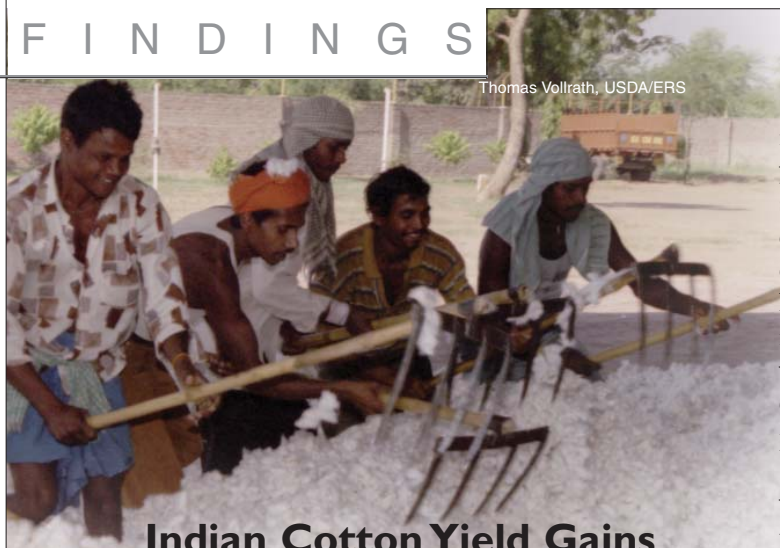


Thomas Vollrath, USDA/ERS

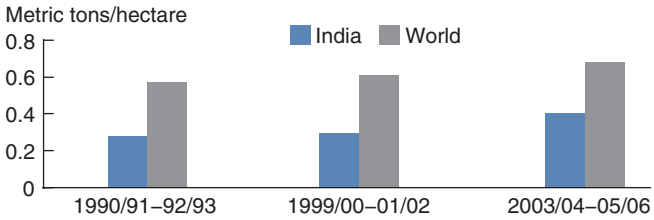
Indian Cotton Yield Gains Could Limit Imports

Adoption of hybrid *Bacillus thuringiensis* (Bt) cotton by Indian farmers is helping to boost cotton yields and may dampen growth in the cotton that India imports to meet the needs of its expanding textile industry. Bt cotton varieties are genetically engineered to include a gene (from the soil bacterium *Bacillus thuringiensis*) that enables the plant to produce its own natural toxins to defend against bollworms and certain other pests. Bt cotton hybrids were first approved for cultivation in India in 2002 and, by the 2004/05 crop year, Bt cotton accounted for 17 percent of India's cotton area—some 1.5 million hectares. The pace of adoption and yield gains appear poised to accelerate. During May-June 2005, 14 new Bt varieties were approved, including the first-ever varieties for heavily irrigated areas in North India.

Although it is too soon to be sure of overall impacts, Bt cotton adoption appears likely to increase yields significantly. Recent region-specific studies in India found that Bt hybrids improved yields by 45-87 percent. The yield gains reported in India contrast sharply with the U.S. experience, where the primary impact of Bt cotton has been reduced costs. The main reason for the difference is that Indian cotton farmers—most of whom operate small holdings with limited resources—typically do not practice optimal pest control. By controlling boring insects, Bt varieties provide significant yield gains. Cost savings relative to non-Bt varieties appear less substantial for Indian farmers because Bt seed prices are relatively high compared with non-Bt seeds.

The scope is broad for increasing cotton yields in India, where yields are below the world average and the lowest of the top-10 global producers. Although Bt technology does not address some important yield constraints, including erratic rainfall, use of uncertified seeds, and poor cultivation practices, improved pest protection appears to be having an impact. Damage from bollworms is a key yield constraint in all producing regions of India, particularly the heavily irrigated and potentially high-yielding areas of North India.

Growth in Indian cotton yields is accelerating



Source: USDA Production, Supply, and Distribution database.

U.S. Could Expand Apple Exports to Japan

The World Trade Organization (WTO) recently ruled that part of Japan's phytosanitary protocol for imports of U.S. apples was not justified and was in breach of Japan's WTO obligations. The Japanese phytosanitary protocol for apples included restrictive rules for inspection, buffer zones, and chemical surface disinfection, procedures that are not normally part of the U.S. *systems approach* to phytosanitary management. The systems approach uses a combination of risk-mitigating measures that individually and cumulatively reduce the risk of the target diseases or pests to an insignificant level. Almost all countries accept the U.S. systems approach to disease and pest management for apple exports as an adequate precaution to protect their domestic industries. In 2004, the United States exported apples to 85 countries.

With strict phytosanitary rules severely restricting apple imports, Japan has relied on its domestic production to satisfy consumer demand. Japanese apple prices tend to be high, and per capita apple consumption is among the lowest in developed economies, 5.9 kilograms (13 pounds) a year between 1991 and 2003. That was 73 percent of average U.S. per capita consumption—8.1 kilograms (18 pounds)—and less than one-third of the 17.9 kilograms (39 pounds) consumed on average in the European Union. Japanese consumers often eat apples as a dessert, with one apple, often a Fuji apple, divided among several diners. They do not tend to eat them as snacks as do U.S. consumers. However, Japanese tastes may not be static. Japanese consumers may be open to U.S. sweet apple varieties or even traditional tart apples, and U.S. growers might be able to build a Japanese market over time.

