



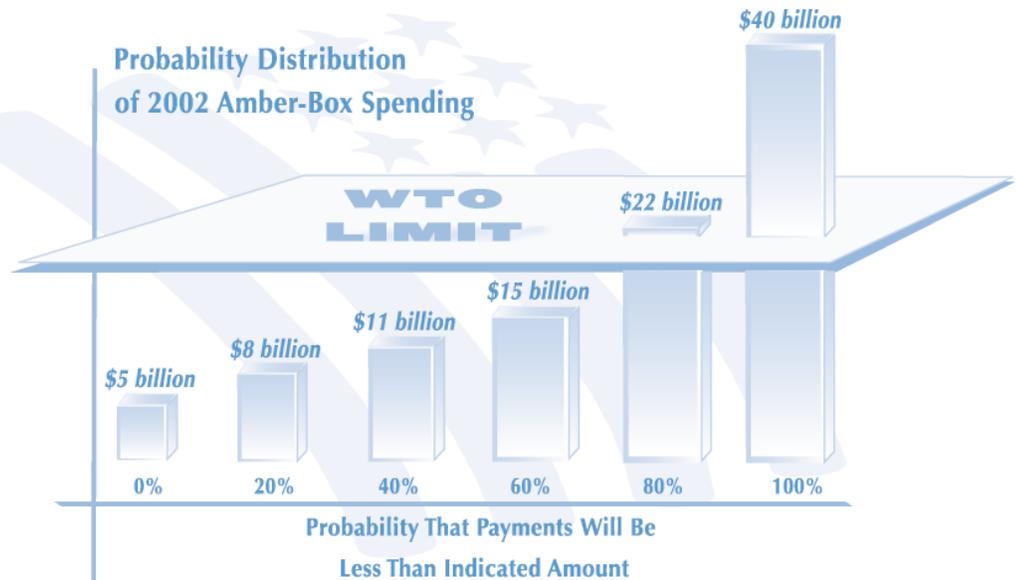
## Local and Global Perspectives on the New U.S. Farm Policy

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The new farm bill and the Agricultural Risk Protection Act (ARPA) provide us with good insight into Congress's farm policy objectives. When all was said and done, Congress felt no need to justify the billions in farm aid as fulfilling some broad public purpose. Rather, the actions of Congress have revealed a simple objective: to support per-acre revenues of a chosen few commodities—corn, cotton, wheat, rice, peanuts, soybeans (and minor oilseeds), barley, oats, and sugar. Heavily subsidized crop insurance protects farmers against per-acre yield (and revenue) shortfalls, and the combination of the new countercyclical payment program and the marketing loan program protects farmers against price declines.

In the end, the analysis that showed that the vast majority of payments would flow to large farms simply did not matter. Nor, for that matter, did the analysis that showed that the majority of farmers who rent their land will find that their land rents are directly proportionate to their government support, or that government policies that protect one sector of the economy invariably lead to demands for protection by other sectors. The objective of supporting per-acre revenues overwhelmed any other concerns. Why per-acre revenues are a concern for members of Congress is not a mystery: when revenues are down, farm lobbyists move into action. The policies passed by Congress will automatically make payments whenever prices or yields are low in the hope that this will defuse political pressure before it begins.



The reaction of U.S. farm groups and our trading partners to the new farm bill has been surprisingly frank and sometimes harsh. Many farm groups have given up the argument that farm subsidies are temporary measures needed until good times return. For example, Mississippi Delta cotton farmer Kenneth Hood (who is also chairman of the National Cotton Council) was recently quoted in the *Wall Street Journal* as saying, "The Delta needs cotton farmers, and they cannot exist without subsidies." Five years ago, no farm organization leader would have used the subsidy word, and never would he or she have admitted publicly such a dependency on public assistance.

The international reaction has been more predictable and harshly negative. Typical comments from world leaders are that the new farm bill is protectionist, that it violates the World Trade Organization (WTO) agreement, and that it is a big setback to the world trading system. Because we are entering a new round of WTO agricultural negotiations, it will be useful to examine

each of these charges. Are they true? And if so, what impact might they have on our ability to come to a new WTO agreement?

### IS THE NEW FARM BILL PROTECTIONIST?

Argentine President Eduardo Duhalde told the daily *La Nacion* that "...the United States promotes free trade only when it suits it, then becomes an obscene protectionist." When a country is labeled as protectionist, it generally means that the country has adopted measures to reduce the quantity of imported goods flowing in. With the exception of sugar, peanuts, and dairy, the new farm bill does not restrict imports, so Congress and the administration can argue that U.S. borders are open to imports of most commodities.

Those who argue that the United States is becoming more protectionist do not necessarily mean that imports are being reduced. Rather, farm bill subsidies work to expand U.S. production and exports, which tends to reduce world prices and reduce

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production in other areas. Thus, the United States is protectionist not because it is restricting imports but rather because it is protecting its producers at the expense of unsubsidized producers in other countries. For example, Brazil argues that its farmers will lose more than \$1.25 billion per year in revenue because of expanded U.S. soybean production. World Bank analysts estimate that U.S. cotton subsidies reduce cotton exports from West and Central Africa by \$250 million per year. Do these arguments ring true?

Clearly, U.S. production of most subsidized commodities that are exported, such as cotton, rice, corn, soybeans, and wheat, would be lower than current levels without U.S. subsidies. And world prices would be higher. It is exactly these kinds of market-distorting effects that the WTO is working to eliminate. But is the new farm bill any worse than previous farm bills?

Subsidies expand production when a farmer’s decision to expand or contract production results in an increase or decrease in the amount of subsidy received. That is, subsidies are supply expanding when they are coupled to production decisions. The new countercyclical payment program in the farm bill is largely decoupled from production, so it should have only minimal supply-expanding effects. But the increased loan rates in the new farm bill will have noticeable supply-expanding effects. The accompanying table shows the extent to which the new farm bill is more trade distorting than the old farm bill.

Rice loan rates have not changed at all and cotton loan rates have been

rounded up a fraction, so the new farm bill likely will not encourage more cotton and rice supplies than did the old farm bill. Soybean loan rates fell by 4.9 percent, so fewer soybean acres are expected under the new farm legislation, particularly because corn and wheat loan rates both increased. This drop in coupled soybean support should please Brazilian and Argentine soybean producers. The new farm policy probably will stimulate more corn, sorghum, wheat, barley, and oats than did the old farm bill, so the argument that the new farm bill is more protectionist has some validity.

