



## Safety Net Design for the New Farm Bill

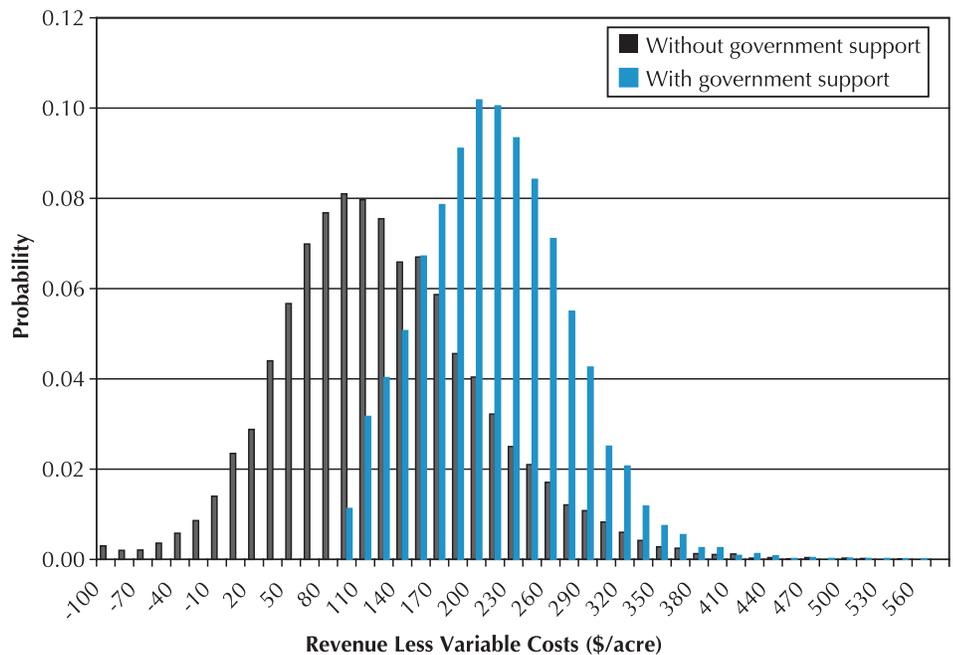
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Farm bill discussions are beginning in earnest, as groups prepare for congressional hearings and possible legislative action in 2006. A common outcome of organized discussions is an expressed need for a better federal safety net for farmers. This outcome is somewhat surprising in light of the existing safety net for producers of currently supported field crops. As was demonstrated in a previous *Iowa Ag Review* (“Risk Free Farming,” Winter 2004), producers of program crops who farm their own land and successfully get their crop into the ground face almost no risk that their returns over variable costs of production will fall below the average returns without government support, as shown in Figure 1. While the situation depicted in Figure 1 is not directly applicable elsewhere, the majority of land-owning producers of corn, soybeans, and wheat face practically no risk that they will not cover their cash production costs. So what motivates the widely held perception that farmers need an improved safety net?

### RISK-FREE FOR WHOM?

The finding that the current price support and crop insurance programs greatly reduce financial risk only holds for producers who do not have annual cash land expenses. A recent survey by Iowa State University economist Mike



**FIGURE 1. EFFECT OF CURRENT FARM SAFETY NET ON RISK FOR AN IOWA CORN FARMER WHO FARMS OWNED LAND**

Duffy (“Recent Trends in Farmland Ownership”) shows that 74 percent of Iowa farmland in 2002 was held debt free, so cash outlays for debt service do not alone significantly increase risk. However, the same survey also showed that 60 percent of farmland in Iowa is leased. And in 2002, 70 percent of leased land was cash rented. It seems likely that both proportions have increased since then.

A farmer who cash rents land is in a much riskier position than a farmer who farms owned land debt free. For the renter, land rent is a cash-variable expense just as real as cash outlays for fertilizer, seed, and fuel. The land-owning farmer in Figure 1 faces an opportunity cost of land—after all, the landowner could always lease the farm rather than farm it—but no cash costs. This allows the

land-owning farmer to more easily survive a revenue shortfall in any given year. Figure 2 depicts the risk situation for the Figure 1 farmer if he cash rented the land as opposed to owning the land. The level of cash rent today with government programs is approximately \$160/acre for productive Iowa farmland. The expected value of government payments is approximately \$90/acre. Thus, if all this value were reflected in land rents, then cash rents would fall to \$70/acre with the removal of government support. As shown, the effects of the current safety net are quite limited for the land renter. It is only the land owner who truly faces a “risk-free” condition.

That 60 percent of farmers face the risk shown in Figure 2 and 40 percent face the risk-free situation shown in Figure 1 may explain at least some of the perception that



ISSN 1080-2193  
<http://www.card.iastate.edu>

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*Iowa Ag Review* is a quarterly newsletter published by the Center for Agricultural and Rural Development (CARD). This publication presents summarized results that emphasize the implications of ongoing agricultural policy analysis, analysis of the near-term agricultural situation, and discussion of agricultural policies currently under consideration.

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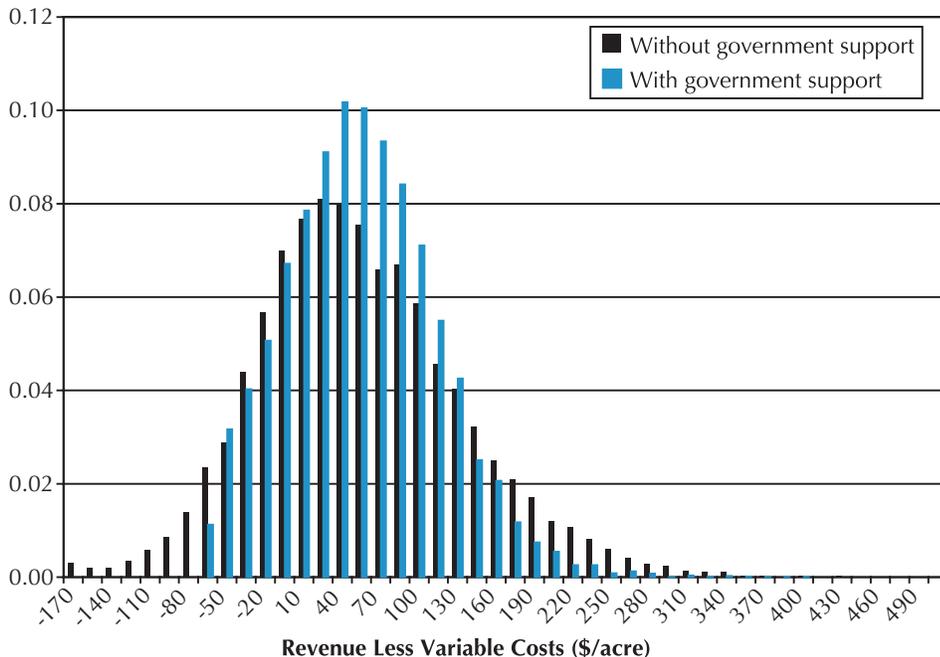
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**FIGURE 2. EFFECT OF CURRENT FARM SAFETY NET ON RISK FOR AN IOWA CORN FARMER WHO FARMS RENTED LAND**

a better farm safety net is needed. After all, if non-farming landowners capture most of the benefit of farm programs, what is left for farm operators?

