



U.S. Farm Policy and the WTO

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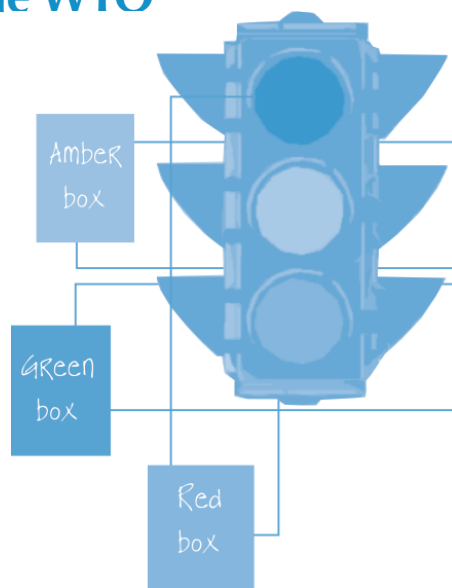
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How is your proposal WTO-compliant? This is a question that farm groups must be prepared to answer when they travel to Washington looking for increased subsidies. That an international trade agreement should be playing such a prominent role in shaping U.S. farm programs may be surprising. But this prominence is likely to continue as long as the United States remains committed to expanding world trade through negotiated agreements.

Many people both inside and outside of agriculture do not realize that the United States put strict limits on its ability to subsidize U.S. farmers. It did this to win agreement from other countries to limit their own subsidies. Because we are a net exporter of agricultural products, U.S. producers should expect to see a gain from such trade-expanding agreements. But the downside of the agreement—at least from the point of view of U.S. producers—is that Congress no longer has complete freedom in its design of farm programs.

WHAT IS THE WTO?

The World Trade Organization (WTO) is the successor organization to the General Agreement on Tariffs and Trade (GATT). Its mission is to provide a mechanism to resolve trade disputes between



countries and to expand international trade by lowering existing barriers and preventing new ones. The WTO is an institution with staff members, but WTO is also used as shorthand to refer to sector-level trade agreements that exist within the WTO. Agriculture has such an agreement. It is called the URAA (Uruguay Round Agreement on Agriculture).

In the URAA, domestic subsidy programs are classified according to their impact on trade flows. The classifications are often described in terms of colored boxes: “green” for those programs that have minimal impacts on trade, “amber” for programs that have important impacts, and “blue” for programs that are explicitly allowed in the agreement. The URAA places no limits on green and blue box programs. Expenditures under amber box programs are limited. The analogy of a traffic stoplight adequately describes what can be done to sup-

port domestic producers under the WTO. Countries can continue (“Go”) all green and blue box programs at any level of funding. Countries may continue to use amber box policies as long as the expenditures on them do not exceed set levels (“Proceed with caution”). Outlawed policies are placed in a “red” box (“Stop”).

Detailed rules determine the classification of domestic subsidy programs. Blue box policies are production-limiting policies that base payments on fixed yields and acreage. Payments must be limited to 85 percent of the base level of production. The old U.S. target-price-deficiency payment program that existed before 1996 was a blue box program. Green box policies are those that have minimal trade impacts. Payments from green box policies cannot be linked to current production and/or prices.

Limits on amber box expenditures are based on a country’s level of support over a base period. The countries that signed the URAA agreed to limit amber box spending to a level at or below their level of support during the base period. Developed countries (for example, the United States, Canada, and Australia) and confederations (the European Union) agreed to 20 percent reductions in their amber box limits by 1999. Within the amber box, programs can be exempted from the limits if their payment amounts are considered too small to count. These exemp-

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tions are referred to as *de minimis* exemptions.

For developed countries, a 5 percent *de minimis* rule is used. For crop- or product-specific support, a policy can be declared *de minimis* if the expenditures under the policy are less than 5 percent of the value of production for the commodity. For non-crop- or non-product-specific support, all such policies can be declared *de minimis* if total expenditures under all of the policies are less than 5 percent of the total value of agricultural production in the country.

WHAT BOX FOR CURRENT U.S. PROGRAMS?

Farm groups want their policy proposals to be classified as green box, because that would mean that Congress would have complete freedom to fund the program at any desired level. However, few programs can be classified as green box. To see why, we can examine the classification of U.S. farm programs for the 1995-1997 marketing years, the only years that the United States has submitted reports to the WTO.

PFC Payments

The Production Flexibility Contract (PFC) payments, which are one cornerstone of the 1995 FAIR (Federal Agriculture Improvement and Reform) Act, fall in the green box. PFC eligibility requirements and the amount of payments are based on historical production patterns over a fixed base period. Current production decisions (even the decision not to produce at all) do not affect the size of the payment. Given that there is no link between current production and PFC payments, these payments should have no effect on future production and therefore are not trade distorting.

Price Supports and Marketing Loans

Price support and marketing loan programs fall in the amber box be-

cause payments depend directly on current production and prices. Given this link, the programs influence future production decisions and have trade-distorting effects. For example, current loan rates have fueled expansion of soybean acreage relative to corn and wheat acreage. The larger supply has decreased world soybean prices, expanded U.S. exports, and reduced other countries' soy exports. Clearly this direct effect on trade flows means that LDP payments fall in the amber box.

Crop Insurance Payments

The other major U.S. program currently available is the crop insurance program. Government-provided insurance or safety net programs are green box if

1. they insure income only from agricultural sources;
2. they insure losses only in excess of 30 percent of average gross income (or an equivalent amount of net income) where average income is determined by past income levels; and
3. indemnity payments combined with payments from a natural disaster relief program do not exceed 100 percent of the producer's total loss.

