

The Global Soybean Market: Its Meaning for the United States and Tennessee

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United States farmers have increased their soybean acreage steadily since the early 1990s as world demand for soybeans and their byproducts keeps growing. Other countries, such as Brazil and Argentina also have stepped into the arena as major soybean producers. As competition in the world soybean sector increases, the United States is still holding on to its role as the world's largest supplier of soybeans.

U.S. and Tennessee Soybeans

Final U.S. soybean production in 1996/97 came in at 2.4 billion bushels, only slightly lower than the 1994/95 record harvest. Average soybean yield in 1996/97 settled at 37.6 bushels per acre, 3.8 bushels per acre less than the 1994/95 record. In 1996/97, U.S. producers also harvested the largest number of soybean acres since 1984.

Estimated U.S. soybean production numbers from the 1997/98 season set a new record at 2.73 billion bushels. In the coming crop year, U.S. farmers are expected to plant a record 72.0 million acres, up from 70.85 million in 1997/98, which the Economic Research Service (ERS) at the U.S. Department of Agriculture (USDA) estimates will result in nearly 3 percent higher yields than the 1997/98 bumper crop.

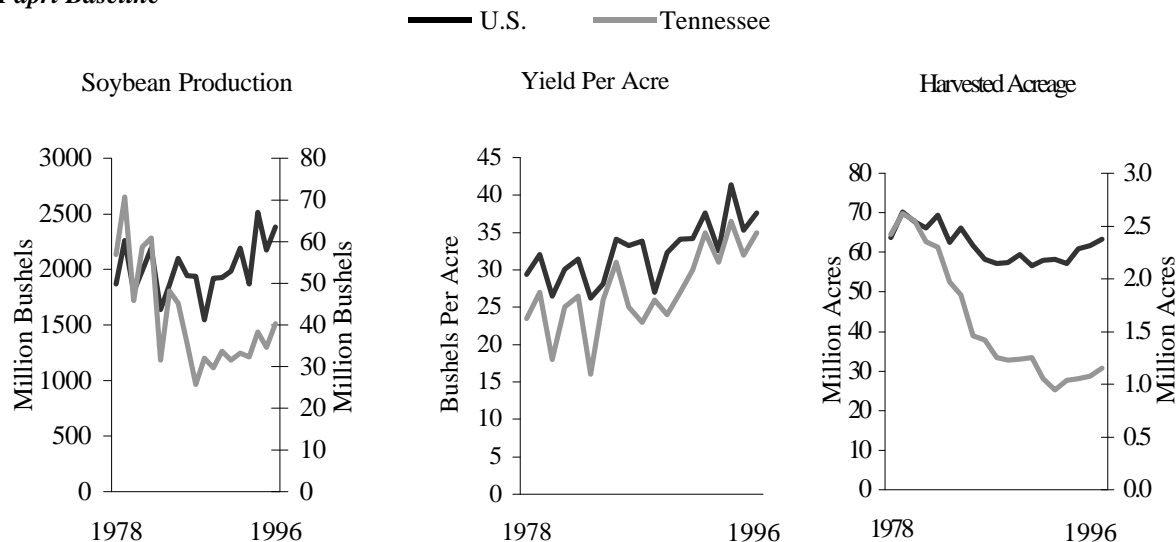
In Tennessee soybeans consistently have for decades comprised the largest area among all major crops grown in the state. Soybeans have also rotated among tobacco and cotton as the state's largest cash crop. However, soybeans lost over half of their acreage between 1979/80 and 1987/88, causing state production numbers to drop almost 65 percent. In fact, in 1987/88, the state recorded its lowest-ever soybean production in the last three decades.

The good news is since the late-1980s slump, soybean production in the state has been growing. In 1996/97 production totaled 40.3 million bushels, a 36 percent increase from 1987/88. In 1996/97, soybeans represented 20 percent of Tennessee crop cash receipts and 12 percent of agricultural cash receipts.

In the 1997/98 season, harvested acreage reached 1.28 million acres, up 10 percent over 1996/97 numbers. Farmers harvested 34 bushels per acre in 1997/98, down from 35 bushels per acre in 1996/97. The outlook remains promising for soybeans in the state, and planted acreage is expected to reach 1.37 million acres in 1998/99, up 4 percent from 1997/98.

