REVIEW OF THE STATE OF THE FARM ECONOMY AND THE IMPACT OF FEDERAL POLICY ON AGRICULTURE

HEARING

BEFORE THE

SUBCOMMITTEE ON
GENERAL FARM COMMODITIES
AND RISK MANAGEMENT

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

SEPTEMBER 29, 2005

Serial No. 109–17

Printed for the use of the Committee on Agriculture
agriculture.house.gov

U.S. GOVERNMENT PRINTING OFFICE

24–057 PDF WASHINGTON : 2005

For sale by the Superintendent of Documents, U.S. Government Printing Office
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REVIEW THE STATE OF THE FARM ECONOMY AND THE IMPACT OF FEDERAL POLICY ON AGRICULTURE

THURSDAY, SEPTEMBER 29, 2005

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON GENERAL FARM COMMODITIES
AND RISK MANAGEMENT,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:04 a.m., in room 1300 of the Longworth House Office Building, Hon. Jerry Moran (chairman of the subcommittee) presiding.

Members present: Representatives Johnson, Bonner, Neugebauer, Fortenberry, Etheridge, Salazar, Marshall, Herseth, Butterfield, Melancon, Barrow, Pomeroy, Larsen, Scott, and Peterson [ex officio].

Staff present: Tyler Wegmeyer, Craig Jagger, Bryan Dierlam, Callista Gingrich, clerk; Lindsey Correa, Chip Conley, Clark Ogilvie, John Riley, and Anne Simmons.

OPENING STATEMENT OF HON. JERRY MORAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. MORAN. The Subcommittee on General Farm Commodities and Risk Management will come to order.

We are here today to review the general state of the farm economy and in light of several significant hurricanes and storm related damages, plus ever increasing input costs, in light of the fact that we have a farm bill in consideration to begin in the near future, we thought it was appropriate for the subcommittee to begin their review of just generally where we are in the economics of agricultural production today in the United States. We have a number of witnesses, generally from academia and economists and we are very interested in hearing what they have to say.

Farm income was up significantly in 2003 and 2004. It is estimated that farm income will be down in 2005, but any suggestion that things are good in agriculture certainly doesn't meet the reality test when at least, I am home among Kansas farmers. And having just completed 69 town hall meetings, one in each of the counties that I represent, clearly, farmers are concerned about the cost of input. It is the concern about the cost of fuel and I think, in our State, it is estimated that the average farmer's fuel bill will increase this year by $17,000. It is the cost of fertilizer and in portions of my district and State where irrigation is prevalent, it is the

cost of natural gas. So as we sometimes read the headlines or the stories that indicate that farm income has improved, it also is important, I think, for us to consider the effects of the energy circumstances we face in this country upon farmers.

I relate to my constituents that I have the opportunity to change my driving patterns. I can slow down, I can turn off the air conditioner, I can ride my bike. Slowing down, actually, is the most difficult thing to do. But my farmers have few options and therefore those input costs have a dramatic effect upon their ability to not only feed the world, but to feed their families. And so we have gathered experts from across the country today to give us an overview of the farm economy, particularly in light of ever increasing energy costs and I am particularly interested in where we see that trend going and whether there is a consequence to that increasing input cost in how we develop the 2007 farm bill. So we are delighted to have our witnesses with us. We are delighted to hear what they have to say and hopefully help us make intelligent and wise decisions as we determine agricultural policy now and in the future. I now recognize the gentleman from North Carolina, Mr. Etheridge.

OPENING STATEMENT OF HON. BOB ETHERIDGE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA

Mr. ETHERIDGE. Thank you, Mr. Chairman. Let me welcome our witnesses and guests today and I think it is, as the chairman said, very appropriate that we be holding the hearing now, not only to talk about the current position of agricultural economy, but do a little peering through a telescope to the future in light of the natural disasters we have just had and certainly, as he has said, in light of the current conditions of energy in this country and the cost of it and what impact it is going have, not only in agriculture, but on the economy in general, which again, will reflect back on the income of farmers. And not only allow us to get an assessment of how we are handling the recent disaster, but hopefully help us prepare for the future hearings, as all of us know will be forthcoming for the next farm bill.

So I look forward to hearing from both of our panelists and the panelists yet to come. And Dr. Collins, I hope you will take a little time, as you are giving us an update on the Department, to give us some damage assessments as you have them, from the recent hurricanes of Katrina, Rita, the drought in the Midwest, and if you have the numbers, I hope you will feel free to give us a little prognostication on what impact the energy costs are having now on agriculture, but also in the overall economy, how that is going to reflect back on agricultural commodities over the next several months and maybe even years, and our ability to market that in a world economy. Thank you, Mr. Chairman.

Mr. MORAN. Thank you, Mr. Etheridge.

Any statements for the record will be accepted at this time.

[The prepared statement of Mr. Peterson follows:]

PREPARED STATEMENT OF HON. COLLIN C. PETERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

I want to thank Chairman Moran and Ranking Member Etheridge for holding todays hearing. There are tremendous needs in agriculture now. Recent disasters show widespread crop and livestock losses. Energy prices are hitting farmers through fuel, fertilizer and other costs, driving up input costs and decreasing already thin margins.These needs come at a time when our trade negotiators and the President are making statements indicating that they are willing to bargain away our domestic safety net, just as we are about to write a new farm bill.

We need to address the immediate needs of producers facing disaster situations; however, we must also recognize what farmers already know—crop insurance and ad hoc disaster packages are often inadequate and unpredictable. It is time to look seriously at implementing a standing disaster program, so the guesswork is removed from our farm and nutrition programs in the event of a disaster.

Our current needs also set the stage for the debate on the next farm bill. Questions of whether farm policy should be focused on price or income; is the cost of production adequately addressed by farm policy; and how flexible should our farm programs be to respond to disaster, will need to be addressed as we move forward.

I look forward to todays testimony and hope that it begins to help us understand the current state of American agriculture, so that we can answer some of the short-term and long-term questions facing this committee.

Mr. MORAN.We do have our first panel and they are welcome to the table. Dr. Howard Gruenspecht is the Deputy Administrator of the Energy Information Administration, U.S. Department of Energy, as well as Dr. Keith Collins, one of our regular participants in these hearings, who is the Chief Economist at the U.S. Department of Agriculture and also the Chairman of the Federal Crop Insurance Corporation. Dr. Gruenspecht, we will begin with you. Thank you very much.

STATEMENT OF HOWARD GRUENSPECHT, DEPUTY ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY

Mr. GRUENSPECHT. Thank you, Mr. Chairman and members of the committee. I appreciate the opportunity to appear before you today to discuss recent developments in energy markets and their possible implications for the agricultural sector. The Energy Information Administration is the independent statistical and analytical agency in the Department of Energy. We do not promote, formulate or take positions on policy issues, but we do produce data, analyses and forecasts that are meant to assist policy makers, help markets to function efficiently and inform the public.

Hurricanes Katrina and Rita wrought incredible devastation on the central Gulf Coast, most importantly in terms of human suffering, but also in terms of economic impacts that have spread well beyond the stricken area. At its peak impact, Katrina shut down over 25 percent of U.S. crude oil production, 20 percent of crude imports, 10 percent of domestic refinery capacity and over 15 percent of U.S. natural gas production. Some of those impacts were temporary, but others will continue to affect output for many months to come.

Rita has compounded these effects. As of yesterday, the Minerals Management Service reports that all oil production and over 78 percent of natural gas production in the Federal offshore Gulf of Mexico is shut in. Moreover, while many Texas refineries have restarted or are returning to operation, 3.6 million barrels a day of refining capacity, as of yesterday, is off line and roughly 2.5 million

barrels of refining capacity in Texas and Louisiana is expected to remain inoperable for at least 2 weeks with some capacity possibly remaining out for several months.

As you alluded to in your opening statements, the farm sector is a significant consumer of energy, particularly diesel fuel, propane and electricity. In addition to direct farm use of energy, agriculture is indirectly affected by the energy requirements of the fertilizer industry, specifically in nitrogenous fertilizers. With this background in mind, let me turn to recent energy market developments, starting with petroleum.

Even before Hurricane Katrina struck on August 29, crude oil and petroleum prices were setting records. Oil prices worldwide had been rising steadily since 2002, due in large part to growth in global demand, which had used up much of the world's surplus production capacity. Refining has also been running at increasingly high levels of utilization in many parts of the world, including the United States.

In the immediate aftermath of Katrina, with the extent of the actual damage still largely unknown, crude oil prices rose briefly over $70 per barrel, but in less than a week had fallen below their prestorm levels. The more significant price impact, however, was on finished petroleum products. Wholesale prices for gasoline rose more than $1.40 per gallon east of the Rockies within 3 days and wholesale diesel fuel prices rose 35 to 40 cents a gallon.

The seemingly disproportionate change in finished product prices reflects the severity and expected persistence of the impacts of Katrina and now Rita on refining operations in the Gulf. Wholesale product prices, like those of crude oil, have fallen back somewhat from their peak levels, but obviously, Rita, then following on after Katrina, has moved things in the other direction.

The near-term outlook for oil markets depends on a number of factors, but the most important is the rate at which refinery capacity can be brought back on line. The Energy Information Administration released our monthly Short-Term Outlook, I think, September 7. We do this every month. We will do another one in October. And in that Outlook, we considered several cases based on the speed of recovery of the energy system from the effects of Hurricane Katrina.

In our Medium Recovery Case, we expect that the price of diesel fuel, at the wholesale level, would be up in September about 22 cents from its August level and that that price would slowly decline. However, the September price would be about 79 cents per gallon higher than the same month a year ago, while in December, after prices declined somewhat, the year-over-year increase would be 73 cents per gallon. And again, this is prior to Rita.

Natural gas. Like crude oil and petroleum products, natural gas prices were also setting records even before Hurricane Katrina struck. In August, the Henry Hub natural gas price averaged over $9 per thousand cubic feet as hot weather in the East and Southwest increased natural gas-fired electricity generation for cooling demand.