Net crop insurance payments (indemnities less the producer premium) clearly fall in the amber box because coverage above 70 percent is allowed and indemnities are not based on average past income levels.

Emergency Assistance

Over the last three years, the federal government has substantially increased agricultural subsidies with annual emergency assistance packages. These packages included market loss assistance (MLA) and crop loss assistance payments for several commodities. The crop loss assistance payments were constructed to be exempt from WTO limits. However, there is some question as to whether the MLA payments are amber or green

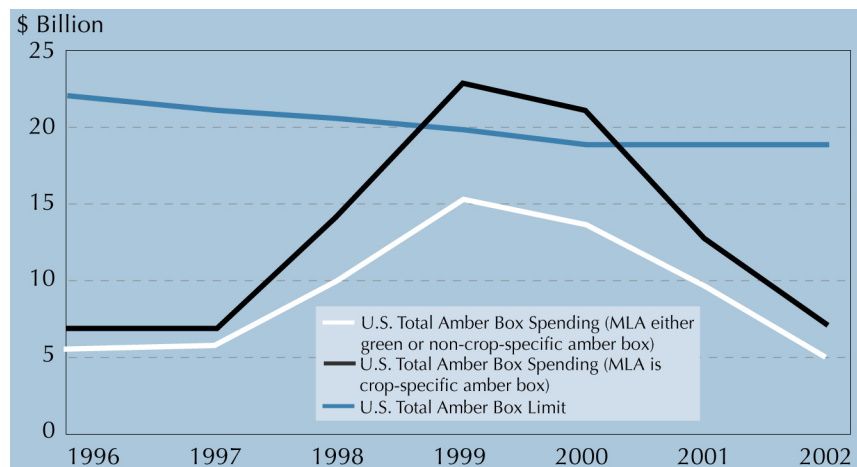
box. Clearly, Congress made the payments in response to low market prices. This suggests that they are amber box. But the payments are based on the PFC formulas that are green box, which suggests that they should be classified the same way. After all, there is no formula linking the payments to current market prices. Any link to current prices is derived from interpreting the intent of Congress.

There is also some question about whether the payments are crop-specific or non-product-specific. The structure of the payments is non-product-specific because current production has no impact on the payments. But the payment rates are crop-specific. How the MLA payments are classified makes a big difference because their classification determines whether or not the United States exceeded its amber box limits.

HAS THE U.S. MET ITS WTO COMMITMENTS?

Figure 1 shows that whether the U.S. has met its WTO commitments depends on whether the MLA payments are classified as amber or green box and whether they are classified as crop-specific or non-crop-specific payments. The blue line in Figure 1 shows the WTO amber box limits for the United States. The white line shows actual (for 1996 and 1997) or projected (after 1997) amber box payments if the MLA payments are classified either as green box or as non-crop-specific payments. The two classifications give the same result because as non-crop-specific payments, the MLA payments can be characterized as *de minimis*, and do not count toward amber box limits. They would be classified as *de minimis* because they do not exceed 5 percent of the value of total agricultural production.

However, as shown by the black line in Figure 1, if the MLA payments are classified as amber box and crop-specific payments, then the



Note: Actual numbers are reported for 1996 and 1997. Projections are made for 1998 and beyond.

FIGURE 1. Amber box commitments and spending levels under alternative classification of market loss assistance payments

United States has exceeded its amber box commitments. The difference arises because the payments for each crop would be compared to the value of each crop to determine if they could be classified as *de minimis* under the 5 percent rule. Our calculations indicate that they exceed the 5 percent rule, so they would count toward the amber box limits. As shown, this interpretation leads to higher amber box payments, adding enough to push the United States past its limits in both 1999 and 2000.

WHAT BOX FOR PROPOSED PROGRAMS?

As Congress attempts to design a new farm bill, judgments will have to be made regarding how new or adjusted policy complies with the amber box commitments shown in Figure 1. Policies that increase or rebalance the marketing loan rates change programs that are already marked as product-specific amber box spending programs. Given most price projections for 2001 and 2002, such changes would likely lead to higher amber box payments and push the United States even closer to its limit. The often-proposed flexible

fallow program would also be considered product-specific amber box spending, even though it has production-limiting features (like blue box programs), because the payments are triggered by current prices.

The Supplemental Income Payments (SIP) proposal is a product-specific amber box program because payments are triggered by shortfalls in current crop-specific prices or production. The Commission on 21st Century Production Agriculture's countercyclical proposal is non-product-specific as it looks at income across eight crops. But our interpretation of the URAA indicates that it also would be considered amber box because current prices and production from the eight crops are used to determine the overall amount of payments. New policies that include environmental payments could also fall into the amber box if the payment exceeds the additional cost or loss of income that producers face in implementing the requirements of the program.

Most current farm bill proposals keep the existing programs in place. This implies that any additional ex-

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Iowa's Agricultural Situation