### DOES THE NEW FARM BILL VIOLATE U.S. WTO OBLIGATIONS?

Under the Uruguay Round Agreement on Agriculture, the United States agreed to limit spending on domestic support programs that are considered trade distorting (amber-box spending) to \$19.1 billion per year. Significant time was devoted to a discussion of our international obligations during the farm bill debate, which indicates that Congress took these obligations seriously. A significant portion of government payments varies with the level of market price; high prices lead to low payments and low prices lead to high payments. It is impossible to determine ahead of time what the total level of government payments will be in a given year because nobody knows what market prices (and crop yields) will be in the future. But futures markets give us some idea about what prices will be on average, options markets give us

	Old Loan Rate	New Loan Rate	Percentage Change
Corn (bu)	1.89	1.98	4.8%
Soybeans (bu)	5.26	5.00	-4.9%
Wheat (bu)	2.58	2.80	8.5%
Cotton (lb)	0.5192	0.52	0.2%
Rice (cwt)	6.5	6.50	0.0%
Sorghum (bu)	1.69	1.98	17.2%
Barley (bu)	1.71	1.88	9.9%
Oats (bu)	1.14	1.35	18.4%
Minor Oilseeds (lb)	0.093	0.096	3.2%

some idea about future price uncertainty, and the last 40 years give us some idea about the average level of crop yields and yield variability. Therefore, we can combine the information in the futures and options markets with historical yield data and put together probability statements about the level of the spending.

The graph on page 1 shows the probability distribution of amber-box spending for the next marketing year. The graph shows, for example, that there is about a 40 percent chance that amber-box spending will be \$11 billion or less. And there is a 71 percent chance that total U.S. amber-box spending will be below the \$19.1 billion limit. This means that there is a 29 percent chance that the United States will exceed its WTO spending limit in the next marketing year. (Congress has instructed the USDA to take steps to reduce payments if this limit is met or exceeded.)

### DOES THE FARM BILL REPRESENT A SETBACK TO THE WORLD TRADING SYSTEM?

Domestic subsidies to agriculture around the world result in trade flows in agricultural commodities that do not follow free trade principles, whereby countries with comparative advantage are the exporters, and the importers are those countries without comparative advantage. Rather, domestic subsidies often support domestic production, and surplus production is exported. The United States has been at the forefront of the effort to include domestic agricultural support in international trade negotiations. This push led to the Uruguay Agreement where, for the first time, limits were placed on agricultural subsidies. Modifications of U.S. domestic farm policy lent support to this effort. The 1986 farm bill drastically lowered loan rates, starting the trend toward increased decoupling. The 1990 farm bill continued down this path and allowed farmers greater planting flexibility.

The 1996 farm bill adopted fixed payments for the first time, and the United States could rightly claim that its farm policies had small effects on world market prices. The consistency of U.S. farm policy with the U.S. negotiating position allowed U.S. negotiators to take the moral high ground when it came to agricultural subsidies, which put other countries in the position of having to defend their own subsidy stances.

Perhaps more importantly, by taking the visible lead on reforming its own agricultural policy, the United States empowered reformists in the European Union and importing countries, such as South Korea and Japan, to argue for more radical reform of their own domestic policies. Most observers felt that the Uruguay Agreement was simply the first step in reforming trade-distorting policies, an observation that was given credence by passage of the 1996 U.S. farm bill. The next step in trade negotiations was for countries to make even more radical cuts in subsidies. For example, EU officials began to think about policies whereby decoupled payments were made for rural development and environmental quality. Politicians in South Korea and Japan began preparing their farmers for less protection. And African leaders saw that domestic market reforms would pay dividends as international agricultural trade flows became dictated more by comparative advantage rather than by domestic subsidies.

On the surface, not much has changed in the U.S. negotiating posture. U.S. Trade Representative Robert Zoellick says that the U.S. commitment to the Doha agenda remains intact. This means that the U.S. is committed to substantial decreases in import barriers and import tariffs, a phasing out of export subsidies, and substantial reductions in domestic support programs that distort trade.

As previously noted, the new farm bill neither increases nor decreases import barriers, and the U.S. makes minimal use of export subsidies (a favorite tool of the European Union), so not much about those two

items has changed. But the increase in some commodity loan rates implies a discrepancy between U.S. policy and the U.S. negotiating position. Will this discrepancy help or hurt future trade talks?

U.S. Department of Agriculture Secretary Ann Veneman and Mr. Zoellick claim that the new farm bill enhances their negotiating position because they can use the subsidies as bargaining chips to get other countries to reduce their subsidies and to increase access to their markets. Whether or not this optimistic view about the subsidies is correct remains to be seen, but clearly, when it comes to agricultural protection, the United States no longer holds the moral high ground. Consequently, its leadership position in the upcoming round of talks seems to be somewhat eroded.

### FUTURE OF U.S. FARM POLICY

Does passage of the 2002 farm bill mean that we will have a respite from policy debates? Not if recent events are any indicator. Many senators are trying to come up with another emergency spending bill for agriculture, this time to alleviate financial difficulties caused by drought. Will attempts to provide drought aid to crop farmers succeed when crop losses from drought clearly are covered by crop insurance?

By March 31 of 2003, the United States and other countries must present proposals for the structure of new WTO commitments that are consistent with the Doha agenda. How will U.S. proposals be made consistent with the new U.S. farm programs?

And, finally, it looks as though Congress and the Bush administration eventually will have to figure out how to limit current and future budget deficits. How will supporters of farm programs justify billions in annual aid to large farmers when Congress is looking for budget offsets to fund new priority programs such as a drug benefit for senior citizens? Stay tuned. The future looks bright for those who enjoy good farm policy debates. ♦

## Beef Quality Assurance “Down Under”

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*Editor’s Note: This article is adapted from a briefing paper of the Midwest Agribusiness Trade Research and Information Center (MATRIC), summarizing the findings of an ISU team visit to Australia and New Zealand to study the countries’ quality assurance systems in beef production and marketing. The full text of this paper, “Quality Assurance “Down Under”: Market Access and Product Differentiation,” MATRIC Briefing Paper 02-MBP 1, is available at [www.matric.iastate.edu](http://www.matric.iastate.edu).*

Australia exports approximately 60 percent of its beef production and New Zealand exports 85 percent. Because they depend on a diverse set of export customers, these countries are developing quality assurance programs that differentiate their beef in domestic and global markets and assure that the product is safe and meets individual customers’ needs. Whereas most U.S. producers think of quality in terms of USDA grades (Prime, Choice, Select), Australian and New Zealand supply chains strive to meet the mark of quality as defined by their customers. To break out of the commodity market, supply chains in the two countries typically provide additional information about their products and strive to differentiate them from those of their competitors.