In our Medium Recovery case, again, we expect prices at the Henry Hub to remain well high by historical levels. Depending on the speed of recovery from supply losses in the Gulf of Mexico, the

average price across the three recovery cases for the fourth quarter range from $11 to $13 per thousand cubic feet. We do expect the natural gas market to stay tight for the next couple of months, particularly given the supply impacts of Katrina and Rita. Maybe a brighter part of the picture, from the agricultural perspective, is the impact of higher petroleum prices on ethanol's competitiveness as an energy source. EIA has recently done several studies in connection with the Energy Policy Act of 2005 and we found that the penetration of ethanol was very sensitive to the oil price scenario and I think that is discussed at greater length in my written testimony.

In terms of energy expenditures, for this winter, we expect heating costs to be significantly higher than last winter. It varies by fuel and by region. In terms of farm costs, all I would say is that every additional dime added to the price of diesel oil sustained over a year at about $400 million annually to U.S. agricultural costs. Every dollar added to the price per thousand cubic feet of natural gas costs over $200 million and obviously affects the cost of fertilizer.

That concludes my statement and I would be happy to answer any questions that you or the other members might have. Thank you, Mr. Chairman.

[The prepared statement of Mr. Gruenspecht appears at the conclusion of the hearing.]

Mr. MORAN. Thank you, Doctor. Dr. Collins, welcome.

STATEMENT OF KEITH COLLINS, CHIEF ECONOMIST, U.S. DEPARTMENT OF AGRICULTURE AND CHAIRMAN, FEDERAL CROP INSURANCE CORPORATION

Mr. COLLINS. Thank you very much. Mr. Chairman, Mr. Etheridge, members of the subcommittee, including Mr. Peterson, the full committee's ranking member, thanks for the chance today to discuss the state of the U.S. farm economy. As we all know, the U.S. farm economy began a recovery in 2003 that has continued up until this year. U.S. and global income growth and rising agricultural exports have helped push U.S. net cash farm income to a record high in 2003, set another record in 2004 and cash income this year is likely to be near last year's record high level. Partly reflecting these returns, U.S. farm land values increased 11 percent in 2004. That was the highest increase since 1981 and we are forecasting a 7 to 8 percent increase in land values in 2005.

While aggregate cash income has remained healthy and farm equity is growing, as the chairman noted, there are several factors that will cause uneven economic performance for many producers and are raising uncertainty about next year.

First, sharply higher energy prices are cutting into net farm income and will likely continue to affect production input and marketing costs in 2006. Second, losses caused by drought in the Corn Belt and Hurricanes Katrina and Rita, as well as other regional adverse weather, have reduced income prospects in those affected areas. Third, rising interest rates are increasing farm production costs, and with higher energy prices, raising uncertainty about the future rate of economic growth.

Large world production and record U.S. crops last year have caused prices of major crops to pull back this year. The price decline has been reinforced by large crops expected to be harvested this fall. In fact, despite the weather problems, we are forecasting the second largest corn crop, the second largest cotton and rice crops ever and the third largest soybean crop ever this fall. Congestion on the Mississippi River, due to the hurricanes, has also exacerbated the price declines, although the river traffic appears to be rapidly resuming. The sharp increase in loan deficiency payment rates and counter-cyclical payments, will offset some of this market price decline. But this will, of course, add to farm program spending, which was already up. Farm program spending, which dropped to $10.6 billion in fiscal 2004, was expected to be $19.5 billion in 2005 and $22 billion in 2006, even prior to Hurricanes Katrina and Rita.

World economic growth and rising U.S. agricultural exports will continue to underpin the health of many farm commodity markets. USDA's late August forecast placed U.S. agricultural exports at $63.5 billion for 2006, up roughly $13 billion from the year 2000. This would be record-high exports, even though Asian markets remain closed to our beef. Beef and veal exports this year are forecast to be only $800 million and that compares with over $3 billion in 2003, the last year of normal beef trade. Despite the closed beef markets and increasing meat and milk production this year, livestock and poultry producers have again seen good financial returns. Even though meat production and poultry production are expected together to be up 2.5 percent, after little change in 2004, consumer demand for meat and dairy products has been strong and the livestock and livestock product prices set records in 2004 and are at or near those levels in 2005. Lower feed costs are also boosting returns.

For the 2006–07 crop markets, we must closely watch global demand and U.S. input markets. For example, ammonia prices after Katrina struck were being quoted at nearly 40 percent above a year ago. That plus higher diesel costs could pressure returns for producers of energy-intensive crops.

For livestock next year we expect the prices of the past 2 years, which have been good, and the turning of the cattle cycle, which is finally increasing, to result in a near 3 percent expansion in total meat and poultry production and that is going to mean softer prices for livestock and livestock products. Despite uncertainties, weather shocks and the prospect of declining future returns, there are many positive forces supporting U.S. agriculture. Global economic growth at this point appears sound, export prospects remain good, global grain stocks as a percent of use remain low by historical standards. Meat demand remains firm. Farm programs are offsetting much of the price declines for program crop producers and participation in crop insurance is high.

In addition, crop prices could move higher over coming months after the harvest passes and the logistical snags caused by Hurricanes Katrina and Rita are fixed. That completes my statement, Mr. Chairman.

[The prepared statement of Mr. Collins appears at the conclusion of the hearing.]

Mr. MORAN. Thank you, Dr. Collins. The increasing input costs of fuel fertilizer and natural gas that farmers in the United States are facing, is that creating a competitive disadvantage in comparison to the producers, farmers in other parts of the world or are all farmers experiencing the same kind of increase in input cost?

Mr. COLLINS. Well, not all farmers are experiencing exactly the same, but generally, of course, crude oil is priced in dollars on world markets and depending upon exchange rates and local conditions, it can differ from country to country. In addition, a big difference between us and other countries is natural gas prices, where we have extremely high natural gas prices because it is not an internationally traded commodity. I guess our liquefied natural gas imports account for a very small percentage of our total use and so we have high natural gas prices which has fed into higher fertilizer prices, nitrogen prices, whereas other countries of the world may not face such higher nitrogen prices.

So I think there is going to be a difference in energy costs between U.S. agricultural producers and those in other countries. I am not sure it has put us at a competitive disadvantage at this point because we have had very large crops, we also have very large crops in storage and we price competitively on world markets, and what it means to be able to price competitively and maintain our market share in those commodities is that producers may have to take a lower price and that gives them less income to pay those higher energy costs. Over time, if energy prices stay high and farm prices stay where they are now, then I think we could be at more of a competitive disadvantage, but I don't see us at this point.

Mr. MORAN. Is there any evidence, any way to predict the number of U.S. farmers, due to increasing input costs who will no longer remain as farmers?

Mr. COLLINS. No, I cannot predict that. I am sorry.

Mr. MORAN. Dr. Collins, it is the anecdotal conversation at, kind of, in every community is with these prices, commodity prices where they are and fuel and fertilizer prices where they are will not be in business next year. Is there truth to that?

Mr. COLLINS. I don't think for most producers there is truth to that. I heard that in 2000 and 2001 and we got by that. I think you have to put what is going now in a little bit of perspective. Agricultural markets are cyclical. We have been, the last couple of years, at the top of a cycle. You might say we were at the bottom in 1998 and 1999. Not only are we at the top, we are way beyond what most people expected the top to be. Farm income, in 2004, was 20 percent above the all-time previous record. Now, I point that out to say that people in cyclical businesses have to understand that that is the nature of their business and so they have to prepare for that.

They have to save, in the good years, to cover the bad years because the bad years come in agriculture, as everybody knows who has been the business for a long period of time. So I am hoping that there are a lot of producers who stored some of that high income from 2003–04 and the first part of 2005 in their rainy day fund to help cover next year. Is every producer going to be in that position? No. There are surely going to be producers that are going

to be squeezed by this situation, but at this point, I couldn't tell you how many people are going to be in that position.

Mr. MORAN. Dr. Gruenspecht, the hurricane, as I understand it, has reduced natural gas production in the Gulf of Mexico and according to the EIA website, the working gas in storage has increased 3.4 percent above the 5-year average. If our working gas supply has increased above the 5-year average, how do we explain the cost of natural gas? Do we have less storage capacity? I am reading this question, although it is one that Kansans talk to me about all the time. I am trying to get the words correct so that I can ask the question appropriately, but there is a real sense out there that we have increased our natural gas supplies and yet the price keeps going up. Response?

Mr. GRUENSPECHT. Well, I think storage is one important factor that affects the price. I would say that earlier this year we running not only above the 5-year average, but we were running above last year's storage and that is no longer the case. We are now below last year's storage level. But the other thing that I think the markets look at are the prospects for production. If you are looking at a, say, production shortfall of let us say 3.4 billion cubic feet a day, which was where we were 3 weeks after Katrina, but before Rita hit. If that persists for a month, 3.4 billion cubic feet times 30 days becomes 100 billion cubic feet. So very quickly, if you have production reduced, there is a concern about the future market balance.

Mr. MORAN. Was the production reduced before the hurricanes?

Mr. GRUENSPECHT. Actually, they were still in effect, I believe, of Hurricane Ivan that persisted for quite a long time and it is also the case that production in the Gulf of Mexico has tended to decline somewhat over time. That is an old production area and production had been falling off as a function of time, as well as due to Hurricanes Ivan, Katrina and Rita, so natural gas is a real challenge balancing supply and demand, and over time we see LNG coming in more, we see perhaps a pipeline from Alaska eventually being built, but that will take 10 years to build, so some of the unconventional gas will come in, as well, from the Rockies.

Mr. MORAN. Let me make sure I understand your answer because this one I have to explain at home.

Mr. GRUENSPECHT. Right.

Mr. MORAN. There is greater gas in storage and that is one factor in determining the market price for natural gas, but what you are telling me is another factor is the potential to replace the gas in storage, i.e. production.

Mr. GRUENSPECHT. Right.

Mr. MORAN. And that we have seen as being reduced over a period of time even prior to Katrina and Rita. Is that accurate?