Markets React to Prospective Plantings Report and Foot-and-Mouth Disease News

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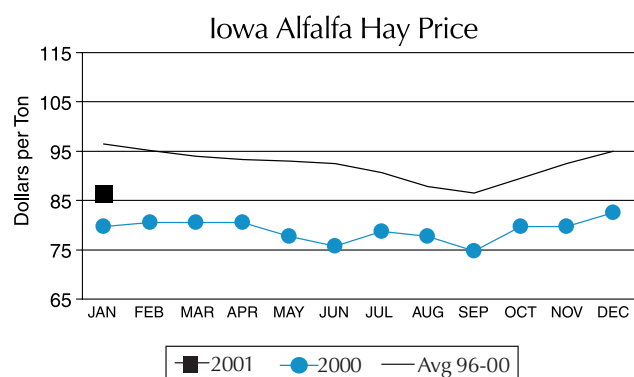
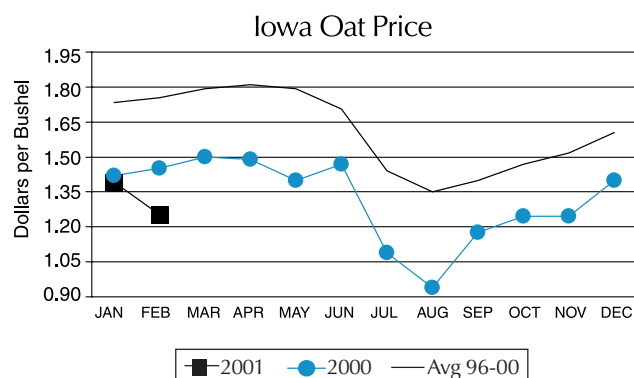
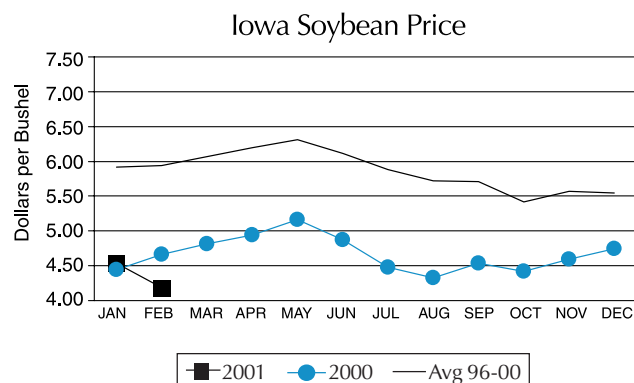
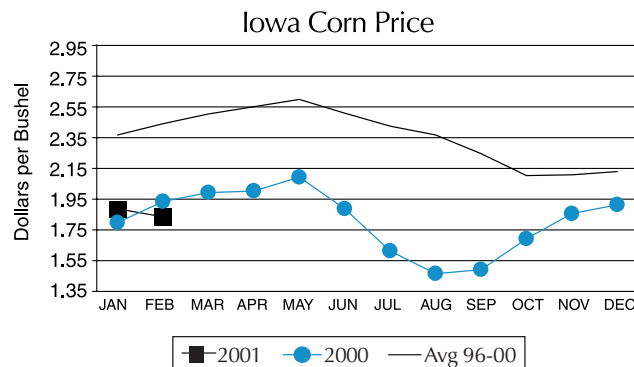
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As planting time approaches here in Iowa, the crop markets are reacting to the prospective plantings figures released by the U.S. Department of Agriculture's National Agricultural Statistics Service at the end of March. For the first time since 1983, intended soybean acreage nationwide is equal to intended corn acreage. Both crops are being estimated at 76.7 million acres for the 2001 growing season. This represents a drop of 4 percent from last year for corn and a rise of 3 percent from last year for soybeans. All regions of the country, except the Northeast, report reduced corn planting intentions. Reasons given include high fertilizer and input costs, low corn prices, wet weather along the Gulf Coast, and lower water reserves in the Southeast. Most of the acres shifted out of corn are intended for soybeans. In over two-thirds of the soybean-producing states, intended soybean acreage is higher than last year. In Iowa, intended corn acreage for 2001 is 11.9 million acres, down 400,000 acres from 2000 levels. Intended soybean acreage is 11 million acres, up 300,000 acres from 2000.

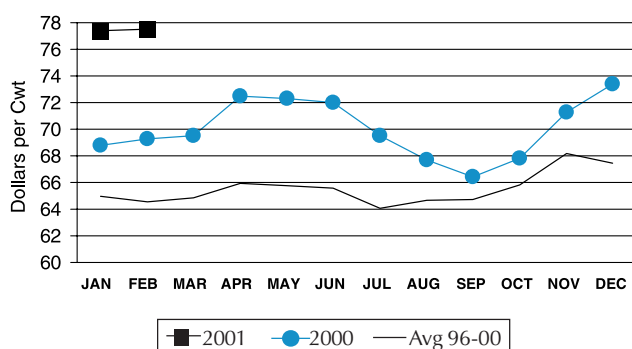
On the day of the *Prospective Plantings* report release, the markets initially reacted with higher corn and lower soybean prices. However, by the end of the day, both corn and soybean futures contracts had set new contract lows. The higher soybean planting intentions, combined with news of testing for foot-and-mouth (FMD) disease in North Carolina, had taken their toll on prices. At the time of this writing, however, the markets had recouped some of these price declines. The FMD tests in North Carolina came back negative, and weekly export inspections were solid.

The report also indicates that producers will continue to plant biotechnology varieties of both corn and soybeans, even after the StarLink confusion. Nationwide, one-quarter of the corn crop in 2000 consisted of biotechnology varieties: 18 percent was *Bacillus thuringiensis* (Bt) insect-resistant corn, 6 percent was herbicide-resistant corn, and 1 percent was a stacked gene variety having both insect and herbicide resistance. Statewide, 30 percent of the 2000 Iowa corn crop was genetically modified: 23 percent was Bt corn, while 5 percent was herbicide resistant and 2 percent was a stacked gene corn variety. The 2001 intentions survey shows nationwide that corn producers intend to cut back slightly on Bt corn, but they intend to increase the percentage of their acres planted to herbicide-resistant varieties. According to the report, 24 percent of the intended crop will be genetically modified. This