Australia has taken an industry approach to quality assurance by investing producer “checkoff” funds and processor contributions to develop tools and make them available to all Australian supply chains. Quality assurance objectives are clearly identified:

- Demonstration of food safety, including a national identification system and DNA sampling for trace-back
- Proof of quality for export and a long shelf life



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*To break out of the commodity market, supply chains in the two countries typically provide additional information about their products and strive to differentiate them from those of their competitors.*

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- Determination of customer preferences

The quality assurance system in Australia is voluntary and is led by national government agencies and a single industry entity, Meat and Livestock Australia. Different quality assurance programs require different levels of documentation, depending on market needs. The Australian Lot Feeder’s Accreditation (ALFA) program, for example, is a significant element of the overall program. Because grain feeding is not the norm in Australia, the ALFA program quantifies the term “grain fed” and assures Japanese buyers of the extent that grain feeding was used.

Control systems in Australia consist of a voluntary quality protocol called Cattle Care, used for management in conjunction with the Australian Quality Inspection Service for control of exports to ensure food safety. In response to organochlorine residues found in meat in the 1980s, quality control concepts such as ISO (International Organization of Standardization), Codex Alimentarius, and HACCP (Hazard Analysis Critical Control Points) were used to create Cattle Care. Approximately 25 percent of all Australian herds are raised under this system. AusMeat, an Australian producer-packer consortium, audits the Cattle Care auditors to ensure that standards are being maintained. This system has been expanded to include other species and crop farm usage as well.

Cattle Care meets the ISO 9000 requirement that products be identified and traced to the degree necessary to maintain product integrity using existing infrastructure. For example, the National Livestock Identification Scheme is a trace-back system developed and operated by Meat and Livestock Australia that uses radio-frequency identification tags and a single national database to provide a real-time, online system of individual animal identification. Demand for this program is driven by the European Union, which would not renew Australian export access without a trace-back system. If Japan ever requires a comparable system for imported beef, Australia’s infrastructure is already in place. Other systems, ranging from a tail tag system to radio frequency identification tags with serial number coding, also are in use. In addition, a National Vendor Declaration form is required with each lot of cattle sold, providing information about the seller and production methods.

The Meat Standards Australia grading system is a voluntary quality

assurance program based on research involving 19,000 consumers. It uses a series of objective pre-harvest and post-harvest measures or interventions (for example, cooking and aging) to predict eating satisfaction (such as tenderness, juiciness, and flavor). Meat is graded on a primal or subprimal basis, so it is possible that cuts from the same carcass will have different grades and that a cut could improve in grade based on intervention. Packers, retailers, and restaurants that use the Meat Standards Australia system and make the “guaranteed tender” promise are audited, and blood samples for DNA analysis are taken from each carcass (while it is still identified for the seller) for trace-back on an as-needed basis. The Meat Standards Australia grading system is more complex than the USDA system, provides more information to the buyer and seller, and places greater emphasis on eating satisfaction.

The purpose of these quality assurance programs is to enhance the integrity of Australian beef and its value to the end user. One commonality is that the programs are built with industry and government cooperation but are voluntarily adopted by individual producers or processors. Perhaps most importantly, this investment in expensive research and development of infrastructure allows smaller supply chains to adopt the systems and differentiate their products in the marketplace. In addition, because the programs are voluntary rather than mandatory, supply chains can separate from the commodity market using tangible information and technology to add value to their products.

Unlike the Australian system, quality assurance programs in New Zealand are led primarily by processors based on private entity participation. New Zealand virtually eliminated government subsidies to agriculture in the mid 1980s and has since taken a more individual approach to production and marketing. Firms are encouraged to develop and implement quality assurance programs with their producers and suppliers to meet mar-

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*Documenting and proving production processes, expected eating experiences, and the unique features of beef products to diverse consumers is critical for these two countries to compete in multiple markets.*

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ket demand. Because the quality assurance programs are unique to the processor and some switching costs are involved, New Zealand producers are loyal to their chosen processor.

Government inspectors inspect plants to assure safety and wholesomeness but do not appear to be heavily involved in quality assurance program development or research. New Zealand plants are inspected by each importing country and certified to that country’s standards; in addition, they are often inspected by individual companies to which they sell. If a processor has customers from both the United States and Europe, that processor also has the programs required to ensure access to both markets.

The New Zealand meat industry has many small beef or beef/lamb processing plants, but four firms (two of which are cooperatives) are dominant. An example of a private quality assurance program is that of Richmond, Ltd., a stockholder-owned company that is one of the four largest meat processors and the largest beef processor in New Zealand. The Richmond Farm Assurance program allows participating producers to receive a small premium for selling their product to Richmond. Richmond pays independent auditors to conduct on-farm audits. In addition, both plant and on-farm audits are

conducted by Richmond’s large customers, including Marx and Spencer from the United Kingdom and McDonalds and Burger King.

Because New Zealand firms must shoulder the entire burden of investment in development costs, the meat industry may be slower than its Australian counterpart to develop such programs. This may explain some of the differences noted between the two countries’ quality assurance systems. Participants in the New Zealand meat industry have just voted to require identification for traceability purposes in beef and venison. At the same time, New Zealand processors look to their major export customers for minimum requirements for market access, and company-specific quality assurance innovations allow their supply chains to distance themselves from the commodity market.

Australia and New Zealand each have multiple export customers, often with unique demands. Documenting and proving production processes, expected eating experiences, and the unique features of beef products to diverse consumers is critical for these two countries to compete in multiple markets. To a degree, the value of using a quality management system to gain competitive advantage in a specific industry depends on the amount of differentiation of such things as perceived product quality and integrity that is possible among players. In mature industries such as processed meat, even a small differentiation can be enough to provide a competing organization with a decided advantage.

Beef production and marketing are more standardized in the United States than in either Australia or New Zealand. U.S. exports account for less than 10 percent of production, and U.S. consumers largely still trust the USDA to ensure beef safety and to provide quality indicators using quality grades. Consequently, firms have less incentive to differentiate their products based on safety (if it is all safe) or quality (if it is all graded the same). Generally, differ-