U.S. and Tennessee Soybean Production, Yield, and Acreage

Source: *Tennessee Agricultural Statistics*, and the *Rainbow Book: A Summary of the November 1997 Fapri Baseline*

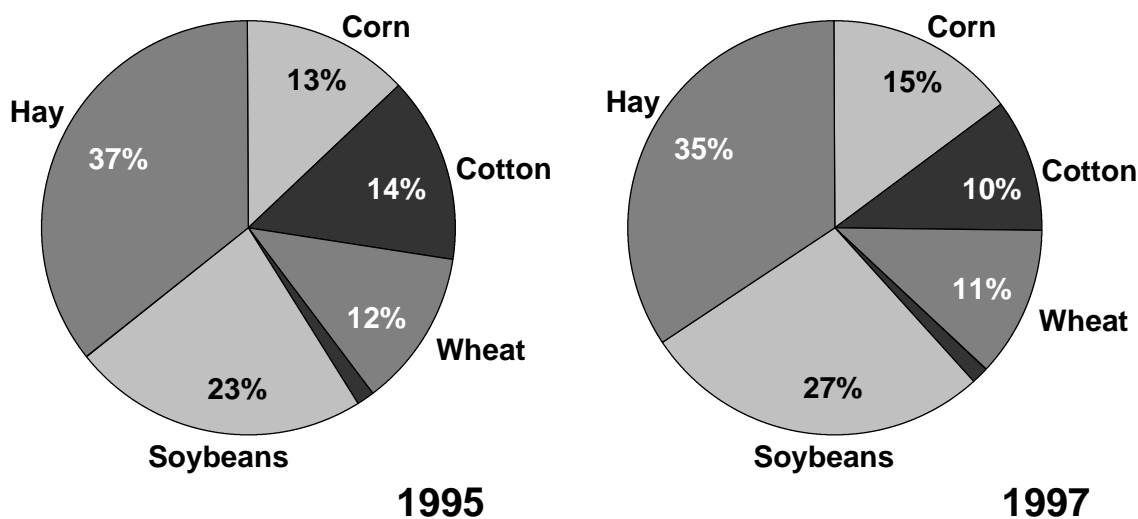


Per acre soybean yields in Tennessee lag behind the national average, but Tennessee farmers consistently receive 2 to 3 percent higher price per bushel than other U.S. soybean farmers. In 1996/97, Tennessee farmers received almost a 5 percent higher price per bushel than the national average.

Soybeans covered 23 percent of total crop acreage in Tennessee in 1995/96; in 1996/97 that number rose to 27 percent. This rise in soybean acreage has been observed nation-wide and can be attributed partly to the 1996 farm bill, which has allowed farmers greater ability to respond to changing markets. The bill gives farmers more production flexibility by freeing them to make independent production decisions.

Change in Tennessee Crop Acreage After the 1996 Farm Bill

Source: *Tennessee Agricultural Statistics*



World Soybean Production

Over the past several years world soybean and soybean meal production has increased rapidly, and this increase is not expected to slow down any time soon. The Food and Agricultural Policy Research Institute (FAPRI) has projected production of both soybean beans and meal to jump 30 percent by 2006 from near-record production levels of 1996/97.

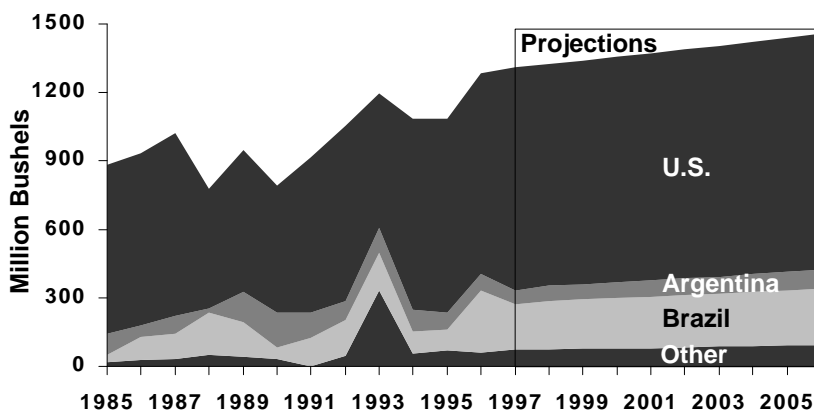
The United States certainly is a major player in world soybean and soybean meal markets. However, though the U.S. continually has higher yields and higher raw soybean export demands than all other nations, it is no longer the world's largest exporter of soybean meal. Argentina and Brazil have both surpassed the United States in soybean meal exports, and both expect continued export growth.

