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Understanding the milk crisis unraveling in China

A timely report on a global concern.

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BEIJING—As the tragic melamine milk crisis unravels in China, new details emerged this week indicating a scandal long in the making. A broad array of dairy products, starting with infant formula, made by China's largest dairy processors Mengniu Dairy Co., Yili Industrial Group and Sanlu Group Co., along with more than 20 other Chinese dairy companies, were recalled after tests found they were adulterated with melamine—a nitrogen compound used in the production of plastics and fertilizers—at levels far exceeding acceptable trace limits.

By the time the central government in Beijing announced the first recalls on September 11, thousands of infants were already hospitalized. On Sept. 26, China's Ministry of Health reported more than 50,000 babies were sickened: four have died, 12,892 were still being treated in hospitals, 39,965 received outpatient treatment, and 1,579 were discharged from hospitals.

New Zealand's Fonterra Cooperative is a 43% partner in Sanlu, China's largest infant formula maker, which has now halted production.

Andrew Ferrier, Fonterra's CEO, said in a webcast phone conference with journalists last week that their focus is on the babies and in helping in any way they can. He noted that in August, when Fonterra became aware of initial complaints surfacing, they had, as a foreign minority stakeholder in Sanlu "made the call to work within the Chinese system because we believed if we went outside of their system, we could not be effective," he said. "This is a lot bigger than just Sanlu."

Indeed, the list of products in China found to contain dangerous levels of melamine is not limited to powdered milk products, but also liquid milk and yogurt.

Monday, reports from Beijing confirmed the arrest of 18 people and two-dozen others detained for questioning. A government raid seized 500 pounds of melamine in Hebei Province, reportedly produced at illicit plants and then sold to Chinese milk collection

stations, where it was allegedly added to low-protein or watered-down milk to “fool” protein tests to meet quality standards.

Two summers ago, Andrew Novakovic, Cornell professor of ag economics, spent 10 days in China as a participant in a seminar for people interested in the dairy industry. He visited farms, toured one plant and talked to workers at the two major dairy plants Mengniu and Yili.

“When you look at milk production in China, you see on the one hand large scale technologically advanced farms of 4000 and 10,000 cows,” he said during a phone interview Wednesday. “But 20 miles down the road is a little village and at the center there’s a stancheon barn, that’s a collection facility with a pipeline to a bulk tank. The person who operates the facility is typically a local villager with no particular training, and he or she runs this operation as a collection facility for the villagers, who may have 1 cow, 3, 4 or 5 cows. And twice a day, the villagers march their cows down the street and hook up and milk them and the truck from the plant comes by to pick up the milk.”

Understanding the divergent dynamics of the dairy industry in China helps shed light on possible scenarios that could result in the kind of widespread melamine adulteration that has occurred there. Government officials have already described the milk gathering system as “out of control.”

Melamine is not new to China’s commodities. Pet food contamination in the U.S. a year ago was traced to melamine-laced wheat gluten and rice protein imported from China.

According to information from the U.S. Food and Drug Administration as well as the American Veterinary Medical Association, melamine in small amounts, alone, is of low toxicity. However, animal studies suggest kidney problems occur when melamine is present together with cyanuric acid, an impurity of melamine. Sustained use of food products containing melamine can cause kidney stones and renal failure, especially in children.

The United Nations World Health Organization (WHO) called this one of the largest food safety events the agency has had to deal with in recent years and one that has shaken the confidence of Chinese consumers in a way that may be difficult to overcome.

The issue spread this week beyond infant formula into other markets, including processed foods containing milk solids, such as cookies, candies, powdered coffee beverages, and even grated cheese products that are mixed with a processed creamer.

The countries affected by product recalls are largely confined to the continents of Asia and Africa. Nonetheless, global companies have been drawn into the situation when tests showed some processed foods produced in Asia for overseas consumers, were made with melamine-tainted milk products from China.

More than one dozen countries have instituted new bans on dairy products from China. The U.S. has stepped up product testing and quarantine of processed foods from China that could contain milk-derived ingredients as well as bulk ingredients from Asia, such as milk powder, concentrate and whey.

Saturday, the FDA announced a recall of certain milk teas and coffee because the powdered beverages contained non-dairy creamers made in China by plants having tested positive for melamine-tainted product.