*continued on page 12*

# Iowa's Agricultural Situation

## Crop Progress, Options under New Farm Program Legislation, and the Forecast for Hog Farmers

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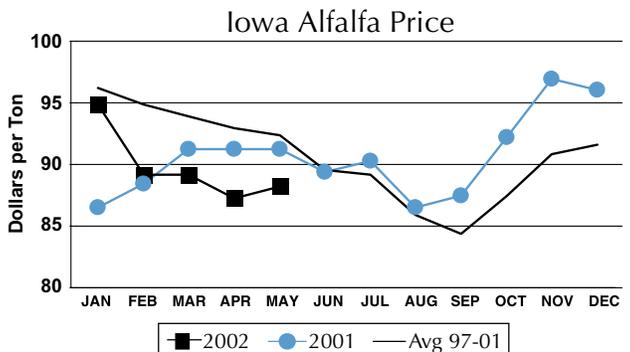
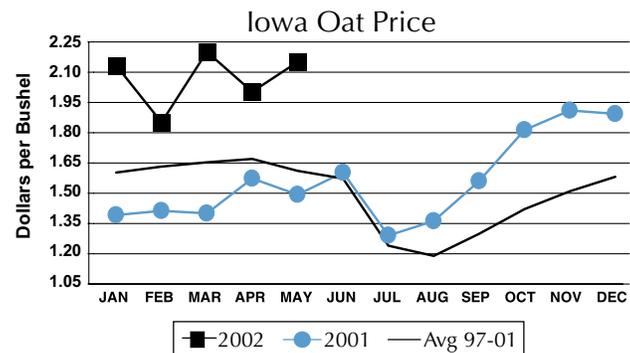
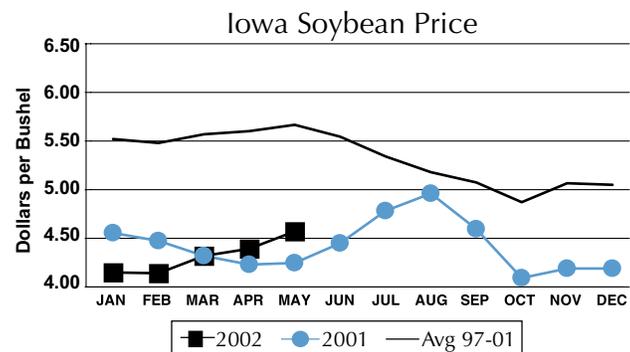
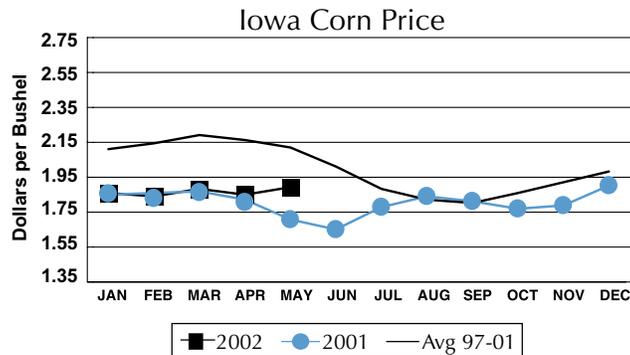
### CROP PROGRESS

By the middle of June, all Iowa corn had emerged compared with 95 percent emergence at this time last year and 99 percent on average. Crop spraying was constrained because of strong winds in most of the state. Also, scattered heavy rain and hail in central and northeast Iowa resulted in isolated reports of crop damage during the third week of June. As of June 24, the crop conditions remained stable, with 79 percent of the corn in good to excellent condition and only 4 percent rated poor to very poor. For soybeans, planting is ahead of normal and was completed in the middle of June compared with 90 percent planted this time last year. By the end of the month, almost all soybean acreage had emerged, with 75 percent of the crop rated good to excellent and only 4 percent in the poor and very poor categories.

Until the middle of June, the weather this season was more cooperative than usual, thus evading both the excessively low soil moisture levels recorded in 1999-2000 and the high soil moisture levels that afflicted some producers last year. However, by the end of June, the temperatures had risen. The latest figures on statewide topsoil moisture show that 5 percent of the state's topsoil is very short on moisture while 21 percent is short, 66 percent has adequate moisture, and 8 percent has a surplus. Most of the shortage is in the western two-thirds of the state. In the southwestern section, 62 percent of the topsoil has a moisture shortage. Subsoil moisture levels are very similar. In contrast, last year at this time, 32 percent of the topsoil and 30 percent of the subsoil in Iowa had surplus moisture.

The June 28 *Acreage* report by the U.S. Department of Agriculture (USDA) surprised most crop analysts. Even though national corn-planted acreage fell from March intentions, it was significantly higher than the USDA's estimate of two weeks earlier. According to the report, U.S. farmers reduced corn plantings by 100,000 acres from their March intentions. As was expected, persistent precipitation in the eastern Corn Belt limited the acreage planted to corn. However, western states nearly compensated for the ground lost in the east as the planting weather allowed for more acres than initially anticipated. Even though persistent rains increased the soybean acreage in the southern and eastern Corn Belt, the switching from soybeans to corn in the western states resulted in just a 27,000-acre increase compared to March soybean planting intentions.

*continued on page 8*



Iowa Cash Receipts Jan. – Feb.

	2002	2001	2000
(Million Dollars)			
Crops	798	953	1,017
Livestock	858	868	979
Total	1,656	1,821	1,996

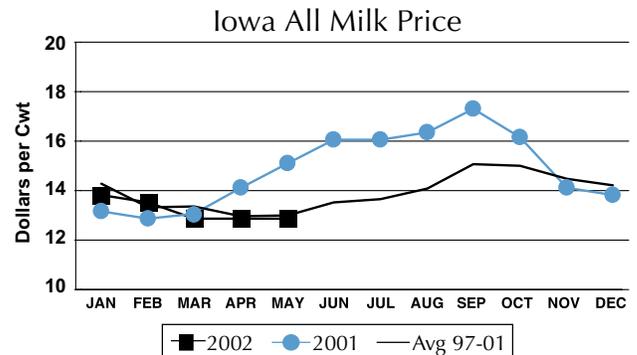
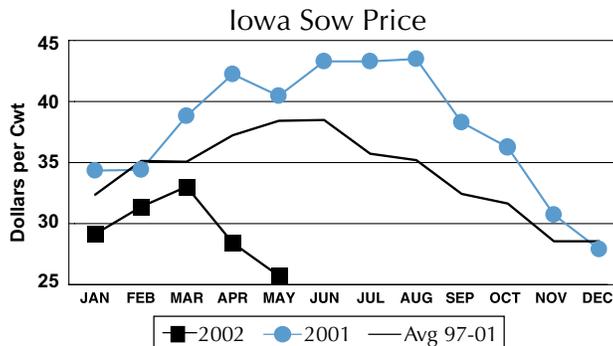
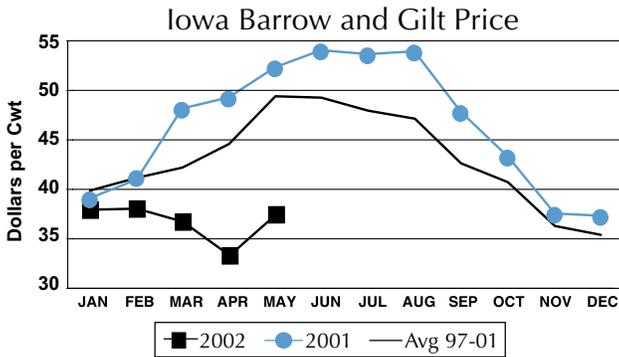
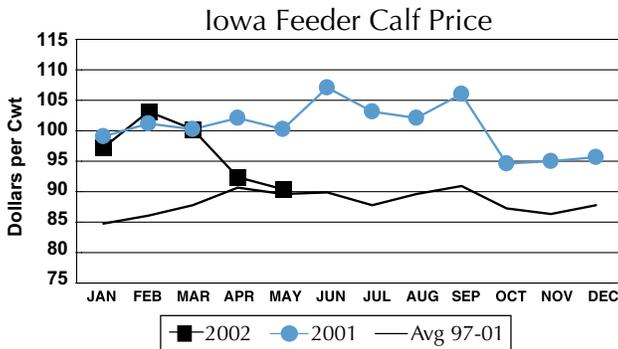
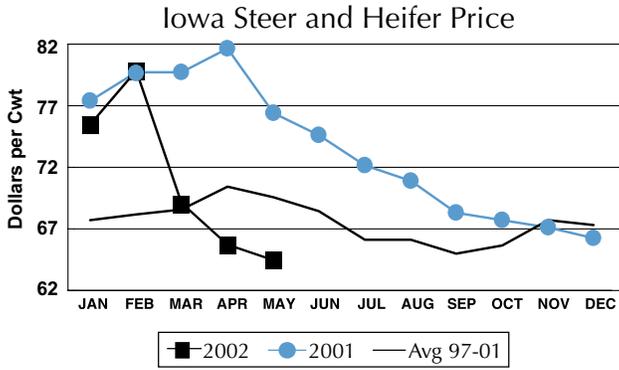
World Stocks-to-Use Ratios