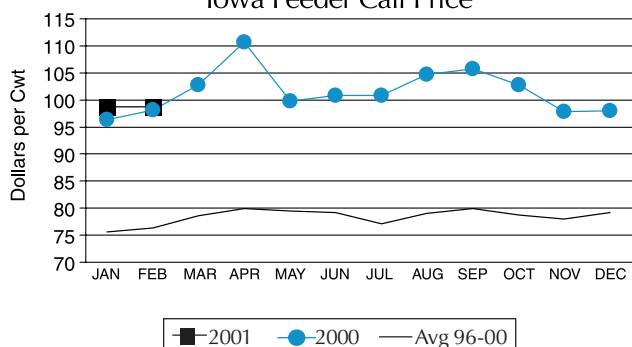
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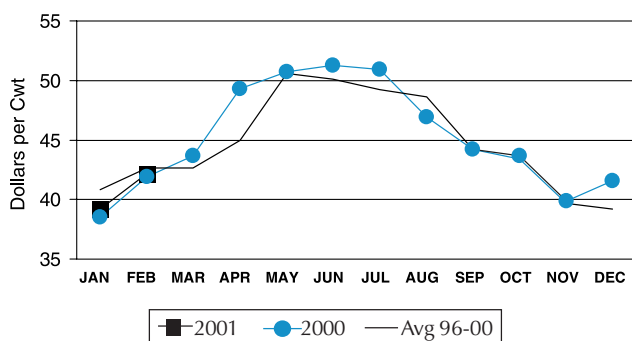
Iowa Steer and Heifer Price



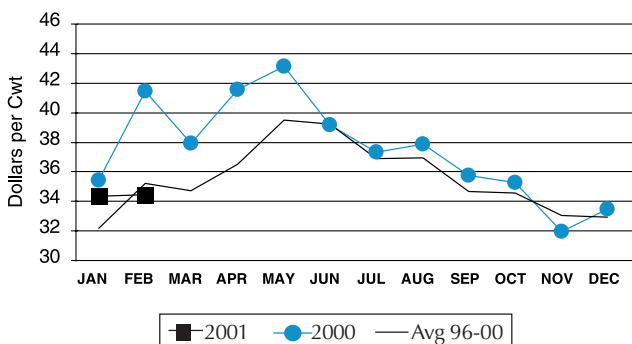
Iowa Feeder Calf Price



Iowa Barrow and Gilt Price



Iowa Sow Price



Iowa Cash Receipts Jan. – Dec.

	2000	1999	1998
(Million Dollars)			
Crops	4,979	5,004	6,300
Livestock	5,912	4,712	4,753
Total	10,892	9,716	11,053

World Stocks-to-Use Ratios

	Crop Year		
	2000/01	1999/00	1998/99
	(March Projection)	(Estimate)	(Actual)
(Percent)			
Corn	17.58	20.68	21.00
Soybeans	16.52	16.72	16.71
Wheat	18.24	20.99	23.24

Average Farm Prices Received by Iowa Farmers

	Feb.* 2001	Jan. 2001	Feb. 2000
(\$/Bushel)			
Corn	1.81	1.86	1.91
Soybeans	4.18	4.53	4.67
Oats	1.25	1.39	1.45
(\$/Ton)			
Alfalfa		86.00	80.00
All Hay		84.00	79.00
(\$/Cwt.)			
Steers & Heifers	77.50	77.40	69.30
Feeder Calves	99.00	98.90	98.30
Cows	40.30	38.50	39.60
Barrows & Gilts	42.20	39.20	41.90
Sows	34.50	34.40	41.50
Sheep†		45.70	37.40
Lambs†		67.00	68.00
(\$/Dozen)			
Eggs	0.41	0.37	0.49
(\$/Cwt.)			
All Milk		12.90	10.90

*Mid-month

†Estimate

trend also follows for Iowa. The percentage of intended Bt corn falls slightly, while acreage to be planted to herbicide resistant corn increases. Overall, 28 percent of the intended 2001 Iowa corn crop will be planted with biotechnology varieties.

In 2000, a majority of the nation's soybean crop was genetically modified. Fifty-four percent of the crop was herbicide resistant. In Iowa, the percentage was even higher, at 59 percent. The intentions for 2001 show continued growth for herbicide resistant soybeans. Nationally, producers indicate that 63 percent of the soybean crop will be of a biotechnology variety. Iowa soybean producers indicate that 62 percent of the new crop will be herbicide resistant.

In the livestock sector, the major concern is the current outbreak of foot-and-mouth disease in Europe. As of this writing, the United Kingdom had reported nearly 1,000 confirmed cases. France reported two cases. The Netherlands had ten cases. Ireland had a single case of FMD. Two other European countries, Germany and Denmark, were investigating suspected cases as well. In addition, Argentina has experienced a resurgence of FMD. In response to these outbreaks, the United States, Russia, and Japan have temporarily banned imports of live animals, frozen and chilled red meats, and other meats not meeting processing standards to remove the threat of the FMD virus spreading from the European Union and Argentina.

The primary domestic impacts will be on U.S. beef and pork imports. European Union beef imports were already restricted due to bovine spongiform encephalopathy (BSE). The import ban on European Union pork locks out one of our major suppliers—Denmark. The uncertainty about Denmark's FMD status, combined with this temporary ban,

has added and will continue to add volatility to both the U.S. hog and pork markets. Average hog prices have moved from \$39.10 per hundredweight (cwt) in February to \$45.10 in March. The uncertainty about European pork supplies will contribute more upward pressure on hog and pork prices.

Tighter beef supplies, FMD concerns, and the severity of the recent winter have helped boost retail beef prices. Average retail prices set a record for January at \$3.21 per pound. In February, average prices rose to \$3.34 per pound. Marketings are expected to rise as the spring progresses, putting downward pressure on prices.