The increase in South American soybean meal export has had a positive impact on the United States, though. Both Brazil and Argentina import soybeans and crush them for re-export, increasing demand for U.S. raw soybean exports. In fact, legislation passed in Brazil last year makes it cheaper for farmers to import soybeans, crush them, and re-export them rather than to pay interstate transportation taxes. These taxes require farmers pay fees to move soybeans to other Brazilian states for crush. The legislation is expected to boost both Brazilian soybean and soybean meal export markets.

The potential for soybean acreage expansion in Brazil is great. The Foreign Agriculture Service (FAS) at USDA estimates that Brazil could increase its soybean acres almost endlessly. However, the high cost of supplying nutrients to these infertile areas to produce quality

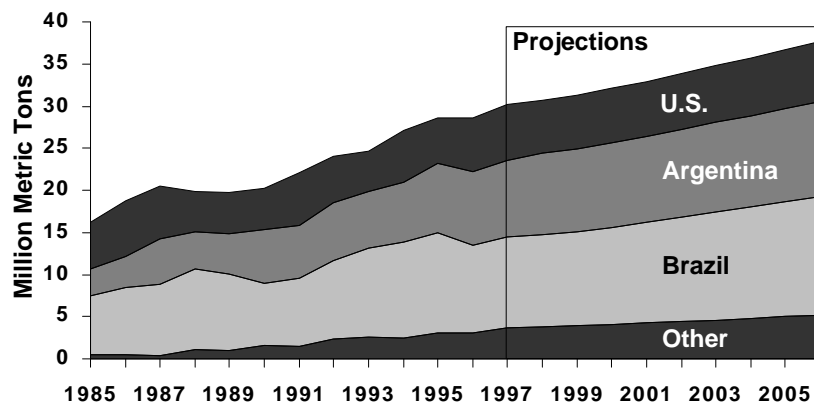
World Soybean Export

Source: *The Rainbow Book: A Summary of the November 1997 Fapri Baseline*



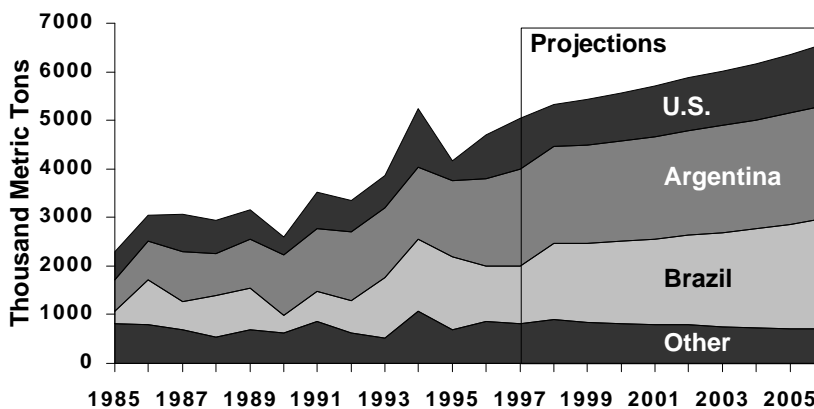
World Soybean Meal Export

Source: *The Rainbow Book: A Summary of the November 1997 Fapri Baseline*



World Soybean Oil Export

Source: *The Rainbow Book: A Summary of the November 1997 Fapri Baseline*



soybeans plus the environmental consequences of destroying its rainforests could impede Brazil from taking advantage of this unutilized land.

The Current Situation

Last year, U.S. soybean farmers reaped the benefits of a prolonged drought in South America that greatly reduced soybean production there. This year, however, farmers will feel the effects of an abundant soybean harvest in South American countries. In fact, this year these countries are expected to harvest record numbers.

For U.S. soybean meal exports this means that when South American countries begin making their new crops available in the next few weeks, the upward trend in exports observed last year and up until now this year is expected to end. And, although demand for U.S. soybean oil has also been on the increase, the heightened worldwide demand for soybean oil coupled with record harvests in South America has led to an overabundance of soybean meal. For U.S. soybean farmers this means prices for meal will begin declining. However, ERS has already announced an expected increase in domestic soybean meal consumption for 1998/99, which might help curtail the price decrease a bit.