	Crop Year		
	2002/03 (June Projection)	2001/02 (Estimate)	2000/01 (Actual)
(Percent)			
Corn	16.39	19.90	25.01
Soybeans	15.97	16.98	16.78
Wheat	26.17	27.69	28.90

Average Farm Prices Received by Iowa Farmers

	May* 2002	April 2002	May 2001
(\$/Bushel)			
Corn	1.90	1.86	1.72
Soybeans	4.55	4.36	4.21
Oats	2.15	2.00	1.49
(\$/Ton)			
Alfalfa	88.00	87.00	91.00
All Hay	88.00	86.00	91.00
(\$/Cwt.)			
Steers & Heifers	64.30	65.60	76.40
Feeder Calves	90.00	92.00	100.00
Cows	41.20	40.20	43.80
Barrows & Gilts	37.40	33.30	52.30
Sows	25.60	28.40	40.70
Sheep	25.50	25.00	34.60
Lambs	60.40	60.80	83.20
(\$/Dozen)			
Eggs	0.20	0.23	0.28
(\$/Cwt.)			
All Milk	12.60	12.60	14.90

\*Mid-month



In Iowa, corn acreage is up 4 percent this year, for a total of 12.2 million acres. Soybean plantings are estimated at 10.7 million acres, down almost 3 percent from a year ago.

## 2002 FARM LEGISLATION

On May 13, the Farm Security and Rural Investment Act of 2002, the legislation that will govern federal farm programs for the next six years, was signed into law. Some of the more important changes include the new farm payment program that introduces countercyclical farm income support, expanded conservation land retirement programs, a greater emphasis on on-farm environmental practices, and easier access to federal farm credit assistance programs. The provisions for income support now rely on a three-piece safety net comprised of marketing loans, direct payments, and countercyclical payments.

The new farm legislation continues the current marketing loan program at increased loan rates for all commodities except soybeans. In addition, the requirement that producers enter into an agreement for direct payments to be eligible for loan program benefits is eliminated. Loan rates are now fixed in legislation: \$1.98 per bushel for corn in 2002-03 and \$1.95 in 2004-07, and \$5.00 per bushel for soybeans in 2002-07. The previous loan rate for soybeans was set deliberately high at \$5.26 per bushel in order to compensate soybean producers for the lack of AMTA (Agricultural Market Transition Assistance) payments.

Countercyclical payments are available to cover commodities whenever the nationwide effective price is less than the target price. The effective price is equal to the sum of the higher of the national average farm price for the marketing

year, or the national loan rate for the commodity and the direct payment rate for the commodity. The payment amount for a farmer equals the product of the payment rate, the payment acres (85 percent of base acres), and the payment yield. The payment rate is the difference (if it is positive) between the target price and the effective price. The target prices for corn are \$2.60 per bushel in 2002-03 and \$2.63 in 2004-07. The target price for soybeans is \$5.80 per bushel in 2002-07.

Direct payments, currently in effect for soybeans, are very similar to what was previously known as production flexibility contract (or AMTA) payments and permit planting of any crops except for some fruits and vegetables. The eligible land must be kept in agricultural uses, and farmers must comply with certain conservation and wetland provisions. The amount of the annual payment received by farmers and eligible landowners is equal to the product of the crop payment rate established by statute, the payment acres, and the payment yield. The direct payment rate is \$0.28 per bushel for corn and \$0.44 per bushel for soybeans.

Farmers have the option to update base payment acres this year using the 1998-2001 average of acres planted and prevented from planting. Otherwise, they can leave it at 1996 levels with an addition of the four-year average soybean acreage as long as the total base acres do not exceed available cropland. Each producer must select one of the two options to update base acres, which will apply to all covered commodities for both direct and countercyclical payments. Three options for determining countercyclical income support payment yields are available to farmers for each individual crop: (1) use current program yields, (2) update yield by adding 70 percent

of the difference between program yields and the farm's average yields for the period 1998-2001 to program yields, or (3) update yield to 93.5 percent of 1998-2001 average yields. As for direct payments, program payment yields for the crops covered by the previous farm bill are unchanged. The payment yield for soybeans is determined by the 1998-2001 soybean yield for the farm adjusted back to the equivalent average yield for the old base period used for corn.