Mr. GRUENSPECHT. That is a fair description, sir.

Mr. MORAN. And the future, in that regard?

Mr. GRUENSPECHT. Rita, the impacts have not really been evaluated. Right now, the outages are about 7.8 billion cubic feet a day, which is significantly more than 3.4. The question is how quickly will that come back? In part, it has to do with the production infrastructure, itself. In part, it has to do with the subsurface pipelines that bring that to shore and there is another aspect of it, which is a natural gas processing plant. Some natural gas goes directly from

the well into the transmission and distribution system, but other gas is processed and some of those plants, you don't hear as much about them as you do about refineries, but some of those plants along the Gulf suffered significant damage and their availability is a very important question.

Mr. MORAN. Thank you very much. The gentleman from North Carolina, Mr. Etheridge.

Mr. ETHERIDGE. Let me just follow that up with one point and if you can answer with a yes or no, because it is hard to explain to the people we deal with that all this stuff in storage, the price goes up dramatically. The cost of that has already been paid. There is a windfall on what you now have in storage.

Mr. GRUENSPECHT. There is certainly a capital gain, I will give you that.

Mr. ETHERIDGE. They called it another thing and I tend to agree with them. Dr. Collins, in your testimony, you project an agricultural trade surplus for fiscal year 2005 at $4.5. billion. That is a sharp decline from last year's surplus of $9.7 billion. The Department's export/import projection for the fiscal year 2006 when they had an agricultural surplus of $2.5 billion.

The farmers I talk with are starting to see a steady decline in the agricultural trade surplus and are growing more and more concerned as these declines appear to be caused by a surge in foreign imports. Since 2002 agricultural imports have risen by an average of $5.5 billion a year, compared to the previous 3 years when they rose by an average of $1.2 billion. What is the source of this increase in imports? Is it the trade agreements we have enacted over the past 3 years or are there other economic reasons behind it?

Second, what agricultural products are we bringing in that represents this potential increase and finally, are they displacing products grown here or are they products not produced in the United States?

Mr. COLLINS. Mr. Etheridge, I think the trade agreements are probably a minor factor in this. I think the major factor is the rising affluence of Americans, the diversity of our population; more Hispanics, more Asians; the desire for more horticultural products, fresh fruit and vegetables year round. Half of our imports are horticultural products, so there are seasonal imports that come in, there are fruits that are produced in other countries and ethnic foods that come in, so I think the primary drivers have been a rise in income and affluence and our desire for horticulture products.

In addition to that, many of the imports that are coming in are things like wine and beer, essential oils, snack foods and processed foods, so it is quite an array of things, some of which we produce, much of which we don't produce, so I think it is something we are probably going to continue to see. Another factor I should mention is the diet and health consciousness of Americans that again causes them to want more fruits and vegetables, and fruits and vegetables happen to be something that is very labor intensive. For our fruits and vegetables production in the United States, about 40 percent of the production costs are labor.

Mr. ETHERIDGE. Do you see this trend continuing?

Mr. COLLINS. I see the trend continuing, yes, sir, I do.

Mr. ETHERIDGE. OK. Your testimony speaks of fiscal year trade surplus projections, though I know the Department also makes calendar year projections. Can you tell us the Department's projection for the agriculture trade surplus or deficit for the calendar year 2005–06? Many of the other statistics you sought are in calendar year. Is there a particular reason why trade projections are made using fiscal years?

Mr. COLLINS. That is a good question. For a long time, we used to do both calendar and fiscal years and then we stopped doing calendar and went to fiscal years because it was just too much work to do both. I really can't tell you why we chose fiscal over a calendar year.

Mr. ETHERIDGE. But testimony still carries both that.

Mr. COLLINS. I don't. In fact, my office clears and puts out the official projections for exports and we only do fiscal years. What you will see sometimes is other projections put out by other parts of the Government, but for us, we just do fiscal year. Unfortunately, we put out lots of projections. We put them out on a calendar year basis, like farm income. We put them out on a crop year basis, like corn prices. We put things out on a fiscal year basis, like farm program costs and exports.

Mr. ETHERIDGE. OK, final question of you is your testimony mentioned export projections for 2005 for the cotton crop. If Congress immediately eliminates the Step 2 Cotton Competitiveness Program as demanded by the Secretary in order to comply with the WTA ruling on the Brazilian case against the U.S. cotton program. What will be the impact on cotton prices and exports for this year and beyond?

Mr. COLLINS. Mr. Etheridge, when the administration sent their recommendation to Congress to repeal the Step 2 program back in the middle of the summer, we did do an analysis of the repeal of Step 2. At that time, looking out into the future, we had been projecting a Step 2 payment rate to exporters and to domestic mills of about 2 to 3 cents a pound. If that 2 to 3 cents a pound were removed, what that would mean is a little bit lower domestic farm price and a little bit higher price paid by foreign customers of U.S. cotton because we believe that 2 to 3 cent subsidy payment is split, with about 75 percent of it getting reflected in higher U.S. prices and about 25 percent of it getting reflected in lower export selling prices by our exporters.

So if you pull that 2 to 3 cents out, you get a little bit higher price in the world market for U.S. cotton, a little bit lower farm price. What it does to exports and domestic use are fairly modest. We don't think domestic textile mills respond very much to price changes. We estimated at the time maybe a 25,000 bale reduction in domestic use by cotton textile mills and we estimated that we would lose, in the first year, about 250,000 bales of cotton exports and over time, that that loss would diminish because markets would adjust to that.

However, I might tell you that today, as we sit here today, the Step 2 payment rate is running about 4 to 5 cents a pound, which is substantially higher than what we used when we looked at this a couple of months ago. So if I were to redo that analysis today, I would probably show a little bit bigger impact on the decline in

domestic textile use and a little bit bigger loss of exports in the first year. But again, I would have that loss dissipating over time as markets adjust.

Mr. ETHERIDGE. Mr. Chairman, I see my time has expired, but sometimes we use old projections to make decisions when we are in the current environment and the cost is going to be increasing in the future. And I think your last number of 4 to 5 cents is probably more accurate and could be higher if the energy prices continue and we would be put on a competitive disadvantage. I am not an economist, but I can figure. Thank you, sir.

Mr. MORAN. The gentleman from Alabama, Mr. Bonner.

Mr. BONNER. Thank you, Mr. Chairman. Dr. Collins, I am from Mobile, Alabama. My district was severely impacted by Hurricane Katrina. Last Thursday a group of farmers from my district, as well as some from Mississippi, came together to discuss the crop insurance programs that our country has and that the world looks upon, in many cases, with envy. And yet they were left wondering well, what about them? What happens to the nursery growers, for instance, or the Christmas tree farmers who are excluded from the current insurance programs that we have and it begs the question that since we have got a program that is a model, that many countries look upon with envy, after storms we seemingly continue to have to come up with disaster assistance to help compensate producers for their loss due to Mother Nature. And I guess my first question would be how do we make the crop insurance program that we have better, stronger and more available to people who currently are outside of that box?

Mr. COLLINS. Yes, sir. I would say that has been a major task of the Congress and the U.S. Department of Agriculture for the last decade. If you go back to the mid–1990's, we probably had 20 to 30 percent of insurable acres insured. As we sit here today, we have about 80 percent of insurable acres insured. If you go back to around year 2000, about 8 percent of our policies were what we call buy-up, that is producers were buying up 65 percent or higher coverage. Today it is over 50 percent buy-up, so I would like to celebrate crop insurance as somewhat of a success in terms of coverage over the last 4 or 5 years. We do have a nursery policy. Nursery is not excluded. It is a crop that is insurable.

For crops that are excluded, we have a complimentary program called the Non-Insured Assistance Program. Admittedly, it is like catastrophic coverage insurance. It only covers losses is excess of 50 percent. But any commodity produced in the United States for which insurance is not available, there is that safety net Non-Insured Assistance Program. So having said all that, we can still do a better job. We know, that as we look across the Nation, our rates that we charge producers are not necessarily always actuarially where they should be, so that some areas of the country might be paying more than they should be paying, and that will discourage producers from participating in the program.

We look at areas of the country and we know that in certain regions producers are buying just catastrophic coverage, and catastrophic coverage is 50 percent, it only covers 50 percent of the production at 55 percent of the value, so 0.5 times 0.55 is 27.5 percent. So you are only covered up to 27.5 percent of the total value of your

crop. That is not very satisfying if you have a loss, to get a check for 27.5 cents on a dollar. So we need to go across these commodities and we where we see that catastrophic coverage is the predominant coverage, we have to figure out what is wrong and why the program can't be made more attractive. And that is a balance that we do in crop insurance.

We are always looking at new products, like we are trying to increasingly get into livestock coverage and range, pasture and forest coverage, so we are always looking at new products, but we can't put all our resources just in new products. We have to look at the existing products where participation is insufficient and see what we can do to remedy that condition. It is just an ongoing process that we have to stay on top of.

Mr. BONNER. Well, I guess the follow-up is, is that when I go to meet with these farmers, these growers, this weekend and next week, and I give them the assurance that the Department is going to be aggressively working to come up with new ways to expand the current program and to make certain that they are not going to be forgotten in this. They are not looking for the Federal Government to come in and to create a welfare situation for them, but they are—you take a nursery, one lost $2 million of uninsured crops, that is a pretty heavy hit for a small business. And they are looking to me as they are looking to our colleagues from Louisiana and Georgia and South Dakota and Texas to try to make sure that we are not going to let them fall through the cracks of the programs that we have in place to try to protect them.

Mr. COLLINS. I think you can have our commitment and I say that as someone who works on crop insurance and has some role in what we do there. Nursery is probably our most complicated insurance product that we have. When a producer wants to buy nursery insurance, we have to send him a CD of the price elections. We have hundreds of thousands of price elections, because we quote prices for every single nursery crop by size of pot, from 1-inch pots to 10-inch pots for every variety of plant. It is a very complicated policy. It takes a lot of work on the part of the nursery growers to determine their insurable value. We have been working on trying to simplify that policy and make it more appropriate.