### WHAT ABOUT CROP INSURANCE?

Prevalent farmer dissatisfaction with the current crop insurance program may be another reason why so many people believe we need a better safety net. The program would seem to run in a manner that is highly favorable to farmer interests. Taxpayers pay for the overhead of the program, agent commissions, loss adjustment costs, company profits, and the costs of developing new products. And premium subsidies mean that farmer-paid premiums do not cover even half of the insurance indemnities that are paid out.

But dissatisfaction with the program is widespread. There is a litany of complaints: premiums are too high for the amount of protection provided; yield guarantees lag the amount at risk because they do not reflect current technology; farmers who suffer through one or more years of poor growing condi-

tions face dramatically lower protection levels and higher premium rates even though the inherent risk they face remains unchanged; and finally, honest farmers suffer excessive premium rates because program rules are taken advantage of by unscrupulous agents and farmers. Perhaps no program can satisfy all farmers, but the level of dissatisfaction with the current crop insurance program suggests that there may indeed be something fundamentally wrong.

### WHY THE FOCUS ON PRICE?

The last complaint about the current federal safety net is that because federal farm bill programs focus exclusively on price, payments often arrive when farmers do not need financial help and may not arrive in years when farm income is low. Consider the circumstances of Illinois corn farmers this year. Many of them will not harvest much of a crop because of dry weather. The decline in this year's crop prospects has driven the price of corn higher, which suggests that farm bill payments for the 2005 crop may be limited to only

direct payments. This is in contrast to the 2004 bin-busting crop, which drove the market price down and farm bill payments up, even though market income for most corn farmers was quite adequate.

In the Spring 2005 issue of *Iowa Ag Review*, we argued that the current farm bill is “mismatched” because low prices, rather than low revenue, triggers payments. We offered an alternative revenue-targeted program based on the Group Risk Income Protection (GRIP) insurance plan that would hit a revenue target much better than does the current program. This result is no surprise: if Congress wants to make sure that revenue achieves a given level, then payments should be triggered whenever revenue falls below that level. The question is, why does Congress target price in the first place? It seems to make more sense to target revenue rather than price.

One answer to this puzzle could be that it is easier to pass farm legislation that pays out when prices are low because low prices affect all farmers of a crop. If legislation targeted low revenue at the county, crop-reporting district, or state level, then those producers who farm in high-risk areas would receive payments more frequently than would farmers in low-risk areas because low yields would drive down revenue more frequently in the high-risk areas. This explanation would seem to be supported by the frequent complaints from Corn Belt farmers that their low loss experience in the crop insurance program is somehow subsidizing the premiums of farmers who live in states with frequently high loss ratios. If this explanation is correct, then Congress might be unable to move to a program that targets revenue unless the revenue targeted is national revenue, in which case if any farmer of a crop received a payment, then all farmers would receive one. Representative Charles Stenholm’s Supplemental Income Payments for Farmers pro-

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*... with most farmers  
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posal of 1999 (H.R. 2792) set a precedent for this type of target.

An alternative explanation for why Congress targets price is based on history. Taking a step back and looking at all aspects of the farm safety net, one could surmise that Congress is indeed attempting to hit a revenue target. But instead of using one efficient policy to achieve that targeting, it is using three. Commodity programs support price. Crop insurance supports yields. And when disaster strikes, ad hoc disaster programs provide additional yield support. Because revenue is the product of price and yield, supporting price and yield separately does indeed support revenue.

Throughout the 1980s and 1990s, Congress repeatedly tried to induce farmers to buy more crop insurance. Congress knew that higher participation rates meant that the farm sector would be supported whenever low yields or low prices occurred. But high participation only came about with the dramatically increased premium subsidies. Congress found that it could only achieve its goal of an effective safety net that guards against both low prices and low yields by turning the crop insurance program into an entitlement program that provides benefits with relatively little in co-payments.

#### **TAKING STOCK TODAY**

Has Congress largely achieved effective revenue safety by supporting prices with the farm bill and

supporting yields with the crop insurance program? The answer is a qualified yes. One of the qualifications is the long list of farmer complaints about the crop insurance program previously discussed. The other qualification is that the safety net is not cost-effective. Why support price in low-price years without accounting for above-average yields? And why support yields in low-yield years without accounting for the benefits of high prices? Targeting revenue explicitly would be much more cost-effective.

Another redundancy is that most farmers now purchase revenue insurance, not yield insurance. In 2004, Revenue Assurance and Crop Revenue Coverage, the two most popular forms of revenue insurance, covered 126 million acres of cropland, nearly 60 percent of all cropland in the crop insurance program. This implies that farmers can receive both an insurance indemnity and a commodity payment to compensate for a drop in price. For example, many corn farmers received an insurance indemnity for their 2004 crop because of low prices. In addition, they received a loan deficiency payment and a countercyclical payment. Given that taxpayers fund both programs, why should farmers receive double compensation for the same drop in price?

Innovations in farm programs come about slowly and rarely. When the 2002 farm bill was passed, revenue insurance was still relatively new and most farmers still purchased yield insurance. So 2002 farm bill programs to support price could largely still be thought of as a critical part of a total safety net that supported revenue. But with most farmers now insuring revenue directly, perhaps Congress will rethink its overall approach to supporting farm sector income.

We have previously discussed an alternative commodity program that would make payments when county average yield times season average

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## A New World Market for U.S. Beef

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Domestic and international responses to bovine spongiform encephalopathy (BSE) in North America have permanently altered international market opportunities for U.S. beef. As expected, most international markets immediately banned imports of U.S. beef when the first U.S. case was reported in December 2003. Beef and beef variety meat exports in 2004 fell 75 percent by volume and 79 percent by value compared with 2003 levels. By April 2005, strong demand from Mexico and the reopening of a few markets helped overcome some of the overall trade loss, but most major markets remained closed to U.S. beef (see Table 1).

The second U.S. case of BSE, officially confirmed in June 2005, set back much of the progress made in re-opening international markets. Taiwan, Indonesia, and several other countries that had re-opened their borders to U.S. beef reinstated bans, and South Korea immediately expressed strong reluctance to move forward with negotiations to resume trade. However, the rush by Taiwanese consumers to purchase discounted U.S. beef already on store shelves indicates that, at least for some consumers, low price outweighed any concern over the safety of U.S. beef, if such concern existed. Early reports from Taiwan indicated that reinstating the ban may have been an automatic reaction that will be reversed, but it is difficult to say how long a reversal will take.