## LIVESTOCK

Hog prices were the lowest for May and June in more than two decades, with continuing larger-than-expected supplies. Slaughter during the four weeks of June was 6.1 percent higher than the same period a year ago and 1 percent above the official projections. The June 28 USDA *Hogs and Pigs* report, whose accuracy is questioned by some analysts, seems to indicate that the hog industry will fare better in the fourth quarter than it did in 1998 when hog prices temporarily dropped to \$8/hundredweight. According to the report, the all hogs and pigs inventory is 2.1 percent above last year's level. While the market hog inventory is up 2.3 percent, the breeding herd inventory is nearly the same as that of a year ago. Most of the increase in market hog inventory is in the heavier-weight hogs. Even though farrowings are up 2.2 percent compared to 2001, the estimated March-May pig crop is only 1.3 percent larger than last year's crop because there were fewer pigs per litter. Analysts speculate that this pig crop, combined with Canadian feeder pigs finished in midwestern operations and Canadian market hogs, points to a fourth-quarter slaughter of 27 million head, down from the 27.586 million head reported in the fourth quarter of 1998. ♦

## The Costs of Foodborne Illness

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Despite evidence that the U.S. food supply is among the safest in the world, there is continuing concern over the human health risks posed by microbial pathogens (bacteria, parasites, fungi, and viruses) in food. Each year an estimated 6 to 33 million cases of foodborne disease occur in the United States, and up to 9,000 people die. The USDA's Economic Research Service (ERS) has estimated that diseases caused by five major bacterial pathogens alone—*Campylobacter* spp., *E. coli* O157:H7, *E. coli* non O157:H7, *Listeria monocytogenes*, and *Salmonella*—cause at least \$6.9 billion (in 2000 dollars) in medical costs and productivity losses annually, with a total of 3.4 million cases, over 31,000 hospitalizations, and 1,229 deaths. *Campylobacter* spp. and *Salmonella* are responsible for most of the foodborne illness cases, and *Listeria monocytogenes* and *Salmonella* are responsible for most of the costs attributed to these five pathogens because of their larger share of fatalities.

The cost-of-illness estimates are calculated from the number of annual foodborne illness cases, hospitalizations, and attributable deaths; the number of cases that develop secondary complications or chronic complications; and the corresponding medical costs, lost wages (productivity losses), and other illness-specific costs, such as special education and residential-care costs.

New food safety regulation, including the mandated use of Hazard Analysis Critical Control Point (HACCP) systems of control for meats, poultry, and fruit juices, has contributed to a reduction in bacterial foodborne illness since 1996. So has the food industry's more wide-

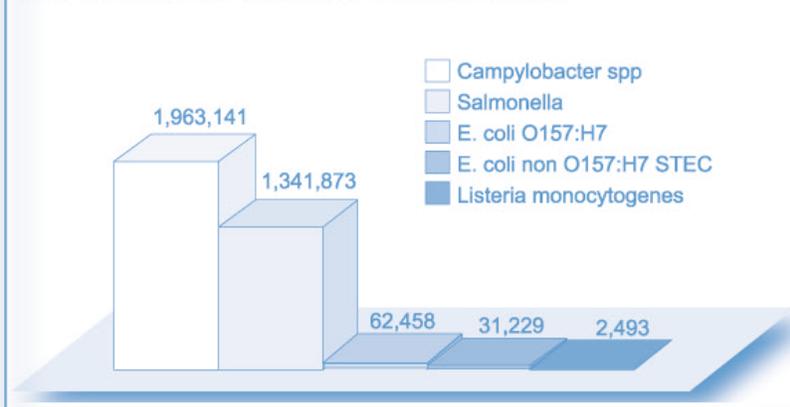
spread adoption of technological innovations for quality control, such as pasteurizers, antimicrobial rinses, and irradiation.

Although much of the responsibility for reducing pathogens in foods used to rest with the final food preparer, a shift to more ready-to-eat foods, an increase in imports and the variety of food preparations, and more meals consumed away from home have reduced direct consumer control over food preparation and have strained the traditional safety control system. These changes have

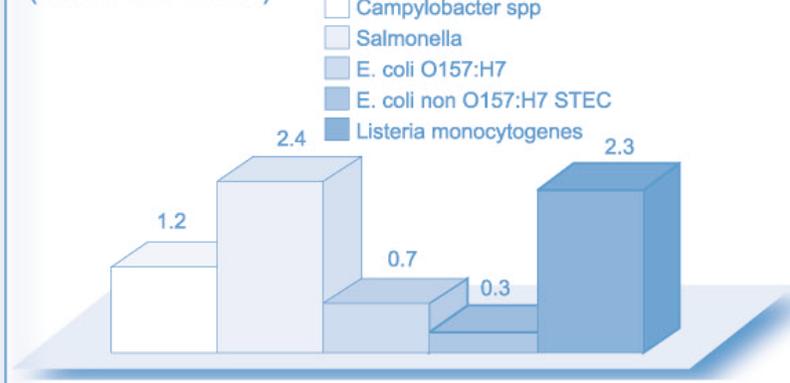
transferred greater responsibility for food safety to the food industry.

At the federal level, new controls and regulation for animal products have focused on the animal slaughter and processing stage as the critical control point for reducing pathogens in the food chain. Policymakers and industry leaders are challenged to balance the benefits and costs of regulation while finding cost-effective ways to identify the optimum stages for intervention system-wide in order to protect consumers. ♦

Estimated Annual Cases of Foodborne Illness



Estimated Costs of Foodborne Illness  
(Billion 2000 dollars)



## Rich Countries, Poor Countries, and the Doha Round Trade Negotiations

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A common criticism of domestic agricultural spending in the United States and European Union is that support for U.S. and EU farmers hurts the economies of low-income countries. Addressing this criticism is key to moving forward in the current Doha Round negotiations of the World Trade Organization (WTO). CARD initiated a study to better understand the link between rich-country agricultural support and poor-country incomes.

Following the Uruguay Round that led to the formation of the WTO, many developing countries voiced their dissatisfaction with the agricultural negotiations agenda. Their priorities are to gain access to markets in high-income countries and to address depressed world prices that result from farm subsidies and export subsidies in high-income countries. European countries rely heavily on export subsidies and domestic support, while the United States has been increasing domestic production subsidies. Both the United States and the European Union maintain import barriers in a few key areas (for example, sugar and dairy). High-income Asian countries tend to be net importing countries that rely on high tariffs and/or TRQs (tariff rate quotas) with prohibitive out-of-quota tariffs in many agricultural and food sectors (for example, Korea and Japan).

Tables 1 and 2 report on two indicators: gains in the efficiency of resource allocation and rural net income (value added) in various countries (see the box for an explanation of country groupings). The analysis considers the removal of all export subsidies, tariffs and TRQ schemes, as well as output and input subsidies affecting production decisions in high-income countries for eleven agricultural activities and six food

**TABLE 1. REAL INCOME IMPACTS FROM AGRICULTURAL REFORM IN HIGH-INCOME COUNTRIES/REGIONS (IMPACT IN 2015 COMPARED TO THE BASELINE)**

	Removal of All Protection	
	(1997 billion \$)	(percent)
United States	5.0	.05
Western Europe	17.0	.17
High-income Asia	22.1	.34
Canada	4.2	.55
Australia and New Zealand	7.7	.12
Argentina	3.6	.79
Brazil	3.2	.32
China	-0.7	-.04
India	1.6	.23
Rest of East Asia	0.6	.07
Rest of Latin America and the Caribbean	9.2	.72
Eastern Europe and Central Asia	3.2	.22
Sub-Saharan Africa and SACU countries	1.8	.57
Rest of the World	3.6	.22
Low- and middle-income countries	26.0	.27
High-income countries	56.1	.20
World total	82.1	.21
Cairns group	28.5	.57