All of this comes on the heels of a June 2008 Agreement on Food and Feed Safety signed by the U.S. and China, outlining steps taken by both nations “to strengthen the safety of food products exported to the U.S. from China.”

According to documents published at USDA's website, the agreement includes implementation steps such as the establishment of a mechanism for cooperation on significant events related to food and feed safety as well as an electronic certification process to assure China's agricultural products meet FDA standards for safety and manufacturing quality and training for Chinese officials on U.S. regulatory standards and requirements.

Infant formula is tightly regulated in the U.S., and no Chinese companies have approval to export it here.

Furthermore, because China is a substantial net importer of milk, "it's hard to imagine that China would export milk powder to the U.S. because it is the least valuable product," noted Cornell University dairy economist Dr. Mark Stephenson during a telephone interview Tuesday. "Even though their own dairy industry has been growing by leaps and bounds, China doesn't produce enough milk for their own country. So they would sell their own milk for higher value uses right there at home."

China's dairy industry had charted annual growth of 20 to 30%, and annual per capita consumption up more than 10-fold from 4 pounds in 1980 to 48 pounds in 2006, growing another 10% between 2007 and 2008.

But in just these few short weeks, the blossoming opportunity has buckled under the pressure of an expanding crisis that was apparently fueled by greed. Chinese dairy producers are now pouring their milk out on fields and trying to liquidate their herds as their markets dried up—overnight.

The reverberations are being felt. USDA Market News reported last week traders were concerned about consumer acceptance, in China, of even imported dairy products.

"For consumer confidence, in China, the situation is huge and devastating," Novakovic observed. He poses these questions: Can the Chinese government take actions that will restore consumer confidence in these products?

Since most Chinese consumers are new to dairy, will they go back to the alternatives?

Will the "amazing variety" of specialized powdered milk drinks sold to other Asian and African countries continue to garner demand, and will those consumers desire them enough to turn to other countries to replace them?

"My sense is we're going to see an intermediate term lift on international prices, mainly powdered milk where there's room to move, but not super dramatic," Novakovic suggests. "But inside China, they will have longer term consequences to get their dairy industry back."

The tainted milk has huge consequences for China's dairy industry, which had been working hard to increase in size, noted Stephenson.

"In trying to imagine the implications, there are two divergent possible stories," he said. "First, witnessing this event may have shaken consumer confidence. But on the other hand, in view of the failing confidence in China-sourced dairy products, sources that are generally viewed as well overseen and safe, like the U.S., may have stronger demand. Consumers have a great deal of confidence in U.S. dairy products, and it's in no small part because we have the regulations."

According to U.S. Dairy Export Council (USDEC) statistics, China is an important market, ranking fourth in value and volume as a destination for U.S. dairy exports.

One of USDEC's primary concerns in building markets for dairy products in China is that the Chinese succeed in fixing these problems to make their own industry credible, which will help to restore confidence among their consumers for dairy products, in general.

"In the short term, this situation affects consumer demand for dairy and specifically for the domestically produced dairy products in China," said Margaret Speich, USDEC vice president of communications during a phone interview Tuesday. "Because China's dairy industry has been impacted so severely, manufacturers there will be looking for dairy supply, looking to the U.S. and other countries while their industry recovers."

The USDEC has an office in China where a representative met with an official of China's Ministry of Health, at their request, to "brief them on the U.S. regulatory system, quality control steps, and other safety procedures in place," Speich reported.

U.S. manufacturers have worked closely over the years with regulatory officials to establish safety regulations, including the Pasteurized Milk Ordinance (PMO) and the USDA Dairy Plant Survey Program. The Hazard Analysis and Critical Control Point (HACCP) system also is utilized. As a result, American milk and dairy products are among the safest and most highly regulated foods in the world.

"We're working with U.S. exporters and suppliers who've been getting questions from their customers overseas about the regulatory process for safety here," Speich said. "We have a time-tested system of regulations on dairy products here in this country, and we do this in a number of different ways to protect and ensure safety from the moment the milk leaves the cow to the final product. The U.S. has a strong system in place and also strong enforcement."

One thing China's situation emphasizes, she said, is "the importance of having a strong, fair, transparent, and credible regulatory system, because it protects the consumer and helps the dairy farmer and dairy products remain credible in the eyes of consumers."

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