On the other hand, the Japanese government's calm reaction to the news of a second BSE case in the United States reflected the stated expectation that more than one BSE-positive animal would be found in the United States. It may also reflect the fact that Japan has

**TABLE 1. TOP FIVE MARKETS FOR U.S. BEEF AND BEEF VARIETY MEAT EXPORTS, JANUARY-APRIL 2005 COMPARED WITH JANUARY-APRIL 2003 AND 2004**

	Jan.-April 2003	Jan.-April 2004	Jan.-April 2005
By Volume		(metric tons)	
Mexico	92,388	17,641	76,635
Canada	34,031	1,508	12,036
Poland	1,497	5,721	8,084
Indonesia	5,695	3,155	7,112
Moldova, Republic of	0	1,551	3,007
World Total	396,508	53,017	132,628
By Value		(thousand \$)	
Mexico	240,768	57,443	235,996
Canada	109,961	8,700	48,611
Indonesia	4,193	1,593	10,204
Bahamas, The	3,462	5,569	4,469
Poland	1,035	3,234	3,896
World Total	1,117,546	113,310	349,901

Source: USDA Foreign Agricultural Service 2005.

yet to set a timeline for opening its borders to U.S. and Canadian beef, and conflicting test results in the second case appear to be causing additional delays by Japan.

### CONSUMER OPINION AND THE BEEF SAFEGUARD IN JAPAN

Although the Japanese government remains committed to negotiations to reopen its market, U.S. exporters will face new marketing challenges when access is allowed. With 20 confirmed cases of BSE and 100 percent testing of cattle, reports of new cases in Japan's cattle herd have little impact on overall consumer behavior. However, surveys continue to show strong consumer opinion against resuming imports of U.S. beef under the terms of the Beef Export Verification Program drafted by Japan and the United States. Although consumer opinion often does not reflect actual purchasing decisions and not all Japanese consumers will shun U.S. beef, the Australian industry's

classification as free of BSE and its unchallenged hold on the Japanese market will make it difficult for U.S. beef to re-capture market share.

Another obstacle for U.S. beef is Japan's safeguard system. The safeguard is triggered when imports increase by more than 17 percent from volumes imported during the previous Japanese Fiscal Year (JFY) on a cumulative quarterly basis. Once triggered, the beef tariff increases from 38.5 percent to 50 percent and the safeguard remains in place for the remainder of the current fiscal year. Import volumes of chilled beef and frozen beef are measured separately, so the safeguard can be triggered for one or both categories of beef in a given quarter. The sudden losses of Canada and then the United States from the market reduced import volumes, thereby reducing safeguard trigger levels. As the end of the first quarter of JFY 2005 (April-June) approached, concern arose that the safeguard would be triggered by increased imports from Australia.

Despite requests from major trading partners, Japan has never failed to implement higher safeguard tariffs on either beef or pork, regardless of the market conditions that created the ebbs and surges in import volume. Table 2 shows Japanese imports in 2003 before the first BSE case was found in the United States, and in 2004 with both the United States and Canada banned from the market. The lower import levels in JFY 2004 make it more likely that beef safeguards will be triggered after the United States and Canada re-enter the market.

### INCREASED PROCESSING CAPACITY IN CANADA

U.S. beef will also face pressure from the increase in Canadian slaughter capacity necessitated by the extended closing of the U.S. border to live Canadian cattle. In June 2004, Canada was slaughtering around 77,000 head of cattle per week, already a high slaughter rate for the Canadian industry. In June 2005, the Canadian Meat Council estimated that Canadian slaughter capacity could reach 107,000 head per week by November. The additional 30,000 head per week would equal 1.5 million more head per year—this at a time when the United States is facing underutilized beef slaughter capacity.

In 2002, the last full year of live exports to the United States, Canada slaughtered about 3.5 million cattle in inspected facilities and exported just over 1.0 million live cattle to the United States for slaughter (see Table 3). By 2004, Canadian slaughter increased to more than 3.9 million head with no live exports. At the same time, the size of the domestic herd increased from 13.8 million head in 2003 to 16.8 million head in 2004 (January 1 herd inventories). Part of this expansion is the result of herd aging, as producers carried 8.6 percent more beef cattle in 2004. To counter this problem, Canada has funded a Herd Management for Older Animals Program to help cull

**TABLE 2. QUARTERLY JAPANESE BEEF IMPORTS (METRIC TONS), JFY 2003 AND 2004**

	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.
JFY 2003				
Chilled	72,737	70,211	61,622	39,936
Frozen	60,901	78,378	85,354	50,418
JFY 2004				
Chilled	52,514	57,035	58,496	52,538
Frozen	55,435	65,114	52,954	54,914

Source: Japan's Agriculture and Livestock Industries Corporation.

Note: Boneless cuts equivalent, including cheek meat, head meat, and cooked meat.

**TABLE 3. NUMBER OF CANADIAN CATTLE SLAUGHTERED IN CANADA AND THE UNITED STATES, 2000-2004**

	Cattle Slaughtered in Canada <sup>a</sup>	Live Slaughter Cattle Exported to United States	Total Canadian Cattle Slaughtered	Canadian Steers and Heifers Slaughtered in United States
2004	3,957,809	0	3,957,809	0
2003	3,108,771	389,915	3,498,686	281,667
2002	3,457,008	1,064,632	4,521,640	759,006
2001	3,373,431	1,065,831	4,439,262	833,074
2000	3,423,213	799,405	4,222,618	644,373

Source: Agriculture and Agri-Food Canada.

<sup>a</sup>Federally and provincially inspected slaughter.

older animals from the national herd. As a result, many older animals will not be slaughtered for beef.

Even with the increase in herd size, the slaughter capacity estimated to be on-line by November would more than accommodate all of Canada's slaughter needs without exporting live cattle. This is not to say that Canada will not export live cattle to the United States now that an appeals court has ruled that the border can be reopened, and some of Canada's increased capacity can be ramped back down relatively quickly. But Canadian cattlemen will have more options. The capacity to kill all of the approximately 800,000 head of steers and heifers formerly sent to the United States gives Canada the potential to harvest an additional 294,000 metric tons (carcass weight basis) of young, exportable beef.

Given that Canada and the United States likely will enter many markets at about the same time, both offer essentially the same quality and types of beef on a commodity basis, and both are shipping beef similar distances to many foreign markets, a higher volume of exportable beef in Canada will slow the speed at which the United States recovers market share in other countries. Canada's separate export promotion programs and national cattle identification program will make Canadian beef highly competitive against U.S. beef.

### MARKET OUTLOOK POST-BSE

Based on events since BSE-positive animals were found in the United States, the United States will find itself in a different position in world

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## Agricultural Situation Spotlight

### Ethanol Revisited

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The ethanol industry continues to evolve. When we last checked in on the industry (Spring 2004 *Iowa Ag Review*), ethanol prices tracked with unleaded gasoline prices; production capacity was expanding; and Congress was considering an energy bill targeting higher usage of renewable fuels. The future looked good for ethanol as we computed a positive ethanol profitability index for the foreseeable future. Since then, ethanol and unleaded gasoline prices have diverged; the production expansion has continued; Congress is still considering the energy bill; and the industry has gone through some growing pains.