**TABLE 2. IMPACT ON NOMINAL RURAL VALUE-ADDED FROM AGRICULTURAL REFORM**

	Removal of All Protection	
	(1997 billion \$)	(percent)
Western Europe	-28.8	-15.5
United States	5.5	4.8
High-income Asia	-34.4	-36.6
Canada	2.1	15.4
Australia and New Zealand	7.8	41.5
Argentina	6.6	15.5
Brazil	5.7	7.0
China	7.9	2.0
India	4.9	3.3
Rest of East Asia	1.5	1.4
Rest of Latin America and the Caribbean	15.3	15.2
Eastern Europe and Central Asia	7.7	10.8
Sub-Saharan Africa and SACU countries	3.4	6.3
Rest of the World	10.3	6.8
Low- and middle-income countries	63.4	5.5
High-income countries	-47.7	-11.2
World total	15.7	1.0
Cairns group	39.1	10.8

Note: Loss of value is net of agricultural subsidies.

sectors including two meat sectors, vegetable oils, dairy products, sugar, and other food.

Table 1 shows that the loss in wealth due to the inefficiencies created by government intervention is large, amounting to about \$82 billion annually at 1997 prices. Developing countries would gain about \$26 billion per year at 1997 prices. Much of the gain in efficiency in rich countries comes about because of lower taxpayer cost (in both the U.S. and the EU) and lower food costs to consumers (in the EU and in high-income Asian countries).

Table 2 shows which countries' producers would win and which would lose. In general, removal of subsidies would result in rising global food prices that would improve incomes among farmers without prior support. The big losers would be farmers in Western Europe and high-income Asia (mainly Japan). High-income countries' agricultural policies are a huge tax on developing-country agriculture. The results indicate that rural value-added in these countries could increase by more than \$63 billion per year. Perhaps of most significance, this income would be delivered directly to the doorstep of poor households in the developing world by the marketplace, bypassing local, regional, and national governments and a variety

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*These results  
support those who  
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of other mediating institutions. This figure, incidentally, exceeds the most ambitious target for increased aid from rich countries by 20 percent. These results support those who believe that the best way to aid poor countries is to give them economic opportunities rather than direct aid.

The Cairns group, including Australia and New Zealand, would be a clear beneficiary of this liberalization. These two countries do not protect their domestic farmers and are net exporters of important commodities. The group would stand to realize gains of \$28.5 billion per year through higher prices received for their exports, and their rural net income would increase by more than \$39 billion per year at 1997 prices.

These results show that poor countries' protests about the direc-

tion of agricultural negotiations are based on real concerns. An abolition of high-income countries' agricultural support would be a potent catalyst for global poverty alleviation while simultaneously reducing taxpayers' burdens. Of course, the United States and the European Union are not about to agree to an abolition, but poor countries would still gain significantly if rich countries supported their farmers in ways that did not lower world prices and did not require import barriers. It seems unlikely that a new agricultural agreement can be obtained in the Doha Round, unless the United States and the European Union agree to move toward lower and less coupled support for their farmers. Ironically, the European Union is making such a move with a midterm review of their policies, while U.S. policy is moving in the other direction. It will be interesting to see if U.S. trade negotiators will exert more influence over the direction of the next farm bill as they attempt to come to terms with a new WTO agreement on agriculture. ♦

*To learn more about this analysis and its limitations, see CARD Working Paper 02-WP 308, available at [www.card.iastate.edu](http://www.card.iastate.edu).*

## GROUPING OF COUNTRIES

*In the analysis, countries are grouped as follows.*

### High-Income Economies

Western Europe with the EU-15 and European Free Trade Association (EFTA) countries (Iceland, Liechtenstein, Norway, and Switzerland), the United States, Canada, Australia, and New Zealand

### High-Income Asia

Japan, South Korea, Taiwan, Singapore, and Hong Kong

### Developing and Transition Economies

Argentina, Brazil, China, India, Rest of East Asia, Rest of Latin America, and the Caribbean, Eastern Europe and Central Asia, Sub-Saharan Africa and South African Customs Union (SACU) countries (South Africa, Botswana, Lesotho, and Swaziland), and Rest of the World

## Meet the Staff: David Hennessy

Professor David Hennessy joined the faculty at the Center for Agricultural and Rural Development (CARD) in the summer of 2001 to provide research on industrialization in agriculture and the role of information in farm-level production decisions and in the provision of safe food. His research also investigates systemic risks in the agricultural sector.

Having received his Ph.D. in agricultural economics at Iowa State University in 1993, he returned to his alma mater as an assistant professor in 1996. David spent the intervening years as an agricultural economist and assistant professor at Washington State University, a time he remembers fondly as having provided him with “a lot of perspective on the profession and on academia in general.”

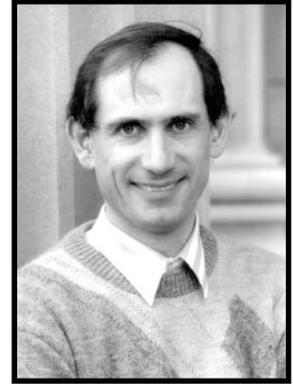
David’s career in agricultural economics began in his native Ireland at the University College Dublin, National University of Ireland. From a young age, he was interested in organization, in how things function—or don’t function. “It seemed to me to be amazing that the world worked at all when no one seemed to know much beyond an operational level about how things, in general, worked.” He decided to study agricultural economics because it addresses the issues that are important to rural communi-

ties and to farmers, like his father, who still farms part-time.

The autonomy of the farming lifestyle was something David always appreciated, and after 15 months working for the Irish government, he left Ireland for the greater freedom of academic pursuits, enrolling at Iowa State. Along with his father, his mother, two brothers, one sister, two nieces, and two nephews reside in Ireland.

David says he joined CARD because “it is the premier agricultural and natural resources academic research center at a land grant university.” “It has managed to achieve, on a continuing basis,” he says, “the difficult task of combining innovative research with a program of contribution to current and pending policy debates.”

David’s most recent research at CARD explores food production systems that involve many interacting stages and two or more decision makers. He and his co-authors found that leadership by one or more firms in communicating about various actions throughout the production process could bring about an increase in overall food quality. The study suggests that strict control of inputs can raise quality levels of products; however, in practice, many inputs may be difficult for firms to regulate. In addition, the



David Hennessy

authors conclude that because there may be no private incentive for firms to take a leadership role, ultimate liability for breakdowns in a food system may have to be assigned through legislative action.