In fact, we just put out a nursery policy this year. In 2005 we amended the nursery policy and put out a whole new set of parameters and specifications on nursery, which we hope will make it more attractive and more usable in 2006 for producers. But I think you can tell your producers that the Department of Agriculture is deeply concerned with making crop insurance work. We are not particularly delighted about having crop insurance and disaster assistance programs. We have disaster assistance programs every year. We would prefer to have things based on crop insurance, actuarially sound crop insurance which is consistent with market principles, and that is the best way to get the most efficient production agriculture. So we are going to work on that.

Mr. BONNER. Thank you, Mr. Chairman.

Mr. MORAN. Thank you, Mr. Bonner. As I indicated to Mr. Bonner yesterday, members of our subcommittee, we anticipate sometime in the future having a hearing in the South, perhaps in Alabama, on this issue of crop insurance and how it works and

doesn't work in regard to the landscape business, the greenhouse industry, kind of the specialty crops, and take a look at specifically the hurricane issues and crop insurance, so we are trying to figure out when Congress might adjourn or recess so that we have the opportunity to take a further look. The chair now recognizes the ranking member. We are pleased to have you with us, Mr. Peterson.

Mr. PETERSON. Thank you, Mr. Chairman. I want to follow up. Is the administration, in the aftermath of this situation where the President has said we are going to do whatever it takes and talking about $200 billion, is the administration supporting an ad hoc disaster program as part of that?

Mr. COLLINS. I have had no intelligence on that, Mr. Peterson. The administration is still considering its position on disaster assistance.

Mr. PETERSON. So that is not part of the deal?

Mr. COLLINS. I can't say whether it is or whether it isn't. That is something more appropriate for the White House to say.

Mr. PETERSON. You don't take a position on that, you are just, you are not, the Department's not advocating that we do this?

Mr. COLLINS. I am not going to take a position on that today, Mr. Peterson.

Mr. PETERSON. Well, I didn't say you, but——

Mr. COLLINS. Or the Department.

Mr. PETERSON. I hope the administration gets on board because if we are going to spend the kind of money and, I went through a disaster. I had three towns under water and I support helping folks, but we have got to also, if we are going to do that, we have got to take care of the agricultural producers because they have been hard hit, not only there, but other parts of the country.

Mr. COLLINS. I would say that the Secretary has told us and said publicly that, while not taking a position one way or the other, if there is a disaster assistance bill for agriculture, he would like to work with Congress on that and ensure that it is something that is crafted in a most effective way.

Mr. PETERSON. Yes. And do I understand, so 80 percent of the people are insured now?

Mr. COLLINS. Eighty percent of insurable acres are insured.

Mr. PETERSON. Right. And half of that is CAT coverage?

Mr. COLLINS. I should know off the top of my head, but I can't remember what percentage is CAT.

Mr. PETERSON. Something like that, isn't that what you said?

Mr. COLLINS. No, no. I think CAT coverage is much, much lower. I think CAT coverage is like 15 or 20 percent. It is not half. It is well below that.

Mr. PETERSON. That is not actuarially sound. Even at 27.5 percent, those people aren't paying anywhere near what that costs.

Mr. COLLINS. Correct. It is a grant.

Mr. PETERSON. Yes. So I think we need to get honest about this. I looked at this crop insurance thing. We have got an ad hoc disaster every year for what, the last 7, 8 years. We are probably going to do it again this year. I think we are kidding ourselves.

The one thing that we are missing in this whole deal is to have a permanent disaster program as part of the farm bill and quit kid-

ding ourselves that we are ever going to fix crop insurance to make this thing work and if we could ever get out of a year where we don't have a disaster where we could pass this, giving the Secretary the authority to do this in a disaster county, we could put the requirement in there that unless you have buy-up coverage, you don't get that disaster payment and then we can finally get to the bottom of this thing.

But it is just every year after year after year we are doing this and I think we are kidding ourselves, so I have introduced a bill on this regard. I hope that you folks will look at it, because I think this is something that is missing in the farm bill and that we need to look at as we do the next farm bill.

Mr. COLLINS. Disaster is not an easy concept if you are going to wrap it around and actually sell a crop insurance policy. I worry about just adding that to what we have now.

Mr. PETERSON. Well, no, but what I am saying is that you wouldn't get the disaster payment unless you bought up and get rid of CAT coverage because we are kidding ourselves. We put the CAT coverage in because we passed disaster bills that said that you couldn't get a disaster payment unless you had crop insurance and so we let people buy crop insurance for $50 so they qualify, that is what that was all about.

Mr. COLLINS. Right.

Mr. PETERSON. We are just kidding ourselves.

Mr. COLLINS. Right. You have read the actions of Congress year in, year out on passing ad hoc disaster to say we are always going to have it. I would rather stick with crop insurance. I would rather have crop insurance than a grant program. I would rather have crop insurance delivered by the private sector than crop insurance delivered by the Government.

Mr. PETERSON. I don't think some of these areas are ever going to buy it and I have one more question and then I am out of time. We can discuss this later. On this income in 2003 and 2004 and 2005 that were the highest ever, how much of that is livestock, specifically cattle? Isn't one of the reasons that the income is up so much is we have had high cattle prices? Do you know what percentage of that is cattle prices?

Mr. COLLINS. I have it here in my notes somewhere, but I can't—I would be happy to give it to you. It is pretty close to 50–50. We have had 2 or 3 consecutive years of both crops and livestock receipts over $100 billion. We have never had that before in history, so there has been a big increase in livestock receipts over the last couple years.

Mr. PETERSON. I would guess the biggest percentage of this increase is in the cattle.

Mr. COLLINS. I would agree with that. Milk, too.

Mr. PETERSON. Yes, we had the high prices.

Mr. COLLINS. Right.

Mr. PETERSON. Yes. Thank you. Thank you, Mr. Chairman.

Mr. MORAN. Thank you, Mr. Peterson. The gentleman from Texas, Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you, Mr. Chairman. Thank you for holding this very important hearing because I think one of the things that I think most members of the committee are hearing is

that the energy prices are having a tremendous on the profitability of agriculture at just about every level. Dr. Gruenspecht, what are some of the things from a policy standpoint that could be considered to help give some near-term relief to producers on these high energy costs?

Mr. GRUENSPECHT. It is hard for Energy Information Administration to talk about policy. I can talk about some of the things that have been done, which are broadly targeted, I would say. There have been loans of oil out of the Strategic Petroleum Reserve to folks who could not get oil, crude oil, through their regular channel. There have been sales from the Strategic Petroleum Reserve. There have been coordinated releases of products with the other international energy agency countries to help bring product in, which is particularly important to the refining situation that we have.

There have been waivers of the Jones Act, which is to allow ships that would not normally be allowed to carry product in trade between U.S. ports to do that, which makes it easier to bring products in. There is certainly an effort to prioritize some of the restoration of electricity in ways that will help the energy industry come back into production. In some cases, some of the refining capacity, the issue is not damage to the facility, itself, but the lack of availability of electric power, so there is a lot of effort going on there, as well. There has been some relaxation of environmental fuel specifications to help fuel move around more easily. Those are just a few of the things that have been done.

Mr. NEUGEBAUER. One of the ideas that I think has been floating around a little bit would be to relax the fuel tax that, as you know, on production side of fuel consumption, that fuel is exempt from certain taxes. And one of the things that is being talked about is that to extend that to the delivery and to the production and to the shipping of some of those agricultural products, at least on an interim basis. What would be your, Dr. Collins, both of you, what would be your reaction to that?

Mr. GRUENSPECHT. I guess I would defer to Dr. Collins on that point.

Mr. COLLINS. I would defer to the Treasury on that point. People who are interested in deferring taxes are worried about the impact that the higher costs are going to have on them. There are others who are suggesting that we ought to even raise taxes to make oil and gas a more pricier commodity to encourage conservation and development of alternative sources of energy. So I don't have any particular thoughts on this except to say that from an economist's point of view, what happens is, when you have a cutback in supply of a commodity, the way the market works is prices go up, the prices encourage conservation.

They also encourage increased supply over time and so the markets adjust. If you start waiving taxes or subsidizing energy, what you do is you dampen that response on the consumer side, so you are going to get less of a cutback in consumption, less of an incentive to find alternatives and efficient uses and you are going to probably slow down the adjustment process to the energy cutback in the first place.

Mr. NEUGEBAUER. Well, I agree with you, but the problem with agriculture is the fact that other areas of the economy you can add

a fuel surcharge on, but when farmers and ranchers and producers in our country don't have the luxury of saying oh, by the way, to the packers, we are going to put a fuel surcharge on our cattle that we are shipping, or we are going to put a fuel surcharge on the cotton that we are shipping, one of the things we have to look at in certainly long term is implementing a comprehensive energy strategy that brings some stability to the markets.

I want to go back to the crop insurance issue here. My time is about to expire. Mr. Chairman, I have introduced a crop insurance bill that would actually give better coverage and would put the GRP coverage on top of some of the revenue policies and really, what would be going on right now, instead of having the discussion about a disaster program, we would be taking claims on these areas that were impacted by these two hurricanes and so I want to continue to encourage the chairman to have some, and I am glad to hear that we are going to have some crop insurance hearings, but I guarantee you that the scoring of my bill opposed to ad hoc disaster programs is a great deal and it is, you know, Dr. Collins, you and I have had some discussions about that.

Mr. COLLINS. If I could comment on it, even though the time is up. Mr. Neugebauer, I testified here a couple of months ago and you raised this issue with me and I was concerned about your proposal, in effect, talking about double indemnities. I have had a chance to look at your proposal in more detail since then and I find it very intriguing, actually. One of the things I was concerned about was the high coverage levels, that would result from two policies, on moral hazard. But there is no moral hazard with an area policy. I think that there is something that could be done there and I think that as we think about standing disaster, that proposal should be contrasted with standing disaster, because I think it is certainly a feasible and could be an efficient alternative.

Mr. NEUGEBAUER. Thank you.