#### THE ETHANOL AND GAS CONTINUUM

The connection between ethanol and unleaded gasoline prices had been a strong one. Looking at monthly rack (wholesale) price data for Omaha between 1982 and 2004, the ethanol price maintained a consistent positive gap over unleaded gasoline prices, usually between 30¢ to 50¢ per gallon. In 2005, the pricing relationship changed dramatically. Ethanol prices fell even though unleaded gasoline prices rose with crude oil prices. By March, ethanol was priced under unleaded gasoline. As Figure 1 shows, ethanol prices fell from a high of nearly \$2.00 per gallon in November 2004 to \$1.20 per gallon in April and May 2005. Meanwhile, unleaded gas prices rose from \$1.20 per gallon in December 2004 to over \$1.60 per gallon in April 2005. More recent monthly statistics are not yet available, but daily prices show that ethanol prices have recovered to be on par

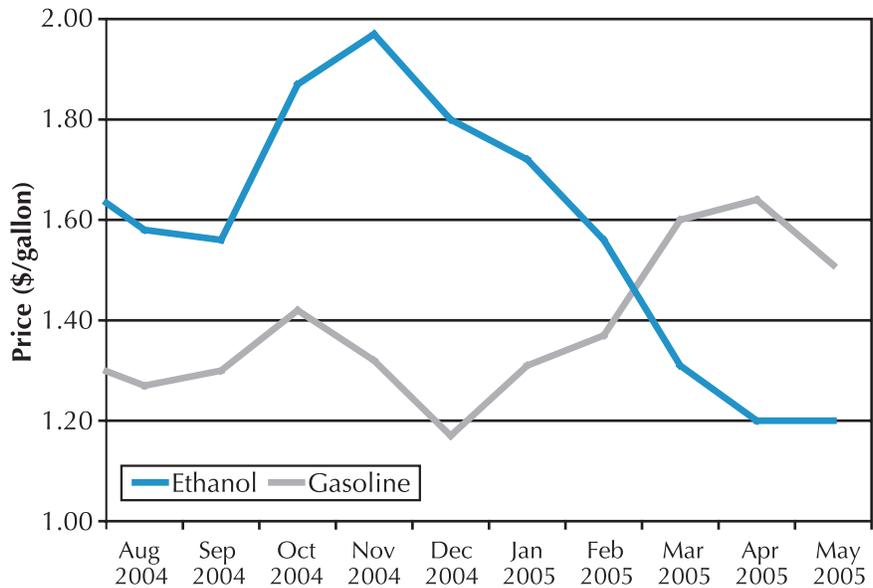


FIGURE 1. ETHANOL AND GASOLINE PRICES (RACK PRICES IN OMAHA)

with unleaded gasoline prices; both are around \$1.80 per gallon on the Omaha wholesale market.

To look at what caused the divergence, we have to look at the relationship between ethanol and unleaded gasoline and the growth of the ethanol industry. Ethanol is both a complement to and a substitute for unleaded gasoline. Most ethanol consumers use ethanol through blended mixtures of unleaded gasoline and ethanol, with ethanol making up only a small percentage of the product. In this capacity, ethanol serves as a complementary product to unleaded gas and ethanol usage increases with unleaded gas usage. But over the last several years, ethanol's ability to compete with unleaded gasoline as automotive fuel, through the promotion of E-85 and flexible fuel vehicles, has grown. This change is one factor breaking the link between unleaded gas and ethanol prices.

The growth in the ethanol industry has also changed the pricing relationship. Table 1 shows how ethanol production capacity has grown over the past year and the amount of expansion that is currently being undertaken. Last spring,

ethanol industry numbers showed a planned expansion of roughly 14 percent of capacity. Figures today show the production capacity actually increased by 22 percent, with plans to add an additional 1.0 billion gallons of ethanol capacity shortly. Almost all of the expansion to date has been in midwestern states. Over the past 15 months, Iowa has led the way, with over 240 million gallons in new ethanol production capacity. Illinois, Minnesota, Nebraska, South Dakota, Wisconsin, Kansas, and Missouri have all added at least 40 million gallons each. Looking forward, Iowa also is leading the way in future expansions. Current plans call for an additional 665 million gallons of production capacity in Iowa alone. New ethanol plants are also planned in southwestern states. California, Colorado, New Mexico, and Texas will each be adding at least 15 million gallons of ethanol production capacity. With these planned expansions, ethanol capacity will soon reach 4.9 billion gallons per year. With Congress considering a renewable fuel standard of 7.5 billion gallons per year by 2012, there is still plenty of room for the ethanol industry to continue to grow. If the energy bill is signed into law, the ethanol industry will need to

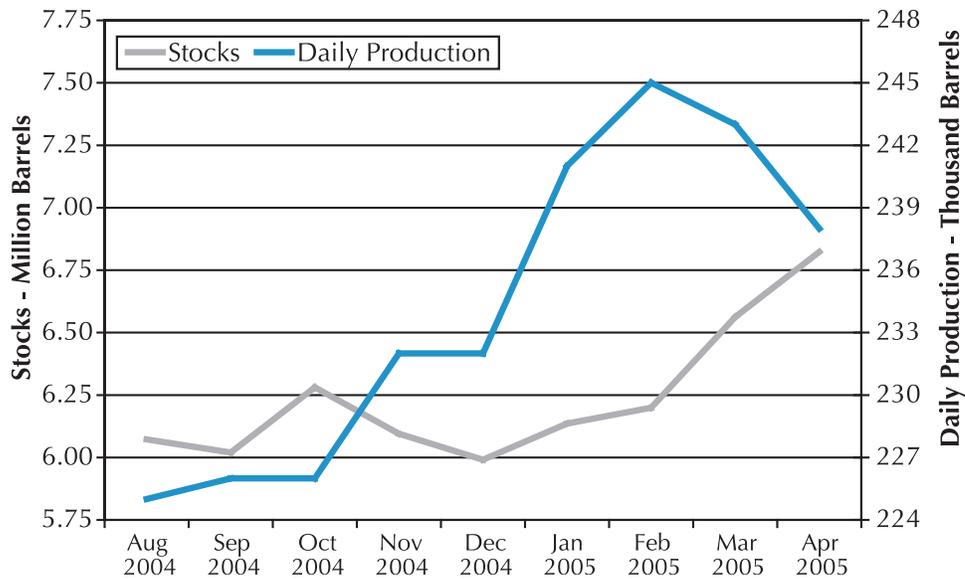


FIGURE 2. ETHANOL STOCKS AND DAILY PRODUCTION

TABLE 1. ETHANOL PRODUCTION

State	March 2004 Capacity	Current Capacity	Capacity after Planned Expansions
(million gallons per year)			
Iowa	714	955	1,620
Illinois	734	774	824
Minnesota	418	459	544
Nebraska	405	503	503
South Dakota	377	458	458
Wisconsin	91	170	210
Kansas	110	165	165
Missouri	60	105	105
Indiana	95	102	102
North Dakota	39	39	89
Tennessee	65	67	67
Michigan	45	50	50
Colorado	2	2	44
California	9	8	33
New Mexico	15	15	30
Texas	0	0	30
Kentucky	24	26	26
Wyoming	5	5	5
Ohio	0	3	3
Washington	1	1	1
Idaho	4	0	0
Total	3,211	3,904	4,906

expand by an additional 53 percent to meet the new standard.