Governor Vilsack has joined a chorus of people calling for additional U.S. safeguards for preventing the spread of foot-and-mouth disease. Concern over the possibility of infection has moved officials to test more domestic animals suspected of having the disease. The U.S. Department of Agriculture state agricultural departments are gearing up with more information about the disease, its transmission, and the economic impact it could have on the livestock sector and the U.S. economy. The Iowa Department of Agriculture and Land Stewardship has produced a pamphlet titled "Foot-and-Mouth Disease: What You Need to Know." It is available at www2.state.ia.us/agriculture/foot&mouth3.pdf.

Statewide cash receipts rose in 2000. Total cash receipts recovered to nearly \$11 billion, approaching 1998 levels and well above the \$9.7 billion in cash receipts for 1999. However, all of this recovery came in

the livestock sector. Crop cash receipts actually fell between 1999 and 2000 by \$35 million.

The reduction in crop cash receipts has not been paralleled by a similar reduction in cropland cash rental rates. In 1996, the U.S. Department of Agriculture reported average rental rates for Iowa of \$105 per acre of cropland. In 2000, the average rate rose to \$115 per acre. If crop cash receipts are not supporting cash rental rates, then what is? The answer may be government payments. The following table shows 1996–2000 values for crop cash receipts, average cropland rental rates, and fiscal year government payments for Iowa. While crop cash receipts have been decreasing over the last few years, government payments (mainly in the form of loan deficiency and market loss assistance payments) have been on the rise.

If these government payments have been incorporated into the cropland rental rates, then the payments are passed on to the landowners through the agricultural producers renting the land. If, however, rental rates are not closely tied to government payments, then cash-renting producers are negatively impacted by a reduction in government payments. The worst-case scenario for cash-renting producers would be if cash rental rates rise with increasing government payments but do not fall when the payments decrease (assuming everything else remains the same). In this case, the benefits from the increased payments accrue to the landowner, but the cash renter absorbs the losses from the subsequent drop in payments. ♦

Year	Crop Cash Receipts (\$ billion)	Average Cropland Rental Rate (\$ per acre)	Fiscal Year Government Payments (\$ billion)
1996	6.695	105	0.508
1997	7.354	110	0.713
1998	6.300	113	1.146
1999	5.004	112	1.876
2000	4.979	115	

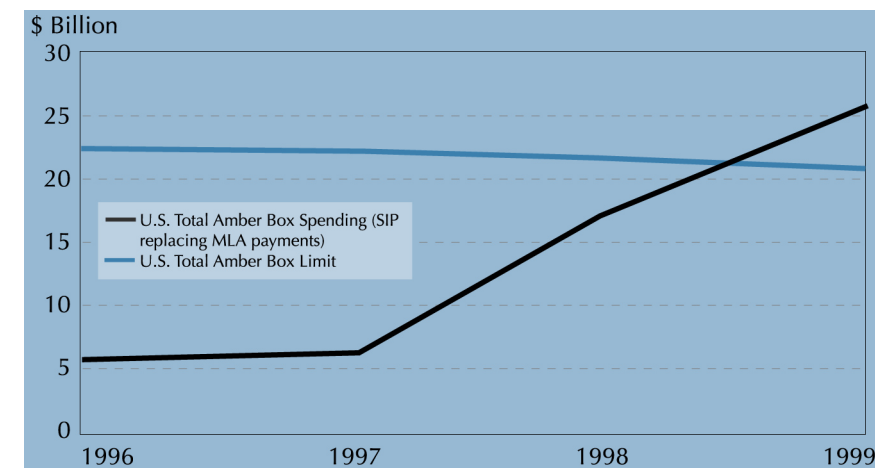
U.S. Farm Policy and the WTO
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penditure from these proposals would add to the U.S. amber box spending (barring *de minimis* exemptions). Therefore, the probability of the United States exceeding its WTO domestic support limit would increase under these proposals. For example, if the SIP proposal with a 95 percent coverage level had been in place instead of the MLA payments, then the United States would have exceeded the amber box spending caps in 1999. Figure 2 shows the estimated payments and the extent to which we would have exceeded the limits.

As the URAA now stands, the goal of having a new countercyclical farm program conflicts with the goal of reducing trade-distorting policies. Most variations on a countercyclical farm program would fail to qualify for a green box exemption, due to their very countercyclical nature. After all, how can a program be countercyclical if it cannot be based on current prices and yields? Efforts to construct a green box countercyclical farm program would require a redefinition of the meaning of "countercyclical." Adding a new amber box countercyclical program might require the elimination of one or more existing policies. Such a move could be justified because both the price support and crop insurance programs provide countercyclical support. A new program could substitute quite effectively for either program.

WHY THE WTO?

Why might it make sense for the United States to place limits on its



Note: Actual numbers are reported for 1996 and 1997. Projections are made for 1998 and beyond.

FIGURE 2. Total amber box spending with a 95 percent SIP program

ability to subsidize agriculture? There are two reasons. The first is that as a large exporter of agricultural products, U.S. farmers will benefit from increased agricultural trade. Of course, some producers who compete directly with imports, such as producers of sugar, dairy products, and peanuts, would face increased competition from freer trade, but, overall, U.S. producers would be big winners from expanded trade. Thus, it makes sense for the United States to limit its subsidies in exchange for limits on other countries' subsidies. This is the standard explanation for why the WTO agreement makes sense.

The second reason why it might make sense for Congress and the administration to negotiate limits is that it strengthens the hand of those who believe increased subsidization of agriculture is not in the best interest of either agriculture or the coun-

try as a whole. That is, WTO limits place an upper bound on the level of "coupled" support that can be given to agriculture. Coupled support means farmers' production decisions are influenced by the program as well as by market signals. Not surprisingly, policymakers find it easier to say no to farm groups if there is some external constraint that they can point to. Congress and farm groups are finding that the WTO agreement is one such constraint, a constraint that works to limit the effects of farm programs on domestic and world markets. ♦

Can Acreage Controls Increase Iowa Farm Revenue?

