to a variety of fungal and bacterial fish ailments.

Environmentalists and industry officials applauded the Chilean government's efforts, which were first announced last week, to clean up the industry and reduce antibiotic use. Hugo Lavados, Chile's economy minister, said that after almost four months of study, a government panel identified steps that would ease conditions in crowded salmon pens and provide greater protection against the introduction of high-risk illnesses in salmon eggs. The economy minister also noted that the "intensive" use of antibiotics, although legal in Chile, needed to change and that a specific plan for lowering levels would be finalized by December.

"This is a step in the right direction," said Dr. Felipe C. Cabello, a professor in the Department of Microbiology and Immunology at New York Medical College in Valhalla who has studied Chile's fishing industry. Dr. Cabello has said that Chilean salmon producers are using an estimated 70 to 300 times more antibiotics to produce a ton of salmon in Chile than are their counterparts in Norway. He has been the subject of repeated attacks by Chile's salmon industry for making those claims.

Alex Muñoz, vice president for South America for Océanos, a group seeking to protect marine environments, said, "Unsafe use of antibiotics in salmon pens threatens Chile's oceans and access to the U.S. seafood market." He argued that the misguided use of antibiotics could increase bacterial resistance to them. "We are pleased to see the Chilean government act."

Chile's salmon industry, the country's third largest export industry, has been undergoing

growing pains as it has expanded to meet a rising world demand for fish. Mr. Lavados, the economy minister, noted that the industry needed to adapt to grow in a sustainable way. In 1990, Chile produced 28,810 tons of salmon and trout. Last year it produced 664,661 tons.

“The development of this sector can only continue to grow and be successful if the private sector and government continue to work in a responsible and coordinated way,” Mr. Lavados said in a statement.

The crowded conditions have given rise to illnesses and stressed the fish, making them more susceptible to catching viruses, experts say. Concern about the I.S.A. virus caused the American supermarket chain Safeway to reduce Chilean salmon purchases in late March, soon after The New York Times published an article about the virus and concerns about sanitary conditions in the industry.

The virus is not harmful to humans and cannot be treated with antibiotics. But Safeway cited concern that the virus was “impacting the quality of the product” as a main reason for its decision. Brian Dowling, a company spokesman, said this week that Safeway was continuing to buy Chilean salmon from only one company, which he would not name, and was refusing to buy salmon from two regions where 95 percent of Chile’s salmon is produced and where the virus has been concentrated.

Marine Harvest, a Norwegian company operating fish farms in Chile, continues to be the most affected by the spread of the virus. The company already lost Safeway as a customer for its Chilean salmon, and the disease is expected to lower its production in Chile by 30 percent this year, said Álvaro Jiménez Seminario, Marine Harvest’s managing director there.

The virus is affecting 2 percent of Chile’s salmon farms, according to SalmonChile, an industry group. “We need to be aware that the virus will be present in Chile for a long time,” said Rodrigo Infante, the general manager of SalmonChile.

Antibiotics in livestock and farmed fish have become a worldwide concern. But Mr. Infante said the Chilean salmon industry relied on the drugs to fight a particular bacteria, rickettsia, which is carried by sea lice and has long plagued the industry. “It has been difficult to find an effective vaccine, and when preventative measures fail it needs to be treated with antibiotics,” he said.

Environmentalists insist that Chile’s industry needs to be better regulated, not only to ensure that its growth will not damage the marine environment in Chile, but also to protect consumers in the United States and elsewhere.

American regulators do little screening on their own. The [Food and Drug Administration](#) tested less than 2 percent of all seafood imports in 2006.

In 2007, the F.D.A. said it tested 40 samples of Chilean salmon, out of 114,320 net tons sent from Chile. None tested positive for prohibited substances, including some banned antibiotics.

Still, the F.D.A. rejected salmon shipments from Chile from one company in April, citing unsanitary conditions, and from a different Chilean company in October for listeria, a potentially deadly bacterium, according to information available on the administration's Web site.

During a visit to Chile in April, Food and Drug Administration inspectors found that at least one Chilean company was using ivermectin, an antiparasitic drug whose use is restricted in aquaculture in the United States, to try to control sea lice, said William Hubbard, a former F.D.A. associate commissioner who said he had spoken to a senior administration food official about the trip.

“Apparently the Chileans were not aware of the U.S. rules,” said Mr. Hubbard, who now advises the Alliance for a Stronger F.D.A., a coalition of industry and consumer groups. Chile's salmon industry denied that any illegal drugs were used.

The F.D.A. confirmed that it visited several Chilean seafood companies this year, including some salmon facilities, but did not discuss its findings. The F.D.A. does about 125 inspections a year of facilities across the world that produce food for the American market. There are some 200,000 registered facilities in other countries, Mr. Hubbard said.

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