On August 25, 2005, Japan issued new regulations eliminating the procedures that were the subject of the U.S. complaint. As a result, U.S. growers could have new opportunities to supply the Japanese market. Using an economic model of the Japanese apple market, ERS has estimated what Japanese imports would have been without the restrictive phytosanitary protocol. The analysis gives an indication of the longrun potential of U.S. apple sales to

Because India's 8-9 million hectares of cotton area is by far the largest of any country in the world, yield gains could significantly affect global markets. Rising incomes in India and increased exports of cotton-based textiles associated with the end—in January 2005—of developed-country import quotas under the Multi-Fiber Arrangement (MFA) are now boosting growth in India's demand for domestic and imported cotton. India is among several developing, textile-producing countries expected to increase their shares of global textile trade in the post-MFA environment. If India can supply more of its expanding textile sector with domestically produced cotton, opportunities for the United States and other cotton exporters will decline.

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This finding is drawn from . . .

Growth Prospects for India's Cotton and Textile Industries, by Maurice Landes, Stephen MacDonald, Santosh K. Singh, and Thomas Vollrath, CWS-05d-01, USDA, Economic Research Service, June 2005, available at: www.ers.usda.gov/publications/cws/jun05/cws05d01/

Japan. It suggests that, with the elimination of the protocol, Japanese consumers would increase their per capita consumption of apples by about 11 percent to 6.4 kilograms, still below U.S. per capita consumption. The additional imports would significantly affect the U.S. apple industry.

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This finding is drawn from . . .

Resolution of the U.S.-Japan Apple Dispute: New Opportunities for Trade, by Linda Calvin and Barry Krissoff, FTS-318-01, USDA, Economic Research Service, October 2005, available at: www.ers.usda.gov/publications/fts/oct05/fts31801/


Comstock

Mandatory Livestock Price Reporting: More Transparent?

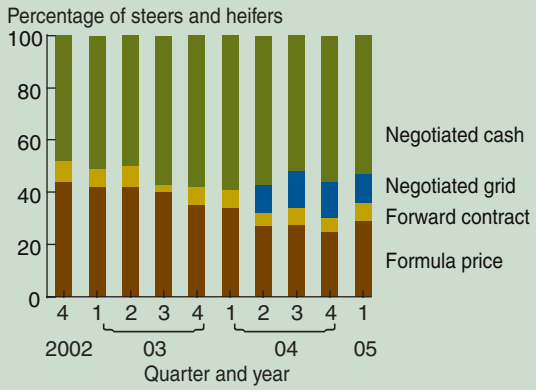
The USDA *Market News* program aims to aid the efficient marketing of agricultural commodities by providing the public with price and sales information drawn from transactions around the country. But fundamental changes in livestock industries called into question the effectiveness of *Market News* reporting for livestock and led to a major redesign of the program through the Livestock Mandatory Reporting Act of 1999 (LMR). A recent ERS report reviews developments leading up to the Act and assesses its impact on cattle markets after implementation in 2001.

Before 2001, USDA *Market News* reporters gathered data voluntarily submitted by market participants and by observation at public markets. But more and more livestock are now being marketed under contract arrangements that often bind producers and packers to formal long-term relationships and set sales terms well before delivery of the animals for slaughter. Because contract terms were rarely reported under the voluntary system, USDA's *Market News* reports of the late 1990s were based on a declining number of transactions. Producers expressed concern that unreported contract prices were substantially higher than the cash prices reported in *Market News* and that *Market News* prices based on a small number of transactions could be more easily manipulated. Some feared that cash markets for livestock would disappear without timely, comprehensive, and accurate price reporting. Because many contracts base payments on cash market prices, cash market erosion concerned all market participants.

Under LMR, large meatpackers electronically file summary information on all transactions twice a day, and USDA compiles the information in its *Market News* reports. By early 2002, the program was capturing more than 90 percent of all cattle sales, compared with less than 60 percent in the last days of the voluntary system. LMR enables users to compare prices for cattle sold under different marketing methods. It appears that, for cattle of similar quality, prices in negotiated spot market transactions closely track prices for cattle sold under contracts. In other words, producers selling under contract do not seem to realize a significant price advantage.

Many producers initially expressed disappointment with LMR, partly because of implementation problems and partly because the data did not show that contract prices were higher. But producers now appear to be using the cash market more: After 2002, cattle sales shifted away from contracts and toward negotiated cash market transactions. While that shift may have been driven by other market developments—such as low inventories and strong demand—that raised all cattle prices, it also may have been affected by expanded and more transparent price reporting under LMR.

Volume of cattle sold through negotiated transactions has increased, but market forces may be the driver



Note: Negotiated grid transactions were introduced in the second quarter of 2004.
Source: USDA's Agricultural Management Service's *Datamart*.

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This finding is drawn from . . .

Did the Mandatory Requirement Aid the Market? Impact of the Livestock Mandatory Reporting Act, by Janet Perry, James MacDonald, Ken Nelson, William Hahn, Carlos Arnade, and Gerald Plato, USDA, Economic Research Service, LDP-M-135-01, available at: www.ers.usda. gov/publications/ldp/sep05/ldpm13501/