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The number one failure of current U.S. farm policy is its inability to control supply, at least according to some policy-makers and analysts. With guaranteed minimum prices, farmers are finding it in their interest to maintain high planted acreage, even as market prices remain low. Congress is unlikely to eliminate the price guarantees, so some advocates are looking for a return to acreage controls to raise market prices. Opponents of acreage controls argue that unilateral decreases in U.S. acreage would only encourage our competitors to expand acreage. The ultimate effect, they argue, would be less U.S. acreage, more acreage in foreign countries, and little price change. Livestock interests see acreage controls through the lens of higher feed costs. They are typically opposed to anything that would raise them.

A key factor in determining the effects of acreage controls is whether other countries would expand their own supply in response. To find out if this would be the case, Senator Tom Harkin asked the Food and Agricultural Policy Research Institute (FAPRI) to evaluate the impact of a 10 percent reduction in acreage in U.S. agriculture, affecting all program crops uniformly. FAPRI modeled the 10 percent decrease as starting in crop year 2003 (the 2003/04 marketing season) and lasting eight years until 2010, the last year of the 2001 FAPRI baseline. The acreage decrease was then measured relative to this baseline. Because acreage increases over time in the FAPRI baseline, the model increased

the number of acres pulled out of production over time as well. The model assumes a fixed relative acreage of planted crops at the baseline level, an assumption that implies that the estimated price effects of an acreage reduction are an upper bound on what would actually result from such a policy shift. In reality, both U.S. and foreign crop yields could increase substantially because of land slippage and because of higher net returns per unit of land.

IMPACT ON COMMODITY PRICES

The graph shows the estimated price impact of the acreage reduction. (For more details of the analysis, see FAPRI briefing paper 01-BP 33, available at www.fapri.iastate.edu.) As shown, a 10 percent reduction in corn acreage has a larger price impact than a 10 percent reduction in soybean acreage. The reason for this larger increase is that there are no foreign corn producers who can readily expand production to replace U.S. corn production. For soybeans, Brazil expands its oilseeds area and mitigates the rise in soybean prices.

In addition, there are fewer substitutes for corn than for soybeans, which means that corn consumers have less flexibility in reducing corn use.

In the model, both corn and soybean prices increase by the largest amount in year two. In the first year, price run-ups are less than what might be expected because crop inventories are used to make up for the short crop. In subsequent years, inventories remain low and play a smaller role in mitigating price increases. The price impacts shrink over time as foreign production expands and begins to capture an increasing share of export markets, especially for soybeans. The FAPRI analysts estimate that Brazilian planted soybean acres would increase by approximately 1.2 million acres per year during the eight-year period. According to the analysts, this increase would be driven in part by the decrease in U.S. planted acres and in part by continued Brazilian investment in transportation infrastructure.

The effects of higher feed prices on livestock prices are moderate be-

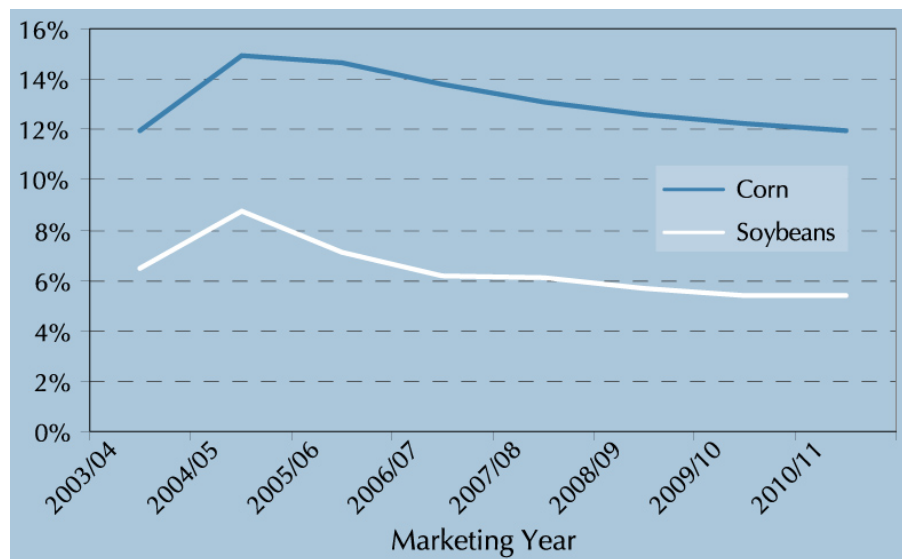


FIGURE 1. Percentage increase in U.S. corn and soybean prices from a 10 percent reduction in U.S. acreage

cause the increase in feed cost is relatively small. Projected prices of beef (Nebraska Direct Fed-Steer) increase by 1.4 percent. Projected prices of pork (Iowa Southern Minnesota Barrows and Gilts) increase by 5.6 percent. Beef prices are less sensitive to feed costs because the feed cost share is smaller in beef production than in pork, and because pasture-fed cattle can substitute for grain-fed cattle. Because of these price increases, world supplies of beef, pork, and poultry decrease by 360 thousand metric tons (about 0.3 percent).