Mr. MORAN. It sounds like unqualified support, Mr. Neugebauer.

Mr. COLLINS. Well, as much as I can give.

Mr. MORAN. We are encouraged to hear it. Congresswoman from South Dakota, Ms. Herseth.

Ms. HERSETH. Thank you, Mr. Chairman and Mr. Etheridge. I think this is a very important hearing, certainly timely. I want to thank the panelists today for their testimony and overview of the state of our farm economy in the United States in particular because of the challenges we face following Hurricane Katrina and now Hurricane Rita, other disasters around the country, trade anxieties and since you have addressed a number of the questions that I had in your written testimony and your summaries, as particularly with commodity prices, particularly with the impact of energy costs. Let me just articulate some of my concerns based on our discussion here and just pose one question.

The impact on producers of any size, but particularly smaller mid-sized family-run farms, when you look at the input costs, not just with energy now, but even before that, when you look at some of what I think is some uncertainty based on some questions that have been posed today by Mr. Etheridge about market competitiveness in the global economy given these energy prices. When we also combine that with what is happening to average consumers, not

just those that are involved in agriculture, but I don't know if you saw, the American Banking Association just came out with a study showing that we have had a record high number of individuals who are late on their credit card payments and that was from April through June and the primary reason in their study was energy costs and we know that for farmers, in getting their financing for next season, are treated differently than the average consumers, who pay a higher interest rate and a late fee on that credit card statement.

I want to just go to a point that you made, Dr. Collins, about people need to understand they are in a cyclical business here and I think that at least the producers that I represent clearly understand that and the Federal Government is in a far better position, in my opinion, to have a rainy day fund, which we haven't had, than some of the producers that I represent because they have been hit with multiple-year disasters, mostly drought, but some flooding, other issues where there has been some prevent plan payments that come through for them. And they know that the crop insurance isn't designed to make them whole, but to at least make it to the next year.

The impact of some trade has had a negative impact in South Dakota. And then you have the higher input costs, the environmental standards, so any savings that I think they have been able to hold onto have gone into the higher input costs and now going to the higher energy costs. They have gone to supplement whatever disaster payments or crop insurance they have been able to get to survive to the next year.

And so I agree with what I think Chairman Moran was getting at in terms of any projections about those farmers that just may not make it through at this point despite the fact that they have tried to save and how that may influence the Congress' decisions in budget reconciliation and our trade representatives' decisions in WTO and so the question is, can USDA come up with any kind of projections or estimates on the impact of the confluence of factors here, not just in the last few weeks, but in the last few years, for small and mid-size family operations that may not make it, because I think those are important numbers to have for us and our decisions, for the administration and the trade representative in some of what is coming up within the next few weeks and months.

Mr. COLLINS. That is certainly a fair question and I guess I would say that we have a very detailed financial analysis program at USDA that produces a vast array of income and solvency measures of agriculture. We produce farm income estimates three times a year, February, August and November, and not only do we produce the aggregate, we also produce by type of farm, whether it is a grain farm or a cotton farm. We also produce by size of farm estimates of income and insolvency, so we have a lot of stuff that we just published as of August 31, which could give you some insights on these things and in fact, they do show that for some types of farmers in some regions of the country, some very sharp declines in net farm income for 2005.

To go from that to how many farms are going to go under, that is another matter. That is very difficult to do. That depends upon the financial resources of the farm and its access to credit and

many other things that we really can't estimate on an individual basis, but we can certainly give you an array of information, distributional information, about farms and their financial condition in the United States. Now, unfortunately, as I say this, that was August 31. That was done based off of our August objective yield survey and that was pre-Katrina, pre-Rita and we know there have been some charges.

I will give you one example. Fuel costs and fertilizer costs for farmers between 2004 and 2005. In that farm income number we released at the end of August, we had a $3.3 billion increase in fuel and fertilizer costs for agriculture. Post-Katrina, we have taken another look at it. This is not an official estimate, but using our models, it now looks like it would be about a $4.8 billion increase. So based on the Department of Energy's medium recovery scenario from the hurricanes, we would probably add about $1.5 billion to this year's energy costs for farmers alone, so that is significant. That is a factor and that is going to come out of incomes particularly the energy intensive crop producers. Now, that is an aggregate number. But we have also some of these distributional numbers that we can provide you, as well.

Ms. HERSETH. I appreciate it, Dr. Collins. Thank you, Mr. Chairman.

Mr. MORAN. The gentleman from North Dakota, Mr. Pomeroy.

Mr. POMEROY. I thank the chairman. Dr. Collins, in your testimony, you had strong global income growth and rising U.S. agriculture exports helped U.S. net cash farm income reach record high in 2003. It eclipsed that record by 20 percent in 2004 and it remained on track to approach that 2004 record again in 2005. It seems certainly an important part of the picture, although it doesn't reference at all the role of domestic cattle prices in terms of establishing that net farm income. Don't you think that you have only presented part of the picture?

Mr. COLLINS. That is why my testimony is 16 pages long. That was in the first page. I did present a lot more details as we went on and your point is well taken and Mr. Peterson made the same point. I think, in fact, I have been able to recover the cattle and crop data and just to give you an example, in 2002, when we were sort of at a low point in the cycle——

Mr. POMEROY. Well, actually, I find that interesting.

Mr. COLLINS. OK.

Mr. POMEROY. If you want to put it in writing, I would love to read it, but I have got 5 minutes.

Mr. COLLINS. OK.

Mr. POMEROY. I have got further issues to cover. In light of the administration's decision to reopen the Canadian cattle imports, what will be the effect on cattle prices?

Mr. COLLINS. Well, the analysis we did at the time we made that decision, we were talking about a $2 to $3 per hundredweight decline in fed cattle prices.

Mr. POMEROY. Yesterday the U.S. Department of Agriculture in the Ways and Means Committee expressed concern about the ongoing refusal of Japan to allow our exports in. Would exports into Japan help cattle prices?

Mr. COLLINS. Well, I think it would more than offset any projected decline we would have from Canadian cattle coming in.

Mr. POMEROY. I found it interesting that the testimony from USDA said that the time for action is now. That was a quote from the testimony presented. But the action taken by USDA, the only action that one can really see was the decision in August to allow Japanese beef to come into our country, so at a time when we can't get our exports into their country and believe they are unfairly keeping us out, we say OK, by golly, we sure will happily take your beef here. And to me, that is just part of the failed exports strategy that in the end, as you also referenced earlier, has us net importing or just about in terms of total agriculture from a trade standpoint. Now, why in the world would we let Japan sell beef to us when we can't sell to them?

Mr. COLLINS. I think the answer to that is that we are trying to develop our import disciplines, our import regimes based on science and the science, tells us that we ought to be importing beef from countries where the beef is safe, regardless of what that country does.

Mr. POMEROY. It seems to me, Dr. Collins, that that is part of a long-term trade strategy advanced by this administration that has us at the deepest trade deficit in the history of the country. Both parties expressed strong objection to this approach in the Ways and Means hearing yesterday and I hope the administration is listening. Republicans and Democrats alike have had a belly full of this. In fact, the chairman of this subcommittee testified yesterday. Man, I cannot explain to the people I represent, the ranchers I represent, that the best way to get into Japan, when they have absolutely refused to let us in there, was to take their exports here. To me, that absolutely stands logic on its head. It is a strategy, I believe, of unilateral disarmament. We are going to play by one fancy science set of rules while everybody else plays by a different set of rules and is keeping our exports out. And the message I would like you to take back to the U.S. Department of Agriculture is we don't think the way to get into Japan, after being unfairly held out for years now, is to let them sell to us in the meantime. We ought to have a little quid pro quo here at the bargaining table and to give that right up front is literally, unilateral disarmament.

Mr. COLLINS. It is not much of a quid pro quo. We only import about a million dollars' worth of their beef and what we are talking about is the loss of $2.5 billion worth of exports, so I don't know how much of a lever that actually be.

Mr. POMEROY. Well, I will tell you what, and I think the ranchers I represent think this, too.

Mr. COLLINS. Well, I understand——

Mr. POMEROY. Symbolism sometimes means a lot and we are saying you are illegally keeping our product out, but by golly, we would sure like to have some of that Kobe beef in our steakhouses. To me, it is a bad strategic move. I would like you to revisit that one. Thank you. I yield back.

Mr. MORAN. If you had something to yield back, once again, Mr. Pomeroy. Your time had expired. Let me look at my list. The gentleman from North Carolina, Mr. Butterfield.

Mr. BUTTERFIELD. Thank you, Mr. Chairman. Let me join my colleagues in thanking each one of you for coming forward today with your testimonies. I will certainly be brief, but I want to go back to the crop insurance discussion. Most of the discussion today has talked about the prospective condition of crop insurance and what we are going to do for the farmers in the future. I guess my concern is more in the present tense. What is the general health of the crop insurance industry right now? Is it healthy?

Mr. COLLINS. You are talking about the crop insurance providers, the reinsured companies?

Mr. BUTTERFIELD. Yes. What are you hearing from the industry? Are they solvent? Are they concerned?

Mr. COLLINS. Rather than what I am hearing from them, I will tell you from the data, I think the health is extremely sound right now. We have been on a run of several years of the crop insurance companies having substantial underwriting gains running $200 to $300 million a year. For the 2004 crop year, their underwriting gains were over $700 million, by far and away, an all-time record high. On top of that, of course, we reimbursed their administrative and operating expenses to the tune of something in the order of $800 million or more. So the crop insurance companies are making good rates of return and that is reflected in the fact that we have new entrants coming into the crop insurance business.

We have approved three new companies in the past year and we have a couple of more companies that, in fact, are now talking with us about becoming approved crop insurance providers. So after a big decline in the number of companies for many years, we have now seen a turnaround and we are seeing new entrants in the business. So those financial data combined with the new entrants suggest to me that the rates of return are pretty good in crop insurance right now.

Mr. BUTTERFIELD. Do the crop insurance carriers furnish to you their balance sheets? Do you monitor their finances and the bottom line of their companies?