### PRODUCTION HEATS UP

The growth in production capacity is matched by the growth in production. Figure 2 shows the average daily production of ethanol per month and the amount of ethanol held in stock each month from August 2004 to April 2005. The ethanol industry set an all-time production record for average daily production in August 2004 and continued to set new records until February 2005. While production has cooled off recently, it is still quite high. Ethanol usage managed to keep pace for awhile, but by March 2005, ethanol stocks started to accumulate. In economic terms, ethanol supply was outstripping demand. This put downward pressure on ethanol prices, regardless of events affecting unleaded gas prices.

As the current daily prices for ethanol are running 60¢ per gallon above the May 2005 monthly levels, it looks as though the ethanol market has worked through the short-term oversupply toward a new equilibrium. The ethanol market is still an emerging market. The industry still has domestic fuel markets with limited ethanol availability and faces significant distributional and marketing issues. An ethanol infrastructure is being developed to produce, ship, and utilize ethanol, but it is not nearly as complete as the infrastructure for unleaded gas. Ethanol demand cannot react as quickly to price signals as can unleaded gasoline demand. Given these issues combined with the large leaps in ethanol production, it is not surprising that the ethanol market went through a price decline with a delayed recovery.

### POSITIVE PROFITABILITY—FOR NOW

But as the numbers show, even the recent downturn in ethanol prices has done little to slow ethanol's growth. Investors in the industry

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# CAFTA's Projected Impact on U.S. Sugar

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The Central American Free Trade Agreement (CAFTA) is a trade agreement between the United States and Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic. Trade representatives from these Central American countries signed CAFTA in August 2004, and the Dominican Republic joined in 2005 (it is now officially abbreviated CAFTA-DR). CAFTA is targeted at reducing or eliminating trade barriers among the countries for many sectors, including information technology, agriculture, construction, pharmaceuticals, automobiles, medical equipment, and services.

In agriculture, corn, wheat, rice, soybeans, poultry, pork, beef, dairy, fruits, and vegetables are expected to benefit from CAFTA. The House just approved the agreement, a month after the Senate passed the bill, and CAFTA is now headed for the president's signature.

## SUGAR, PAST AND PRESENT

One area of CAFTA that has received a great deal of attention is the sugar agreement. The Central American countries and the Dominican Republic will eliminate their sugar tariffs over 15 years. The United States will

establish additional tariff rate quotas (TRQs) for the CAFTA countries, starting with an additional 107 thousand metric tons in the first year and adding 2.64 thousand metric tons each year thereafter. The United States is also allowed to provide alternative forms of compensation to limit some sugar imports for stock management purposes.

The U.S. sugar industry had lined up in opposition to CAFTA. To look at the impact of this agreement on the U.S. sugar industry, we examined the historical, current, and projected sources of sugar for U.S. sugar utilization (consumption, stock changes, and exports). Figure 1 shows the breakdown for 1997. Total U.S. sugar utilization was 9.98 million short tons. U.S. sugar production accounted for 72 percent of this amount, while imports made up 28 percent. The CAFTA countries provided 6 percent of the sugar. Figure 2 shows the current situation. Total U.S. sugar utilization is 10.11 million short tons. Domestic production covers 83 percent, CAFTA country imports make up 3 percent, and other imports contribute 14 percent. Sugar imports from CAFTA countries fell from 661 thousand short tons in 1997 to 344 thousand short tons in 2005.

## SUGAR FUTURE, WITH AND WITHOUT CAFTA

Figures 3 and 4 show projections for 2014. In Figure 3, the projections do not include the effects of CAFTA. U.S. sugar production covers 81 percent of U.S. sugar utiliza-

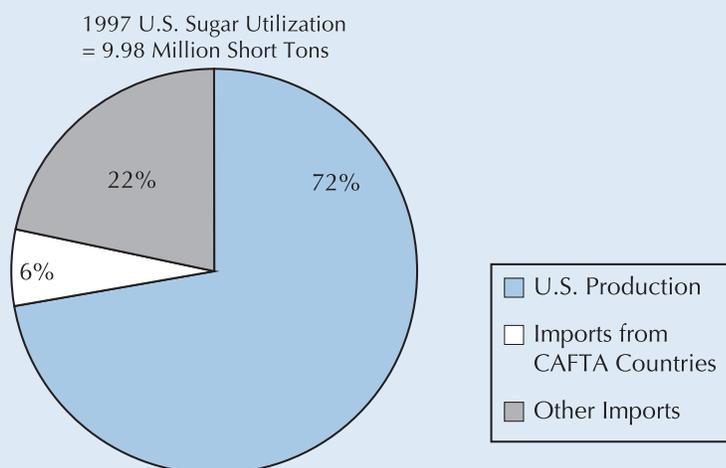


FIGURE 1. BREAKDOWN OF U.S. SUGAR UTILIZATION IN 1997 BY SOURCE

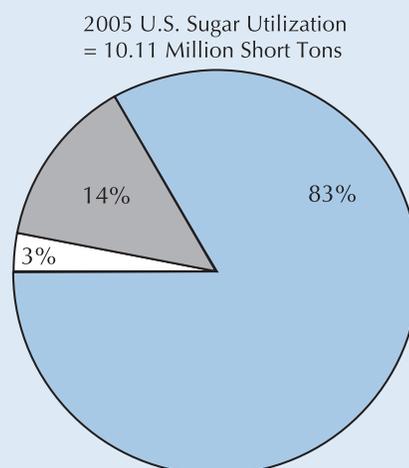
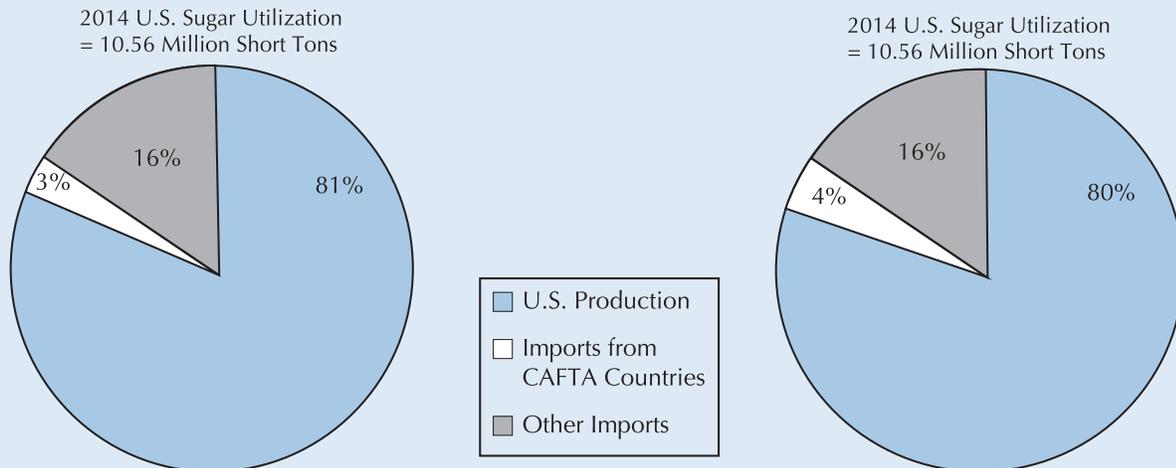