INCREASE IN FARM REVENUES

The potential for acreage reductions to result in increased revenue is limited, especially for soybean produc-

ers. After eight years, the 10 percent decrease in U.S. acreage would increase the price of corn by 12.9 percent and the price of soybeans by 6 percent. For the Iowa farmer who is in a 50-50 corn-soybean rotation, this means that revenue per planted acre would increase by about 9.6 percent. But, of course, there are 10 percent fewer planted acres, which means that total revenue would decline by a small amount. This decline in total revenue must then be compared to the decrease in production cost that comes about because of fewer planted acres.

In all likelihood, the FAPRI estimates overstate the price impacts of a reduction in U.S. planted acreage if it were implemented as a policy. History tells us that profit-driven

farmers, both in the United States and around the world, have a great deal of imagination when it comes to taking full advantage of opportunities caused by big changes in policy. Undoubtedly, the net effect of an attempt to decrease U.S. crop acreage by 10 percent would result in less than a 10 percent reduction in U.S. planted acreage and quite a bit less than a 10 percent reduction in production. And overseas, farmers would increasingly devote attention to supplying program crops that are in relatively short supply. ♦

USDA's Nutrition Education Program Pays Long-Term Benefits

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The United States Department of Agriculture (USDA) spends over \$30 billion a year on food and nutrition assistance programs, an amount that is over one-half of the USDA budget today. Historically, U.S. food assistance programs featured purchase and distribution of surplus agricultural commodities to low-income households and to school lunch programs. Today, food and nutrition assistance includes a wide range of programs designed to provide low-income households access to adequate nutrients and a balanced diet, to increase food security in the general population and reduce hunger, especially for children, and to encourage low-income adults and children to acquire knowledge and skills to improve their diets with better food choices through nutrition education programs.

A recent study in Iowa shows that USDA's Expanded Food and Nutrition Education Program (EFNEP) has been successful in achieving improved diets among low-income youth and low-income families with young children. (See CARD Staff Report 00-SR 93.) The Iowa study evaluated the costs and benefits of Iowa EFNEP to measure the net economic impact of the program from September 1998 to February 2000 for the seven Iowa counties offering the program to eligible participants. The study finds that Iowa EFNEP returns benefits of \$10.75 in reduced long-term health costs for every \$1.00 spent in program costs.

EFNEP is an educational intervention program designed to help limited-income youth and adults with young children acquire the knowledge, skills, attitudes, and changed behavior leading to the improvement of the total family diet and nutritional well-being. Participants learn



about low-cost, nutritious foods and about managing food expenditures, including the use of Food Stamps and WIC coupons. The federal program operates at approximately \$60 million per year and has been in existence since 1969.

Funding for the Iowa EFNEP comes from USDA. During the 2000 program year, the Iowa program served about 2,200 families in eight counties. In addition, over 17,000

Continued

youth participated through school or after-school programs. Eighty-four percent of Iowa EFNEP families had incomes below 100 percent of the Federal Poverty Income Guidelines, and 53 percent had incomes below 50 percent of poverty. The 2000 poverty threshold set for a family of four is \$17,050. The EFNEP program is designed as a series of lessons, conducted for participating individuals by paraprofessionals and volunteers, many of whom come from the targeted population.

The study of the costs and benefits of Iowa EFNEP was completed in August 2000 (see CARD Staff Report 00-SR 93). The benefits of the program were measured through questions administered to the adult participants as they entered the program, and at the end of the program. The data included food intake measured by 24-hour food recall, food practices including the safe handling of food, and resource management. These data, along with evidence concerning the relationship of various food practices and nutritional behavior to the onset of diseases, were used to determine a specific percentage of those practicing "optimal nutritional behavior" for each disease. The challenge in doing such a cost-benefit study is to quantify the "improved health" of program participants. Current health care costs, current wage rates, and the changes in food practices and nutritional behaviors were used to quantify the benefits that occur with changes in nutritional habits.

Benefits of the program (that is, future health cost savings) occur because participants

- learn safe food handling practices, and thus have fewer foodborne illnesses;
- eat better during pregnancy, resulting in fewer low birthweight babies;
- are more likely to breastfeed their babies, resulting in fewer childhood diseases;
- improve overall diets, resulting in delay or prevention of chronic diseases.

The relevant nutrition-related diseases and conditions are broken into three categories. The first category includes diseases considered life-threatening with the average onset delayed only through good nutritional habits. The diseases included in this category are stroke, hypertension, colorectal cancer, and heart disease. The

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second category includes non-life threatening diseases. Good nutritional food-related habits contribute to avoiding these diseases, which include osteoporosis, foodborne illness, obesity, diabetes, and commonly occurring infant diseases. The third category includes conditions that require a one-time treatment and which can be avoided through good nutritional habits. For this study, low birth-weight babies are considered in the third category. The sum of the positive outcomes related to optimal nutritional behavior for these three types of diseases is the benefit of EFNEP. The benefits for EFNEP over the time period totaled \$14,354,479. The costs of EFNEP include the sum of all state-wide salary costs, part-time county wage costs, transportation costs for the participants, as well as county rent, utility, travel, supplies, and fixed costs. These costs totaled \$1,334,848 for the same time period.

A number of analyses help band a reasonable range for the benefit-cost figure. One analysis uses more recent medical findings to determine the percentage of participants practicing optimal nutritional behavior. Because the incidence rate for osteoporosis is higher, this analysis leads to a benefit-to-cost figure of \$12.50/\$1.00. Another analysis cuts the number of participants practicing optimal nutritional behavior by 75 percent to simulate the possibility that more participants stop practicing optimal nutritional behavior in the future. That analysis gives a benefit-to-cost ratio of \$2.64/\$1.00.