The Iowa State University College of Agriculture awarded the “Early Achievement in Research” distinction to David for the 1999-2000 academic year. His research is often published in the most prominent professional journals. In addition to his research efforts, he teaches courses in commodity market analysis, business economics, agribusiness management, demand and supply systems, and decision analysis. When he’s not busy with the demands of teaching and research, he fills his recreational time with running, walking, swimming, reading, and movies. ♦

### *Beef Quality Assurance “Down Under” continued from page 5*

entiation is achieved through the sorting of commodity beef for different overall values rather than the production of a non-commodity product. Most U.S. customers are satisfied with the existing commodity system, and risk-averse producers are reluctant to adopt and/or document production practices that increase cost without some assurance of higher revenues in return. Processors continue to rely on post-harvest treatment of commodity

beef to add value by sorting, packaging, preparing, or advertising for changing consumer needs. They need only a safe raw product.

Slowly, and from a small base, some individual supply chains in the United States are breaking away from the commodity model. Perhaps the closest system the United States has to the Australian system is the USDA Process-Verified Beef program. Currently, the program is not widely used but it could be adopted by several supply chains. New differentiated supply chains are focusing on production practices

(“natural,” for example) or genetics and may require additional documentation. Likewise, export markets may require additional information about products before they allow access. These changes may provide U.S. producers with economic incentives to follow the lead of Australian and New Zealand systems. ♦

*John Lawrence is a livestock economist and director of the Iowa Beef Center at Iowa State University. More information about the Iowa Beef Center is available at [www.iowabeefcenter.org](http://www.iowabeefcenter.org).*

## USDA Honors the Food and Agricultural Policy Research Institute

The Food and Agricultural Policy Research Institute (FAPRI), an affiliate of CARD, received a Secretary's Honor Award from U.S. Secretary of Agriculture Ann Veneman at a ceremony in Washington, D.C., on Monday, July 8. FAPRI is a dual organization administered by Iowa State University and the University of Missouri-Columbia.

The Secretary's Honor Awards are the highest awards bestowed by the U.S. Department of Agriculture. FAPRI's recognition was in the cat-

egory "Expanding Economic and Trade Opportunities for United States Agricultural Producers."

CARD Director and FAPRI Co-director Bruce Babcock said he appreciated this acknowledgement of the FAPRI team's efforts in helping to inform the discussion surrounding the new farm legislation. "This award recognizes the outstanding research effort by FAPRI at ISU and Missouri in analyzing policy proposals during the 2002 farm bill debate," Babcock said. "This group

has dedicated itself to being the world's best at conducting agricultural policy analysis."

The 56th annual Secretary's Honor Awards were held at the Ronald Reagan International Trade Center in Washington, D.C. Individuals and groups nationwide were singled out for their exemplary performance in work relating to the U.S. Department of Agriculture's mission of public service. ♦

## Recent CARD Publications

### WORKING PAPERS

- Ahmad Kahlil, Philip W. Gassman, Ramesh Kanwar. "Evaluation of the Tile Flow Component of the SWAT Model under Different Management Systems." Working Paper 02-WP 303, June 2002.
- Babcock Bruce A., Chad E. Hart, Dermot J. Hayes. "Crop Insurance Rates and the Laws of Probability." Working Paper 02-WP 298, April 2002.
- Beghin, John C., David Roland-Holst, Dominique van der Mensbrugghe. "Global Agricultural Trade and the Doha Round: What Are the Implications for North and South?" Working Paper 02-WP 308, June 2002.
- Beghin, John C., Jean Christophe Bureau. "Quantification of Sanitary, Phytosanitary, and Technical Barriers to Trade for Trade Policy Analysis." Working Paper 01-WP 291, December 2001.
- Beghin, John C., Barbara El Osta, Jay Cherlow, Samarendu Mohanty. "The Cost of the U.S. Sugar Program Revisited." Working Paper 01-WP 273, March 2001.
- Fabiosa, Jacinto F. "Assessing the Impact of the Exchange Rate and Its Volatility on Canadian Pork and Live Swine Exports to the United States and Japan." Working Paper 02-WP 305, June 2002.
- Feng, Hongli. "Green Payments and Dual Policy Goals." Working Paper 02-WP 304, online only, June 2002.

- Hennessy, David A., Jutta Roosen, Helen H. Jensen. "Systemic Failure in the Provision of Safe Food." Working Paper 02-WP 299, April 2002.
- Lapan, Harvey L., GianCarlo Moschini. "Innovation and Trade with Endogenous Market Failure: The Case of Genetically Modified Products." Working Paper 02-WP 302, May 2002.
- Mohanty, Samarendu, Cheng Fang, Jagadanand Chaudhary. "Assessing the Competitiveness of Indian Cotton Production: A Policy Analysis Matrix Approach." Working Paper 02-WP 301, May 2002.
- Opsomer, Jean D., Helen H. Jensen, Sarah M. Nusser, Dorin Drignei, Yasuo Amemiya. "Statistical Considerations for the USDA Food Insecurity Index." Working Paper 02-WP 307, online only, June 2002.
- Saak, Alexander E. "Location and Marketing under Marketing Assistance Loan and Loan Deficiency Payment Programs." Working Paper 02-WP 297, April 2002.
- Schneider, Uwe A. "The Cost of Agricultural Carbon Savings." Working Paper 02-WP 306, June 2002.
- Schneider, Uwe A., Bruce A. McCarl. "The Potential of U.S. Agriculture and Forestry to Mitigate Greenhouse Gas Emissions: An Agricultural Sector Analysis." Working Paper 02-WP 300, May 2002.

- Zhao, Jinhua, Catherine L. Kling. "Environmental Valuation under Dynamic Consumer Behavior." Working Paper 02-WP 292, online only, January 2002.

### STAFF REPORT

- Jensen, Helen H., Steven Garasky, Cory Wessman, Sarah M. Nusser. "A Study of Households in Iowa that Left the Food Stamp Program." Staff Report 02-SR 97, March 2002.

### FAPRI REPORTS

- Babcock, Bruce A., John Beghin, Jay Fabiosa, Stephane De Cara, Amani El-Obeid, Cheng Fang, Frank Fuller, Chad Hart, Murat Isik, Holger Matthey, Alexander Saak, Karen Kovarik, and FAPRI Staff, University of Missouri-Columbia. "FAPRI 2002 World Agricultural Outlook." FAPRI Staff Report 1-02, January 2002.

### MATRIC BRIEFING PAPERS

- Lawrence, John D. "Quality Assurance "Down Under": Market Access and Product Differentiation." MATRIC Briefing Paper 02-MBP 1, May 2002.
- Loneragan, Steve. "Beef Mission 2001: Chengdu, Guangzhou, Panyu, and Hong Kong, China." MATRIC Briefing Paper 02-MBP 2, online only, May 2002.

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