FIGURE 2. BREAKDOWN OF U.S. SUGAR UTILIZATION IN 2005 BY SOURCE

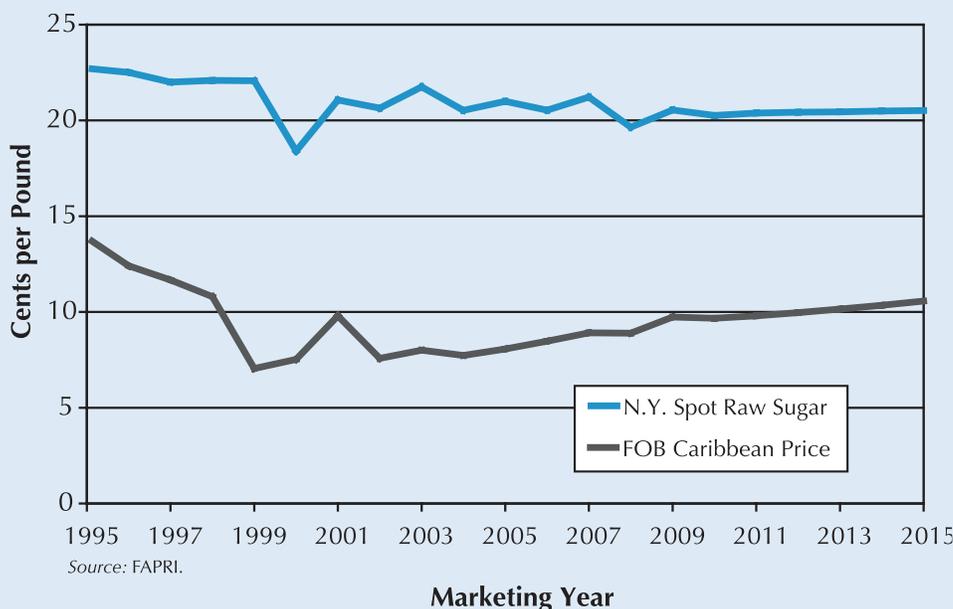


**FIGURE 3. PROJECTED BREAKDOWN OF U.S. SUGAR UTILIZATION IN 2014 BY SOURCE, ASSUMING NO CAFTA**

**FIGURE 4. PROJECTED BREAKDOWN OF U.S. SUGAR UTILIZATION IN 2014 BY SOURCE, ASSUMING PASSAGE OF CAFTA**

tion, while CAFTA countries supply 3 percent. The Figure 4 projections include the effects of CAFTA and assume 2014 is the eighth year of the agreement. This implies a total sugar TRQ for the CAFTA countries of 488 thousand short tons in 2014. If the additional CAFTA imports directly replace U.S. production, the impact of CAFTA on the U.S. sugar market is a 1 percent shift in market share from domestic production to the CAFTA imports. Assuming that sugar loan rates remain at their current levels, the biggest shift would be in government stock holdings of sugar. In a March 2004 report, the USDA's Economic

Research Service analyzed a much larger sugar TRQ expansion for the Free Trade Area of the Americas. This study found that imports rose with the TRQ expansion, U.S. production fell by nearly the same amount (mainly because of use of USDA's Payment-in-Kind Diversion Program), government sugar stocks increased, and prices remained at similar levels. This implies that there will be no impact on U.S. sugar prices under CAFTA. Figure 5 shows that the U.S. sugar price will remain far above the price at which we could import with or without CAFTA. ♦



**FIGURE 5. U.S. AND WORLD SUGAR PRICES AND PROJECTIONS**

## Cattle Producers Need a Quality System Assessment for Japan

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When Japan reopens its borders to U.S. beef, producers of cattle from which beef will be harvested for export to that country must comply with the regulations of the Beef Export Verification Program (BEV) for Japan. The primary requirement affecting cattle producers is verification that their cattle are less than 21 months of age at the time of slaughter. To qualify under the BEV for Japan, producers and processors of any cattle that will provide beef for the Japanese market must participate in a Quality System Assessment (QSA) program that has been pre-approved by the USDA's Agricultural Marketing Service. That is, unlike Country of Origin Labeling (COOL), which accepts an auditable record, Japan is requiring that cattle must have been raised by cowherds, backgrounders, and feedlots that are covered under a QSA program. Records documenting age of the cattle and signed affidavits by the producer are needed, but these alone are not enough.

According to USDA, under the Japanese BEV program requirements, processors must have a QSA program to

1. Ensure that cattle purchased or received from outside establishments and used in the program meet the age requirements.
2. Evaluate and select suppliers based on their ability to supply product that conforms.

3. Establish and implement the inspection or other activities necessary for ensuring that product purchased or received from outside establishments conforms to the age requirements.
4. Have a documented procedure addressing supplier selection, evaluation, and re-evaluation.
5. Maintain records of the results of supplier evaluations and any necessary actions arising from the evaluation.
6. Maintain records to provide evidence of conformity to the receiving process and of the effective operation of the receiving process.

### WHO SHOULD PARTICIPATE IN A QSA PROGRAM?

Under the current proposal, only cattle used to supply beef for Japan will need to be covered by a QSA program for age verification. Cattle that are not part of a QSA program will still trade in the existing market but not with Japan.

Producers who consistently sell to only one buyer, one with an approved QSA program, can simply fill out the QSA paperwork for that buyer. Examples include retained-ownership producers who sell to only one packer and cowherd producers who sell to a large feedlot with a QSA program. A feedlot that buys feeder cattle must either have its own QSA program and qualify its suppliers under that program or buy cattle that are covered under a packer's QSA or an independent QSA program.

Packers and feedlots that have their own QSAs and approved supplier lists are not likely to share these lists with competitors, and cattle are not transferable among individual packers' QSA programs. On the other hand, independent

QSA companies such as identification companies will make their qualified suppliers known in order to attract buyers to their customers' cattle. Thus, producers who wish to qualify for export to Japan and to have more marketing flexibility should consider joining an independent QSA.

### PROGRAM OPTIONS

Cattle producers have three options for selling cattle for beef to Japan. They can (1) participate in a packer's QSA program, (2) develop their own QSA program and get it approved by USDA, or (3) participate in the QSA program of an independent company. Producers participating in USDA Processed Verified Programs are also eligible to sell into the BEV for Japan program. Among other things, the owner of a QSA program must conduct internal audits of its system and maintain a list of approved suppliers. Because final approval for the BEV for Japan is pending, QSA programs may need to be updated to conform to the official version.

Producers who participate in a single packer's QSA will need to maintain records specific to that program. As a result, cattle covered under one packer's QSA program cannot be sold to another packer. A producer who sells cattle to more than one packer and participates in each packer's QSA program must maintain a separate set of documents for each company.

Producers who develop and get approval for their own QSA program or participate in a QSA program independent of any individual packing company can sell to any buyer by documenting their QSA participation. While large feedlots may choose to develop and maintain their own QSA, smaller-scale producers may choose to participate in an established independent QSA program. A list of USDA-approved QSA programs

can be found on the Web at <http://www.ams.usda.gov/lsg/arc/qsap.htm>. While most of the companies approved to date are feedlots and packers, other members in the supply chain may offer a QSA, including animal identification companies.