The results of the analysis of Iowa's program show that large economic savings exist because of the EFNEP program, and these were positive even under a range of assumptions. The results in Iowa are similar to those of another study on EFNEP in Virginia. Both studies show that individuals with better information about nutrition do a better job of following federal dietary recommendations and that the more a mother knows about health and nutrition, the better is the overall quality of her child's diet. EFNEP may be successful because it is a program that reaches its target audiences at a time when the benefits of healthy diets may be especially high. Food assistance programs have made a concerted effort in recent years to increase nutrition education efforts. With nutrition education becoming a more important part of food assistance programs, it is important to consider how it can best be delivered and how its effectiveness can be assessed. The finding of a favorable benefit-cost ratio for EFNEP lends support to efforts to increase funding for such nutrition education programs and, thus, achieve savings in health care costs. ♦

Meet the Staff: Sandra Clarke

Sandra Clarke joined CARD as communications manager in November. Her professional background includes seven years as communications manager at the American Agricultural Economics Association (AAEA), where she was technical editor of the *American Journal of Agricultural Economics* and managing editor of *Choices—The Magazine of Food, Farm, and Resource Issues*. Before that, she worked in communications and public affairs for the City of Cottonwood, Arizona, and she edited a specialty art magazine for Heartland Communications in Fort Dodge. She's a 1987 Iowa State journalism and communications graduate.

Sandy oversaw the AAEA's transition to desktop publishing in early 1994, and she says that publishing is a never-ending exercise in adapting to new media and new technologies.

"Desktop publishing was a big deal in the eighties and early nineties. That was just a drop in the bucket compared to what the internet means to publishing."

Most of CARD's research and information is now conveyed through the portal of the organization's website (www.card.iastate.edu). But the internet, according to Sandy, creates as many challenges as it does opportunities.

"For instance, I ask myself how we can fight through the information overload or bring clarity to an

issue when there is so much information out there competing for attention in the public realm.

Luckily, this organization has a lot of history and a solid reputation that keeps us in the forefront when it comes to communicating with policymakers and agricultural leaders."

Her experience with the *American Journal of Agricultural Economics* and *Choices* magazine has helped Sandy to understand the publishing process from the other side of the desk, which means she has a unique vantage point in assisting faculty and researchers as they prepare working papers for peer review or journal submission.

"I had already worked with several faculty members here on journal or magazine articles, so I knew what to expect in terms of the papers and reports that are part of CARD's publication series. I enjoy helping scholars to improve their papers and articles. And beyond the day-to-day publishing, I work to create connections and get CARD analysis and findings into the hands of those who are making the decisions or framing the debates in agricultural policy."

Sandy is managing editor of the *Iowa Ag Review*, one of CARD's efforts to present its news and information to interested readers. Other outreach vehicles include CARD websites, and the annual



Sandra Clarke

Agricultural Forum, which Sandy helps to plan.

"I learned a lot, working on my first Forum. I like the way that CARD tries to facilitate a broad-based discussion of breaking issues. I think it's unique, the many voices and perspectives that come together at a CARD Forum. Public discourse is healthy, and there seems to be no shortage of contentious questions in agricultural policy."

Outside of the office, Sandy can often be found exploring the streets and trails of Ames with her golden retriever. She also likes to cook, especially to try new dishes, but admits she enjoys eating out "way too often." She seeks out local live music, including music festivals, which often figure prominently in her summer weekend plans. She and her husband Al, who teaches English at ISU, like to travel and hike on occasion, particularly in the high desert of the Southwest. ♦

Recent CARD Publications

WORKING PAPERS

Chad E. Hart, Bruce A. Babcock, Dermot J. Hayes. "Livestock Revenue Insurance." CARD Working Paper 99-WP 224 Revised, January 2001.

GianCarlo Moschini. "Economic Benefits and Costs of Biotechnology Innovations in Agriculture." CARD Working Paper 01-WP 264, January 2001.

Chuck Mason, Dermot J. Hayes, Sergio H. Lence. "Systemic Risk in U.S. Crop and Revenue Insurance Programs." CARD Working Paper 01-WP 266, March 2001.

Chad E. Hart, Bruce A. Babcock. "Rankings of Risk Management Strategies Combining Crop Insurance Products and Marketing Positions." CARD Working Paper 01-WP 267, February 2001.

GianCarlo Moschini, Robert J. Myers. "Testing for Constant Hedge Ratios in Commodity Markets: A Multivariate GARCH Approach." CARD Working Paper 01-WP 268, March 2001.

Silvia Secchi, Bruce A. Babcock. "Optimal Antibiotic Usage with Resistance and Endogenous Technological Change." CARD Working Paper 01-WP 269, February 2001.

Sonya Kostova Huffman. "Welfare and Labor Force Participation for Low-Wealth Families: Implications for Labor Supply." CARD Working Paper 01-WP 270, March 2001.

Sonya Kostova Huffman, Stanley R. Johnson. "More Impacts of Economic Reform in Poland: Incidence and Welfare Changes within a Constant Framework." CARD Working Paper 01-WP 271, March 2001.

Sonya Kostova Huffman. "The Midwest Welfare Program and Labor Force Participation." CARD Working Paper 01-WP 272, March 2001.

John C. Beghin, Barbara El Osta, Jay R. Cherlow, Samarendu Mohanty. "The Cost of the U.S. Sugar Program Revisited." CARD Working Paper 01-WP 273, March 2001.

BRIEFING PAPER

Chad E. Hart, Bruce A. Babcock. "Implications of the WTO on the Redesign of U.S. Farm Policy." CARD Briefing Paper 01-BP 32, March 2001.

STAFF REPORT

Christopher Azevedo, Joseph A. Herriges, Catherine L. Kling. "Valuing Preservation and Improvements of Water Quality in Clear Lake." CARD Staff Report 01-SR 94, March 2001.

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