Mr. COLLINS. We do monitor their finances, the National Association of Insurance Commissioners provides the collection and the review in the financial performance of the companies, as a whole, and then we take that data and we focus on their crop insurance lines of business. So the answer is yes, we do monitor those financial performance indicators.

Mr. BUTTERFIELD. All right. Is any of this solvency due to the fact that they have denied so many claims to many of the claimants? From what I can gather, there is a high rate of claim denial for claims that are being presented to them. First of all, let me explore the predicate of my question. Is that true? Is there a large rate of claim denials?

Mr. COLLINS. I can't answer that. I haven't looked at the claim denial data. Of course, there is an appeal process that producers can go through and I haven't got the sense that our appeal process has been burdened by a lot of appeals. But I don't know the answer to that. The best I can do is tell you I can try to get back to you on claim denial. I just don't know the answer to that.

Mr. BUTTERFIELD. I would like to know the percentage of claims that are actually approved versus those that are denied, yes. Thank you, Mr. Chairman. I yield back the balance of my time.

Mr. MORAN. Thank you. The gentleman from Louisiana.

Mr. MELANCON. Thank you, Mr. Chairman and Dr. Collins. I appreciate you all coming today. As you are probably aware, I am from Louisiana's third district, which took Katrina on one end of the district a month ago and took Rita on the other end of the district, picked up everything that Katrina didn't hit. I guess the thing that is foremost in my mind in your response to Representative Bonner was that the Department does care. After the hurricanes in Florida, I saw immediate response from the Department of Agriculture and not wanting to play politics, but realize it was a presidential election year and other factors, but the Department of Agriculture hasn't shown up yet. And administratively, you did quite a bit, from my understanding, to help agriculture in Florida after those storms. What is the difference between Louisiana and Florida?

Mr. COLLINS. Well, I disagree with your premise. To state that we haven't shown up is just not a fact. We have taken all the prepositioned food for this year's School Lunch Program and sent hundreds of truckloads of food to your area. We right now have 5,000 USDA employees on detail down there to help clean up the mess.

Mr. MELANCON. I am talking about the farmers. I am not talking about food programs. I am talking about the farmers and the disaster that is there. They showed up to help the citrus farmers, they showed up to help the cattle farmers. They have not shown up, the Department hasn't.

Mr. COLLINS. We have our Natural Resources Conservation Service cleaning debris, disposing of dead animals. We have our Farm Service Agency doing the same thing through the Emergency Conservation Program. We have available $152 million for emergency loans. I could go on and on. We have a lot of activities going on in the mid-South and I think it is unfair to characterize us as not showing up. If you are specifically talking about whether we are writing checks for crop disaster assistance, that is something that is going to be decided by the Congress. That is going to be something that is going to take a political decision while working through the process. People haven't lost the crop until the crop is to be harvested, which in some cases is about now and so this crop disaster payment issue is going to be worked out, but I do think it is unfair to characterize the Department as being absent, because I think we have many, many activities going on to provide assistance to the people of Louisiana.

Mr. MELANCON. Well, the Department did payment programs out of section 32 before the Congress acted on crop disaster in Florida. It has not done that in Louisiana.

Mr. COLLINS. Right, that is a true statement. I agree with that. If that is the standard you are raising, then that is something that can be discussed with the Secretary of Agriculture.

Mr. MELANCON. Thank you.

Mr. MORAN. The gentleman from Georgia.

Mr. MARSHALL. Thank you, Mr. Chairman. Last week I was visited by some farmers from middle Georgia who are pretty worried

about whether or not they are going to have enough diesel to get their crops in. I can't say they were complaining, but they did observe that and since we are here talking about the impact of Federal policy on agriculture, they did observe that the decision to permit truckers, over the road truckers to use off-road fuel severely impacted them and their fuel supplies. Cost prices go up, diminish the reserves that they had and frankly, with Rita coming in, they were quite concerned that they weren't even going to be able to get their crops out of the field. I have a couple questions.

Are you in a position, you might have an estimate right now, but if you don't, then later, to give an estimate of the cost to farmers of this Federal decision to permit off-road fuel to be consumed by over the road truckers and others in response to the disaster. And we are not questioning the policy, I am just kind of curious of the economic impact to farmers of that. And then, do you know of shortages, or do you anticipate shortages that are significant enough that farmers should be concerned about whether or not they are going to be able to get their crops out of the field? Cotton farmers in Georgia were really worried about that last week.

Mr. COLLINS. I have no estimate of the effect on diesel prices of the relaxation of the off-road requirement. I would need something like that to be able to estimate the impact on farmers' costs and I have to estimate how long that price differential would obtain to be able to estimate that, so it is just information that I do not have and we have not attempted to estimate. Perhaps Dr. Gruenspecht could talk about the issue of diesel fuel availability for harvest.

Mr. GRUENSPECHT. First of all, as your question indicates, I think it was sort of a disaster response kind of issue in meeting——

Mr. MARSHALL. I guess my follow-up is going to be to the extent that costs are incurred by agriculture as a result of the disaster response, is there some plan to compensate agriculture for those costs that were incurred? We need to know what the costs are. Believe me, they are there. The question is can we calculate them and is it going to grow worse as a result of the fact that people can't even get their crops out of the field?

Mr. GRUENSPECHT. I think it sounds like a question that may require some coordination between respective agencies.

Mr. COLLINS. Yes, yes. My first thought is that I don't envision there being a shortage of diesel fuel to cause people not to be able to get crops out of the field. I don't think there is any indication of that at this point. I think what I have been watching, in fact, more intensively is the spike in natural gas prices and the consequence of that for fertilizer production. If we look back historically in periods where we had spikes in diesel prices and we have had some scarcity of supply, agriculture has done all right on the diesel side and been able to get their supplies.

We had the natural gas spike in the winter of 2000–01 and we saw a substantial amount of fertilizer production capacity shut down because of that spike. There is sort of a cap on nitrogen prices because we import 50 percent of what we use and that limits the price increase in nitrogen and when natural gas prices go up in the United States and they don't in other countries, that causes a terrible price squeeze for fertilizer producers and they shut down.

So I have been worried about that more than I have been worried about diesel fuel, I must say.

Regarding the compensation issue, that is caught up in a bigger issue. People in all sectors of our society are paying costs they hadn't anticipated because of these hurricanes. Corn farmers in central Iowa are paying costs because of wider bases, difference between interior prices and river prices because of the backup on the Mississippi. So it is a huge question of——

Mr. MARSHALL. Is it your expectation that if, in fact, some farmers are unable to get the fuel they need to get their crops out of the field, that that would qualify for disaster benefits, at least? I guess these are questions that you can't answer right now and they are hypothetical in the sense that we don't know that this is actually going to happen. Let me make one observation, if I could.

I find quite well-founded your observation that both with regard to fertilizer and diesel fuel expense, costs, those things generally, these kinds of disasters lead to spikes that are very difficult to deal with where agriculture is concerned. Part of the problem here is that we have a "just-in-time" delivery model, business-wise in our economy. Energy, generally, we regulate pretty carefully.

Electricity, for example, we have got redundancy in the system, and I wonder whether or not, where you all are concerned, you are thinking about the kind of redundancy that might need to be introduced into our gas and diesel fuel supply system so that if we incur these kinds of problems again in the future, we don't have these spikes that lead to the problems that you are worried about right now and just testified to. My time is up. I don't know whether or not it calls for a response, but——

Mr. GRUENSPECHT. I could try. Electricity is very interesting because there is no way to hold the inventories of electricity, so demand and supply have to be equated on a second-by-second basis.

Mr. MARSHALL. That is true as far as consumption is concerned by respectively, we hold inventory, we hold reserve margins.

Mr. GRUENSPECHT. So with electricity, there is a longstanding concept of reliability having to do with resource adequacy and security and some of the physics, like the transmission system. With other commodities, you don't have to balance production and demand on a second-by-second or minute-by-minute basis because you have the possibility of holding inventories. That said, the country does have a strategic petroleum reserve which is meant to deal with certain types of energy security problems. There is a Northeast heating oil reserve that is quite small. Generally, the country has not had large scale petroleum product reserves federally controlled or natural gas reserves federally controlled.

Mr. MARSHALL. Right, and I agree with that and the question is whether or not where our Federal policies are concerned, we need to think about gas and oil more like we think about electricity, where we do require redundancy, we do require excess capacity. One other observation, where refining capacity is concerned, everybody says that we are right at the limit of the ability of the existing refining capacity to meet demand in the United States. You take out a little bit of that capacity, you have the problem that you all are worried about right now where agriculture is concerned.

Business isn't interested in carrying excess capacity. That is quite understandable. It means carrying excess cost. So we haven't seen the development of excess capacity where refining is concerned in the United States, in part, for that reason, I would simply suggest that we, as a country, need to start thinking about, from an agriculture perspective, from all kinds of other perspectives, whether or not we are going to insist upon excess capacity where refining is concerned, redundancy where delivery is concerned and then perhaps additional reserves. And I will stop there because I am well beyond my time.

Mr. GRUENSPECHT. And I will just say I think that is a very good way to think about the issue. Of course, you pay for the redundancy and the excess capacity, although you save in situations where the spikes otherwise occur, so it is a balancing that has to be done, but it is a very legitimate way to think about the question, how you balance those costs and benefits.

Mr. MORAN. Mr. Marshall, I was patient in your 5 minutes until Mr. Scott arrived and I now call on the gentleman, Mr. Scott.

Mr. SCOTT. Thank you, Mr. Chairman. I, of course, want to thank you for having this hearing to discuss the health of the Nation's farm economy. 2004 seems to have been a banner year with substantially healthy increases in farm income and production borne by increased cash receipts for the major commodities and 2005, as we know, did not get started off on the right foot with ever increasing fuel costs and interest rates ended trending upward. While these conditions seem to have had, at least, a modest effect on the farm economy, other conditions such as strong global economy and a weakened dollar have allowed agriculture to remain strong. I have two concerns resulting from the current state of agriculture.