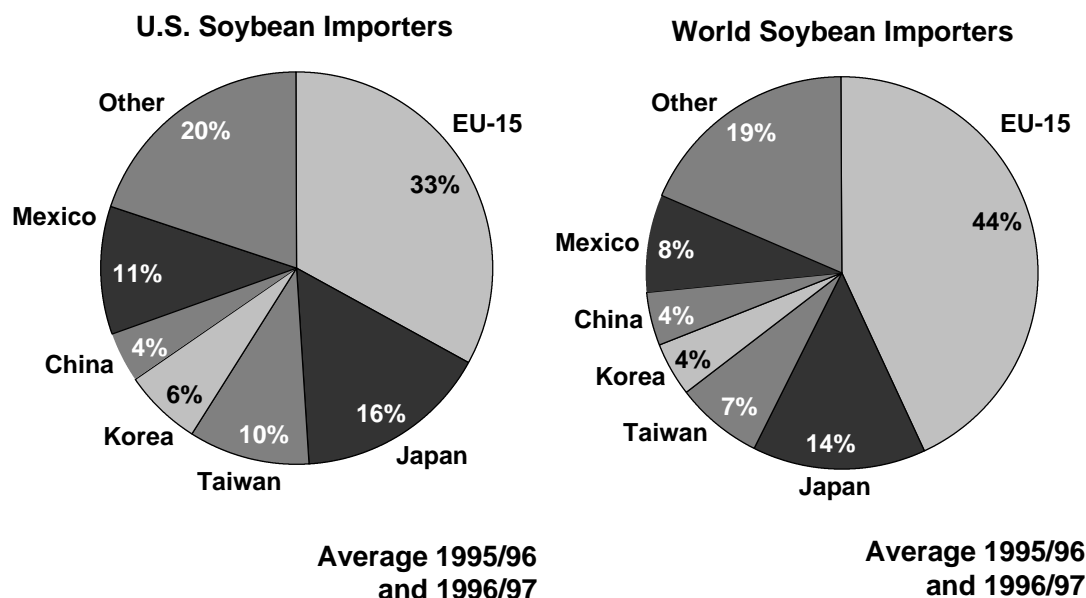
Despite the decline in soybean prices due to the expanding South American crop, U.S. farmers have already announced their intentions to plant record numbers of soybeans, mostly at the expense of wheat, for the upcoming 1998/99 season. This shift in acreage to soybeans throughout the United States can be attributed to many factors according to the Agricultural Research Service (ARS). These include the adoption of genetically engineered, herbicide-tolerant soybeans, which reduce input costs; farm program changes (the adoption of the 1996 Farm Bill); higher soybean prices relative to other crops; and unpredictable weather due to El Niño.

The Global Market

Regardless of the competition from South American producers, the United States still supplies much of the world with soybeans and soybean meal. Our largest customers include the European Union, Japan, Taiwan, Korea, and Mexico, and after years as a net exporter of soybeans and soybean products, China has also become a net importer due to increased

U.S. Soybean Importers Versus World Soybean Importers

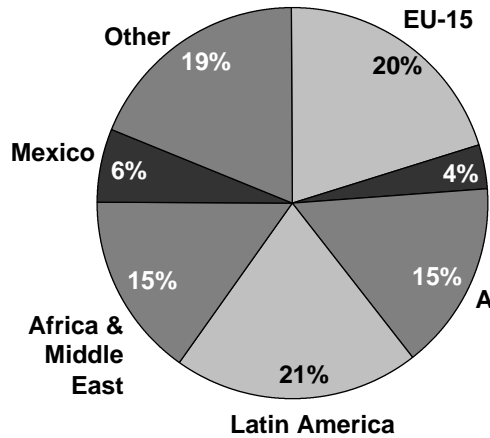
Source: *Oilseeds: World Markets and Trade*, a USDA Foreign Agricultural Service publication



U.S. Soybean Meal Importers Versus World Soybean Meal Importers

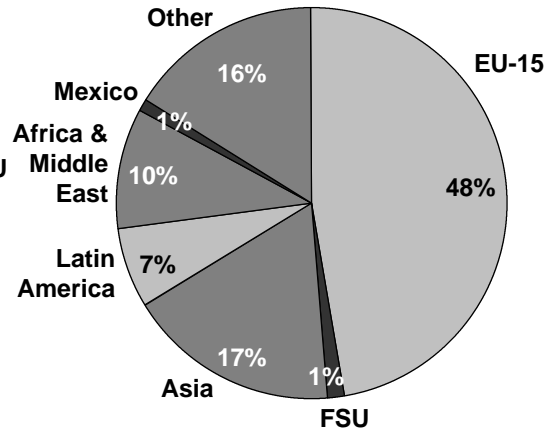
Source: *Oilseeds: World Markets and Trade*, a USDA Foreign Agricultural Service publication