An advantage of participating in an independent program is that multiple systems can be managed under one umbrella program. Whereas a packing company will only want to document product requirements for its own product lines, an umbrella program can offer a broader range of verifications. Receiving animals from producers covered by these umbrella programs may also benefit packers, who would not incur the risks associated with approving suppliers. In addition to animal age, for example, a producer may want to document a breeding program or verify source of origin to increase marketing opportunities.

#### QSAs AND COUNTRY-OF-ORIGIN LABELING

QSA programs have been created to ensure compliance with specific import requirements of other countries.

As such, a QSA program will not be required for domestic programs such as the U.S. COOL program. The COOL program would require that producers keep records to verify compliance but would not require a pre-approved USDA system.

#### QSAs AND THE NATIONAL ANIMAL IDENTIFICATION SYSTEM

One of the realities of a QSA for Japan age verification is that the animals be identified and their birth date recorded, at least by group. The National Animal Identification System will require that all cattle be individually tagged with an ear tag. Producers may be able to participate in a QSA program through their identification supplier. When evaluating identification suppliers, producers should ask the following questions.

- Is the company's QSA program approved for age verification to Japan?
- Is the company's QSA program compliant for COOL?
- What else does the company's QSA program include?

#### PLAN NOW FOR FUTURE ACCESS

While the Japanese market is not currently open, some calves born this spring will likely be exported to Asian markets. To qualify for export to Japan, the animal must have been 20 months of age or younger at slaughter and born, raised, and processed by farms and firms that are in a USDA pre-approved QSA program. Relatively few of these programs exist today, but the number is growing. Producers should consider their options: whether they want to establish their own QSA, sell to a buyer who has a QSA program, or participate in an independent QSA program. Although any sector in the beef supply chain may develop a QSA program, identification suppliers and producer organizations are expected to provide the independent QSA service. ♦

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## Recent CARD Publications

### STAFF REPORTS

Batrez-Marquez S., Patricia and Helen H. Jensen. Rice Consumption in the United States: New Evidence from Food Consumption Surveys. July 2005. 05-SR 100.

### WORKING PAPERS

Dong, Fengxia. The Outlook for Asian Dairy Markets: The Role of Demographics, Income, and Prices. June 2005. 05-WP 399.

Fabiosa, Jacinto F., Growing Demand for Animal-Protein-Source Products in Indonesia: Trade Implications. July 2005. 05-WP 400.

Fuller, Frank H., Jikun Huang, Hengyun Ma, and Scott Rozelle. The Rapid Rise of China's Dairy Sector: Factors Behind the Growth in Demand and Supply. May 2005. 05-WP 394.

Gassman, Philip W., Jimmy R. Williams, Verel W. Benson, R. César Izaurralde, Larry M.

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Hennessy, David A. Feeding and the Equilibrium Feeder Animal Price-Weight Schedule. June 2005. 05-WP 395.

Hennessy, David A. Informed Control Over Inputs and Extent of Industrial Processing. June 2005. 05-WP 398.

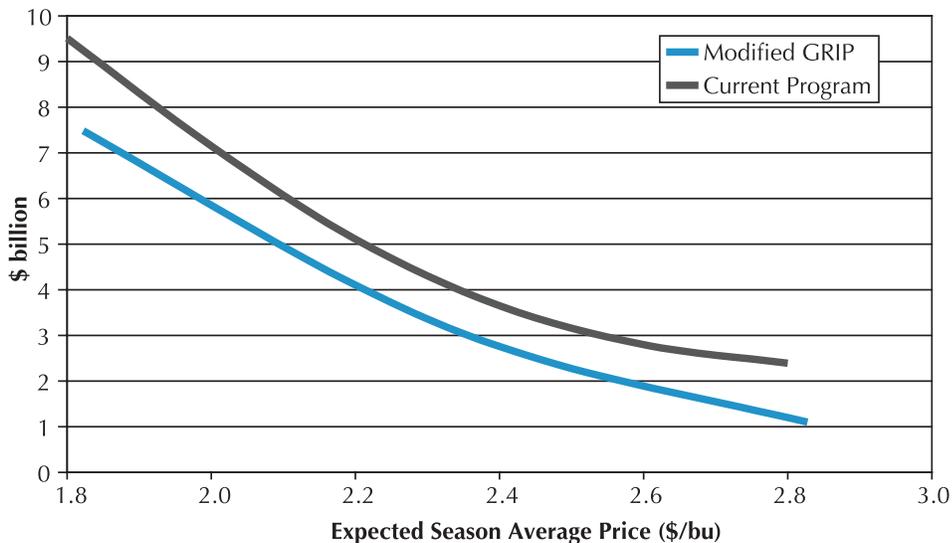
Reungsang, Pipat, Ramesh S. Kanwar, Manoj Jha, Philip W. Gassman, Khalil Ahmad, and Ali Saleh. Calibration and Validation of SWAT for the Upper Maquoketa River Basin. June 2005. 05-WP 396.

*Safety Net Design for the New Farm Bill*  
Continued from page 3

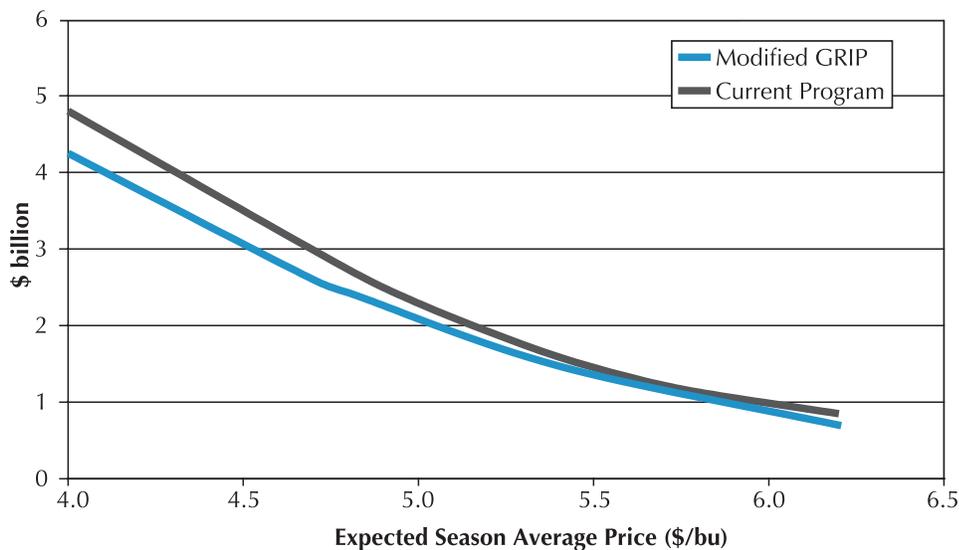
price is less than the product of expected county income and a national target price. This type of program would provide efficient protection against both low prices and low yields while saving money on ad hoc disaster payments and the crop insurance program. To provide more insight into the cost of such a program at the national level, let's look at cost estimates of such a program for corn and soybeans at the national level.