First, trade. As trade and monetary policies have geared to produce a rebound in the value of the dollar globally and because energy prices do not show many signs of coming down, I am concerned that we may not be able to sustain this growth and certainly would like to hear from you in terms of your evaluation of whether you think we can sustain the growth.

And second, I am concerned about how the administration will treat the relative health of agriculture as it prepares for the budget cycle. After two major natural disasters, Katrina and Rita, have seriously disrupted grain and other agriculture transport, we are not even yet through hurricane season. A discussion about the health of our national farm economy and the impact of Federal farm policy has on us is vitally important. So Mr. Chairman, I thank you again for putting together this forum discussion. I look forward to hearing from you.

There has also been a great deal of discussion in Congress regarding the need for ad hoc agricultural disaster assistance. While the administration insists, as it has in the past, that ad hoc agriculture disaster assistance or maybe even a part of it, must be offset with cuts in other programs and also what are some of the things we can do to encourage the health and competitiveness of smaller farms in the face of rising energy prices and interest rates. And there are two other issues that are somewhat smaller, but I

do have a concern with, as well, and I do think we need to begin to address.

We are losing generation after generation of younger people interested in going into farming, agribusiness and other areas. I think it would be smart of us to kind of begin to look at that, see what incentives we can put into the formula to encourage young people to go into the agribusiness area, into agriculture, into farming.

And of course, I have another little pet peeve and that is that I would like to see us continue to produce more of our products here. We are depending more and more on foreign sources for our major consumption items in agriculture and food products. For example, I understand about 80 percent of the tomatoes that we consume in this country are produced elsewhere and that is a trend that I think we certainly need to—so but those are just a few questions. Perhaps we can get some response to my comments.

Mr. COLLINS. Yes, sir, Mr. Scott. I can offer a couple of thoughts. You opened with a question of whether the prosperity, the economic growth in agriculture that we have seen over the last couple of years will continue and, based on some comments I have made here today, I think the point I would make is that we have been, the last couple of years, at the zenith of an agricultural cycle and we are not going to stay there. We are going to pull back in aggregate measures of performance of the economy. We are seeing that now in crop markets with lower prices, with production coming down from where it was in 2004.

That is going to mean the net value of crop production is going to decline. We are going to run down some of our crop inventories. The fact that we are selling these large inventories is keeping cash flows high, but as production comes down and we reduce some of those inventories, then cash flows are going to come down, as well, in the future.

Then on the livestock side, where we have enjoyed enormous prosperity the last couple of years, that prosperity, as it always does in any commodity market, because of leading to more production and more production is going to lead to lower prices, so I think, in 2006 we are going to see some declines in livestock and livestock product prices. Then couple that with these increases in energy costs and in interest costs for farmers and I think that we are going to start to come down in our aggregate measures of performance. I still think those measures of performance will be better than what we saw in the late 1990's, but they are not going to be at the peak levels that we saw in 2004 and 2003.

Regarding your point about what is going to be done about the higher energy costs and assistance to producers, that is something that we have talked about here today and I think that is going to simply depend on the actions of Congress. We, of course, have some built-in protections in the farm bill, some price-based payment mechanisms which are being triggered and more payments are being made. We do have crop insurance and some crop insurance indemnities will be made. Although, I might say that our early estimates of crop insurance indemnities for the 2005 crops show a loss ratio of less than one, so this is going to be, despite the disas-

ters, from the national perspective, a year of not excessive crop insurance payouts.

Regarding your point about the next generation of farmers, I would just say that, as you may know, Secretary Johanns has been conducting farm bill listening sessions around the country. He just finished his nineteenth and he said to us many time that one of things he hears most about in those listening sessions is the issue you just raised about the next generation of farmers. We all know that from surveys that the average age of a farmer is roughly 54 or 55 years old. I always like to point out that that is the average age of the principal operator of the farm.

And it is only recently that we started asking the ages of the second most important operator and the third most important operator and it turns out that the second most important operator has an average of about 45 and the third most important operator has an average age of about 35. And so there is some mentoring and some progression going on out there for a lot of farms, yet for others, it is not true. We have farmers retiring and I have talked to farmers who tell me that they don't know what they are going to do with their farm because their children don't want to be farmers, so this is something that I think we will pay attention to over the coming year. It may be an issue for the farm bill. I don't know.

Mr. MORAN. Thank you. Mr. Scott.

Mr. SCOTT. I just have one more point on the farm bill that I would like to just make sure, given what we know about the state of agriculture, how much impact would the administration's proposal for changing the farm bill, many of us are very wary of changing the farm bill. But I think the administration is making some changes, such as including payment limitations, a 5 percent assessment on total farm payments and limits on marketing loan gains. What was the net farm income in 2005, what impact would that have on the net farm impact of 2005, have those changes been in place for this crop year?

Mr. MORAN. Dr. Collins, if you can answer that in a sentence or two, fine. If not, can you answer that in writing?

Mr. COLLINS. I will. I won't give you a quantitative estimate. I would only say that those are not the administration's proposals for the 2007 farm bill, those were proposals for budget reconciliation and we have made a distinction and said that those are not farm bill proposals. We did estimate that the 5-year savings on farm program outlays would be about $5 billion from those proposals. That is $5 billion over 5 years.

Mr. SCOTT. The administration is recommending some changes in the farm bill, is that right?

Mr. COLLINS. No, we are not. At this point, all we are doing is listening and the Secretary has committed that in some point in the future he will offer some thoughts on the farm bill.

Mr. SCOTT. Thank you. Glad I got that cleared up.

Mr. MORAN. Thank you, Dr. Collins. Dr. Gruenspecht, I am going to take the priority of asking one more question, because we have you here today and we will have Dr. Collins before us again. Is there evidence that the price elasticity is working in the fuel market? Are we consuming less fuel today with higher prices than we were at lower prices?

Mr. GRUENSPECHT. For quite a while, as you know, because prices had been rising well before Rita and Katrina, prices had risen substantially and demand had also tended up. There is a price elasticity, but there is also an income elasticity, and the economy has been growing very well recently, so there has been increased demand for trucking and increased personal income, which has led to increased driving and the like.

In the last few weeks, it does appear that fuel consumption has fallen off more than past seasonal patterns would suggest. There is usually a fall-off of gasoline consumption after Labor Day, for instance. So there is more, there does appear to be in the short-run more of a fall-off. Now, what happens going forward I think will be very, very important, but you do have the price elasticity that you mentioned, and you also have this income elasticity that has been working the other way until recently.

Mr. MORAN. Thank you both very much for your testimony today. Mr. Etheridge and I had anticipated having a second round of this panel, but as the Members began to return, we changed our minds. So we will—those Members who would like to ask additional questions, I am sure both Dr. Gruenspecht and Dr. Collins would be glad to respond. We thank you for your time and testimony.

Mr. MARSHALL. Mr. Chairman?

Mr. MORAN. Mr. Marshall.

Mr. MARSHALL. I do note that there was only one Member who returned.

Mr. MORAN. We now welcome and invite to the table the second panel. Dr. Patrick Westhoff is program director, Food and Agricultural Policy Research Institute, FAPRI, at the University of Missouri, Columbia. And Mr. Sam Funk, who comes from my home State of Kansas, he is with the Kansas Farm Management Association at Kansas State University, Manhattan, Kansas. And Dr. Daryll E. Ray, welcome back to the Director of the Agricultural Policy Analysis Center at the University of Tennessee in Knoxville. And I recognize the gentleman from North Carolina to recognize and to introduce one of his constituents.

Mr. ETHERIDGE. Thank you, Mr. Chairman. And Dr. Nicholas Piggott is associate professor of the Department of Agricultural and Research Economics at N.C. State University in Raleigh, North Carolina, and we welcome him. He is a specialist in the area of demand analysis, agricultural markets, applied economics, agricultural biotechnology, and risk management. We welcome you. I believe this is his first time testifying before the U.S. Congress.

Mr. MORAN. Welcome, Doctor. And we will start with Dr. Westhoff. Good morning.

STATEMENT OF PATRICK WESTHOFF, PROGRAM DIRECTOR, FOOD AND AGRICULTURE POLICY RESEARCH INSTITUTE, UNIVERSITY OF MISSOURI

Mr. WESTHOFF. Thank you, Mr. Chairman, for the opportunity to appear before the subcommittee this morning. My name is Pat Westhoff and I am an economist with the Food and Agricultural Policy Research Institute at the University of Missouri.

FAPRI receives funding from annual USDA special research grants to provide information to members of Congress and their

staff. Each year, we prepare baseline projections for the farm economy to provide a snapshot of what agricultural markets might look like under a continuation of current farm policies. Then we try to estimate how those projections might be affected if there were a change in U.S. policy, a change in world trading rules, or even a change in the weather.

What one thinks about the current farm economy depends on one's point of reference. If the point of comparison is 2004, one can say a lot of negative things about the farm economy in 2005. In contrast to the record yields of 2004, drought has sharply reduced crop yields in parts of the Midwest, including my home State of Missouri, and Hurricane Katrina has damaged crops and disrupted shipments of agricultural products. Higher energy prices, as we have heard about this morning, have increased farm-level expenditures on fuel and fertilizer. Based on mid-September information, it appears that prices for corn, soybeans, and wheat are all likely to be lower for the crop harvested this year than for last year's crop. Average milk and hog prices are lower this year. USDA estimates, and we would agree, that farm income is likely to be several billion dollars lower this year than it was in 2004.

However, the outlook is much more positive if one does not use 2004 as the point of reference. National averages yields for most major field crops this year are generally near or even above long-term trends, in spite of the serious regional yield problems I have mentioned. Consumer demand for meat and dairy products has remained strong in 2005, and the annual average prices for cattle, poultry, and milk are all higher than expected earlier this year. At least in nominal terms, net farm income is still on track to be the second highest ever in 2005.