U.S. Soybean Meal Importers



Average 1994/95 and 1995/96

World Soybean Meal Importers

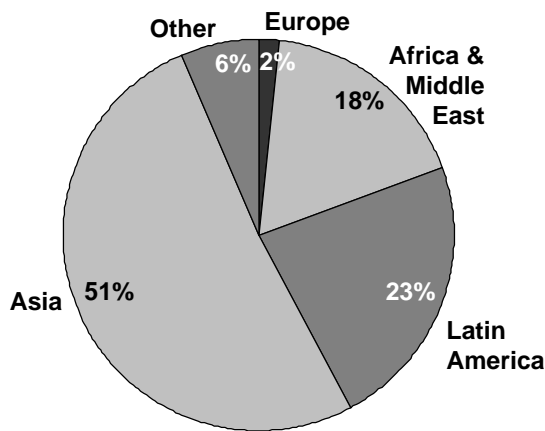


Average 1994/95 and 1995/96

U.S. Soybean Oil Importers Versus World Soybean Meal Importers

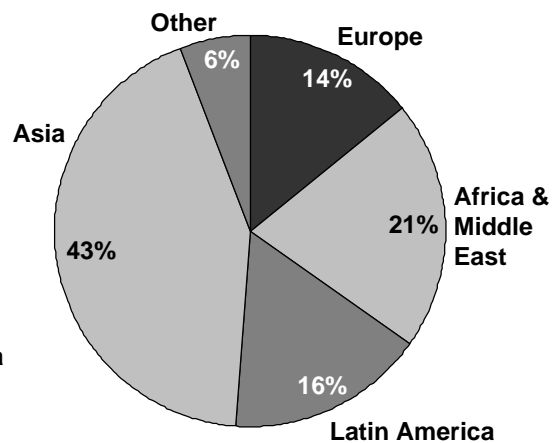
Source: *Oilseeds: World Markets and Trade*, a USDA Foreign Agricultural Service publication

U.S. Soybean Oil Importers



Average 1994/95 and 1995/96

World Soybean Oil Importers



Average 1994/95 and 1995/96

domestic demand. China has also recently begun purchasing large amounts of soybean oil. However, the uncertainty surrounding the Chinese market limits reliable predictions about the future of Chinese soybean demand.

Several Asian countries are within the top five importers of U.S. soybeans. Therefore, the current economic crisis there potentially could become a problem for U.S. agriculture exports. It is still uncertain whether the economic crisis there will hurt U.S. soybean and soybean meal exports to the region, though.

Many countries in Asia have been granted large credit guarantees from USDA to purchase agricultural commodities from the United States. However, with the less expensive South American soybean crop soon becoming available, they may opt to put off purchasing soybeans and soybean byproducts until then, as prices will be driven down.

Although the U.S. soybean export market is beginning a downward trend, the domestic market shows no sign of faltering. Domestic demand for soybeans should remain about 1.5 times higher than exports in the foreseeable future. Furthermore, domestic soybean meal use is expected to remain close to 75 percent higher than the amount of exported meal, and domestic soybean oil consumption is expected to remain approximately 85 percent of all domestically produced soybean oil.

For the Future . . .

U.S. producers should take care to watch how legislation in countries such as Brazil and Argentina may affect soybean import and export markets. Furthermore, the Chinese market, though unstable for prediction, will remain the largest in the world. Economic problems could affect the buying power of Asian countries but to what extent is not certain.

The U.S. livestock industry is also a potential domestic candidate for increased soybean meal utilization as it is a feed ingredient. Furthermore, farmers should pay attention to growth in genetically engineered varieties of soybeans and to abnormal weather patterns caused either by El Niño or any other phenomena.

Most importantly, farmers should note the increase in U.S. and world soybean production. Overabundance of some product will drive the price of that product down, which conceivable could happen with soybeans if production expands at a greater pace than demand. Farmers should take care to watch for significant price dips and worldwide production numbers to determine the economic feasibility of planting soybeans.

Forecasts show stable growth in the U.S. soybean industry into the next century. Large planted acreage and near-record yields are boosting cash receipts while high export demands continue the growth of soybeans as a major U.S. crop. Although production in other soybean-producing countries is expected to increase as well, no country is expected to overtake the U.S. in the foreseeable future as the world's largest producer and supplier of soybeans.