Figures 3 and 4 compare the expected costs of a modified GRIP program with the current program for corn and soybeans, respectively. Cost estimates are assumed to be made before a crop is planted, so both yields and prices are unknown. The revenue program is set up with a national target price of \$2.46 per bushel for corn and \$5.40 per bushel for soybeans. These prices are equivalent to the amount of protection provided by the 2002 farm bill programs. Farmers in a county would receive a payment if their county yield times the season average price (the same price used to calculate current countercyclical payments) fell below their expected county yield (the county trend yield) times these target prices. As shown in Figures 3 and 4, the expected cost of such a revenue program for a crop year would depend on the expected season average price. If prices are expected to be strong, then expected costs will be low. Weak expected prices lead to high expected costs. This pattern between expected price and expected costs holds true for the current farm programs as shown.

We estimate that a revenue program that provides the same level of per bushel support as does the current program to all planted acres would cost about the same for soybeans and would cost perhaps \$1 billion less for corn. Thus, Congress could likely save money by targeting revenue directly. In addition to the



**FIGURE 3. COMPARISON OF THE EXPECTED COST OF THE CURRENT CORN PROGRAM VERSUS MODIFIED GRIP**



**FIGURE 4. COMPARISON OF THE EXPECTED COST OF THE CURRENT SOYBEAN PROGRAM VERSUS MODIFIED GRIP**

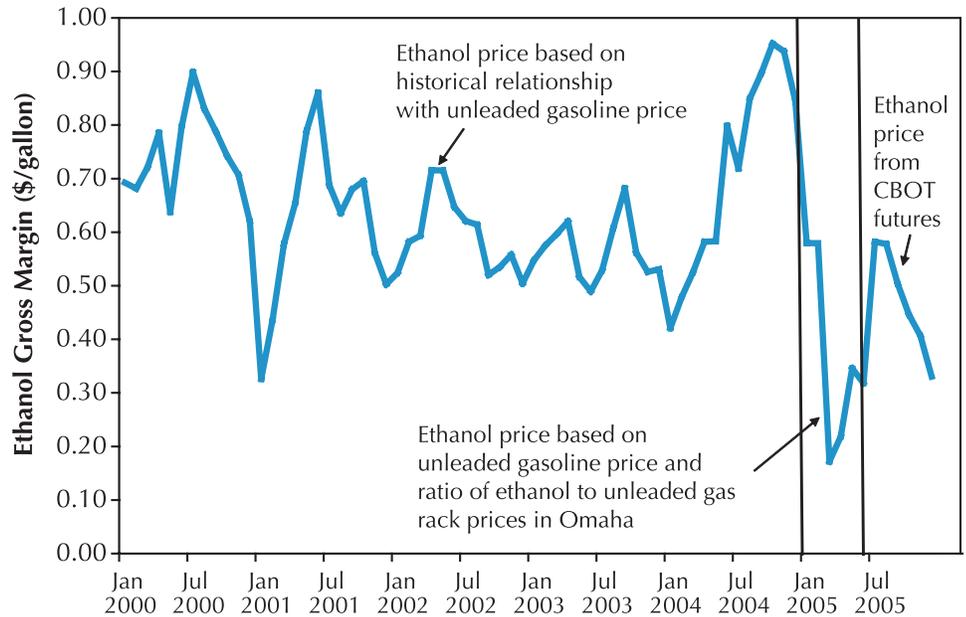
likely cost savings, additional savings would come about from the crop insurance program. Assuming that 75 percent of the risk in the crop insurance program would be rendered redundant by a farm bill program that targeted revenue, we calculate that annual savings of approximately \$1.4 billion would accrue to the eight major program crops. Such savings and the resulting transformation of the crop insurance program that would result might satisfy even the strongest critics of the current program.

Advocates of a strong safety net for agriculture face the challenge of explicitly identifying why agriculture needs such a safety net, who should benefit from a safety net, and what tool or tools should be used to develop a cost-effective safety net. In selecting the tools to be used, guidance might be taken from the fact that most farmers are choosing to insure their crops with revenue insurance. After all, it is with revenue that farmers pay their production costs. ♦

*Ethanol Revisited*  
Continued from page 7

still see the potential for profit in the ethanol market. In March of this year, the Chicago Board of Trade began trading ethanol futures contracts, providing a financial tool to mitigate risk in the ethanol industry. While the trading volume has been small, the ethanol futures price movements have paralleled the cash price movements. Over the last month, ethanol futures have gone up by 30¢ per gallon. The nearby contracts are now trading in the \$1.60 per gallon range, with the end-of-year contracts priced around \$1.50 per gallon.

Given the ethanol futures contracts, we have modified our profitability index for ethanol. Our index compares the costs of the inputs into ethanol, corn and natural gas, to the revenues from ethanol and its co-products, such as dried distillers grains and solubles (DDGS). The index can be thought of as a gross margin for ethanol production, the difference between per unit revenues and costs of ethanol production. The index does not imply that all ethanol plants will make a profit, but it does signal the potential for profits within the industry. With current ethanol, corn, and natural gas futures prices, we can calculate the expected values of the profitability index for ethanol production. Based on a dry-mill production technique for ethanol, one bushel of



**FIGURE 3. HISTORICAL AND PROJECTED ETHANOL GROSS MARGINS**

corn and 165 thousand British thermal units of natural gas are needed to create 2.7 gallons of ethanol and 17 pounds of DDGS. Figure 3 shows the historical and projected levels of the profitability index. Given the futures prices on July 14, 2005, the profitability index for ethanol in August 2005 is at 58¢ per gallon of ethanol, meaning the per gallon expected revenues from ethanol and DDGS exceed the per gallon expected costs of corn and natural gas by 58¢. But the futures prices show a downward trend in ethanol prices and upward trends in corn and natural gas prices. For December 2005, the index is down to 33¢ per gallon. It is still positive, re-

flecting the possibility of profits in the industry, but highlights the expected tightening in the ethanol market.

Over the last 15 months the ethanol industry has gone through a volatile period. The industry has experienced significant growth and dramatic price swings. Given the planned expansions in ethanol plant capacities and a renewed effort by Congress to pass an energy bill, the ethanol industry is looking to continue its growth, but until the demand and infrastructure for ethanol mature, we can expect to see more dramatic price swings in ethanol's future that are not necessarily related to events in oil markets. ♦

*A New World Market for U.S. Beef*  
Continued from page 5

beef markets. Mexico has become and will remain the largest market for U.S. beef and beef variety meats for some time. To balance demand for the types and cuts of beef the U.S. industry produces, the United

States will face an uphill battle in recapturing market share in other countries, especially in high-value markets that have been highly resistant to accepting U.S. beef. Once Japan reopens to U.S. beef, that country's beef safeguard mechanism is likely to hamper these efforts because of lower quarterly

trigger levels. And, closing the border to Canadian live cattle has exacerbated these challenges because the United States will face Canada's increased ability to place high-quality beef into world markets. ♦

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