Looking beyond 2005, one can again cite reasons for optimism, pessimism, and uncertainty. Provisions of the energy bill should contribute to increased production of ethanol and biodiesel and increased demand for corn and other crops. China is already a major market for U.S. soybeans and could become a major market for grain in the years ahead, although there is much uncertainty about projections of Chinese markets. Brazil and Argentina have demonstrated their ability to expand crop production, but the pace of future expansion in South America remains very uncertain. USDA and FAPRI both expect lower 2006 prices for cattle, hogs, and milk, in part because of supply response to recent strong prices and returns. The agricultural economy will continue to be sensitive to movements in energy prices and interest rates.

In turning to the policy front, all sectors of U.S. agriculture are affected by Federal policy, but the largest and most direct effects are felt by the sectors receiving the bulk of Government farm program payments, grains, oilseeds, and cotton, and the sectors benefiting from prices support programs, dairy and sugar. While these commodities account for most of the harvested acreage in the country, they only account for about 40 percent of cash receipts.

To illustrate how markets and polices interact, I am going to take one particular example, the corn sector under the 2002 farm bill. In 2004, corn yields reached record levels, and as a result corn prices fell sharply. Multiplying price times yield, the national aver-

age gross returns per acre fell by about $14 per acre between 2003 and 2004.

Federal marketing loan and counter-cyclical programs are based on prices, not on revenues. Thus the large drop in 2004 prices triggered a large increase in payments under those two programs. Total payments per base acre planted to corn increased by more than $65 between 2003 and 2004, so corn producers had an unusually good income year, in spite of lower prices.

For the 2005 crop, both prices and yields are expected to be lower than they were in 2004. That translates into a large reduction in gross receipts for market sales, which is aggravated by a significant increase in production costs because of high fuel and fertilizer prices. However, net returns are expected to be much lower in 2005 than they were in 2004, and some lower than in 2003.

Finally, however, note that 2005 net returns with payments are still expected to exceed those of 2002. Prices were substantially higher in 2002 than they are expected to be this year, and production costs were much lower in 2002. The difference in the overall net returns is entirely explained by differences in Government payments. Prices were high enough in 2002 that there were no counter-cyclical payments and limited marketing loan benefits.

The lesson is that current farm program provisions are, by design, focused primarily on cushioning producers from the effects of lower prices. They were not designed to deal with net revenues losses caused by low yields or increased production costs. Certain crop insurance products do protect producers against significant reductions in yields or gross revenues, but they generally do not provide support when there is only a relatively modest reduction in yields. Federal programs do not protect producers from the risk of increased production costs.

FAPRI does not propose policy options, nor do we support or oppose particular options. But as you consider farm policy options, Mr. Chairman, I would encourage you and your staff to continue to use FAPRI as a resource. Thank you for the opportunity to speak with you here today.

[The prepared statement of Mr. Westhoff appears at the conclusion of the hearing.]

Mr. MORAN. Thank you very much, Doctor. Mr. Funk, welcome.

STATEMENT OF SAMUEL FUNK, ADMINISTRATOR, KANSAS FARM MANAGEMENT ASSOCIATION, KANSAS STATE UNIVERSITY

Mr. FUNK. Thank you, Mr. Chairman and members of the committee. I appreciate the opportunity to be here today. My name is Sam Funk and I am the administrator of the Kansas Farm Management Association Program and a faculty member in the Department of Agricultural Economics at Kansas State University. We are pleased to be able to provide the information we have here today, but it does give somewhat of a face of the difficulties being faced by producers out there today.

The general farm economy for farm incomes across Kansas must take into account the substantial increase in fuel and fertilizer prices directly used on farms, as well as the higher costs of other inputs and services due to petroleum-based products. In light of the

damage caused by Hurricanes Katrina and Rita in the Gulf Coast States and other off-shore locations, there likely will be additional stress on farms due to the increase in input prices as well as other contributing factors such as mobility of export products through existing channels and the higher level of costs due to the tremendous strain placed on the U.S. economy as a whole. While the final impacts of these two massive storms is yet to be known, it is our intention to provide you with further information as it becomes available.

The tables and charts and written testimony that were submitted by my colleagues and myself show expenses for three major crop inputs for Kansas farmers: fuel and oil, irrigation energy, and fertilizer. With the possible exception of irrigation energy, these costs are important for most producers in the United States, especially those located in the High Plains and across the Corn Belt regions. Costs are reported for the previous 5 years, from 2000–2004, as well as forecasts for 2005 and 2006. Forecasts for diesel prices and natural gas are based on an average of Kansas State University models and Energy Information Administration models. Fertilizer price forecasts are based on KSU models alone. The KSU models are based on New York Mercantile Exchange closing futures prices for crude oil and natural gas as of September 22, 2005. The reason for using an average forecast from several sources is that research has shown that composite forecasts generally are more accurate than individual forecasts.

Forecasts for whole-farm expenses for 2005 and 2006 are based on changes in input prices, implicitly assuming that producers do not change their production practices significantly in response to the higher prices. For individual farms, this assumption may not hold, however, historical evidence suggests that the aggregate level producers generally do not make major changes in response to price. Furthermore, research examining optimal input price, for example, fertilizer and irrigation water, shows that input levels are reduced only marginally when prices increase. That is, producers will still use similar amounts of the input for optimal economic production, but their economic returns will decrease due to higher energy prices.

With the 2005 information that is in, and for all of the three inputs considered, costs are expected to increase significantly in 2005 relative to the previous 5-year average. Percentage increases in prices range from a low of 39.7 percent for fertilizer and a high of 94.8 percent for natural gas. Furthermore, prices in 2006 are forecasted to be above the historically high levels of 2005. This is especially true for fertilizer prices, which are forecasted to increase significantly in the fall of 2005 and spring of 2006.

Using the Kansas Farm Management Association Summary's dryland and irrigated farm types, the expense categories of gas-fuel-oil, fertilizer, and irrigation energy were assigned to an energy expense complex. Across all farms and on a per acre basis, the impact of higher fuel and oil, irrigation energy, and fertilizer prices will increase costs in 2005 approximately $8 to $10 per acre for farms in Kansas compared to the previous 5-year average. An increase of this magnitude is also expected for 2006 relative to 2005. The cost per irrigated acre in the KFMA Summary due to the in-

crease in the energy expense complex is expected to rise $32.89 in 2005 and another $15.60 in 2006. The cost per dryland acre in the KFMA Summary is expected to increase $5.72 from 2004 to 2005, with an additional $8.44 projected for 2006. Assuming that producers do not make major production changes, land rents would need to decrease by $14.16 per acre for dryland acres and $48.49 for irrigated acres from 2004 to 2006.

Based on an average from 2000–04, the percentage of total operating expense for these farms represented by the energy expense complex is 22.8 percent for dryland and 29.9 percent for irrigated. Holding other expenses constant while using projected future expenses for the energy complex, that would suggest that the figures would rise 33 percent and 41.4 percent for dryland and irrigated crops, respectively.

Significant increases, indeed, on energy costs would result in looking at a summary for dryland producers—energy increase complex that would result in a negative impact on net farm income by $22,227 per farm from 2004 to 2006. A number for the irrigated farms would be $51,832. These figures would represent a decline in net farm income respectively of 39.8 percent and 93.6 percent from 2004 levels.

Given the number of other factors that would be affected by the energy prices as well, we would expect even more costs to be increased for farms. Revenues are expected to decline in 2005 as yields for the primary fall crops in Kansas are expected to decline from the historically high levels of 2004.

Factoring in historically high yields for major crops across Kansas in 2004 and downward pressure on farm-level agriculture commodity prices with higher fuel prices and limited export flows, a sustained level of revenues for Kansas farm families in 2005 is not expected. Reduced revenues and increased expenses result in a more pessimistic outlook for overall net farm incomes. Thank you.

[The prepared statement of Mr. Funk appears at the conclusion of the hearing.]

Mr. MORAN. Dr. Ray, welcome back.

STATEMENT OF DARYLL E. RAY, DIRECTOR, AGRICULTURAL POLICY ANALYSIS CENTER, UNIVERSITY OF TENNESSEE

Mr. RAY. Thank you very much. I appreciate the opportunity to interact with you and talk with you about agriculture and what I view are some of the influences that policy has had on agriculture. In the time that I have I would like to focus on two premises or issues that I think have significantly influenced the direction of policy in the last couple go-arounds, and probably is going to be influencing it in the future as well.

As you recall, when we were debating the 1996 farm bill, prices were high and there was a tremendous amount of optimism about what agriculture was going to be like. And I think, as a result of that, there were a couple of lines of thought that developed. One was that this additional, or this optimism about exports would continue and exports would be the driving force to a market prosperity for agriculture; and the other was that agriculture is in a better position to adjust now, and agriculture really didn't need programs anymore to upright it should it get into trouble with prices or in-

comes, because it was able to do a better job of making the corrections on its own. Well, I guess I would submit that this last decade has suggested that those premises don't necessarily hold, and I think that that new era kind of thinking is no more correct now than it was and has been for the last three-quarters of a century.

And I want to talk about each of those. The first is exports. We have been promised an expanding export market for some time for crop agriculture and it really hasn't materialized. Now these promises are an audience pleaser and they were an audience pleaser in the mid–1990's, they were an audience pleaser now and they have been since about 1985, but the odds are against it, it seems to me.

U.S. farmers have enjoyed an export-driven prosperity three times in the last century, World War I, World War II, and the mid to late 1970's. Now that doesn't mean that there haven't been years in which exports have been an important component of demand and has raised prices, but in terms of an extended period of time, there really have not been that many extended portions of the last century.

I think that most countries view their domestic food production in the same way that U.S. residents view the military; it is a matter of national security. So if you think of it that way, it is unrealistic to think that importing countries who embrace opportunities to reduce production of staples, especially, in their countries, because they can buy staples a number of cents per bushel or less than the U.S. I think it is also unrealistic to expect U.S. export competitors, some of which are using agriculture as a development vehicle, to unequivocally hand over export markets to the United States.

The other one I want to dwell on a little bit in the time that I have is the idea that food and agriculture is different. I think that there are a number of things about the nature of agriculture, and most of them are as true today as they have been for over a century, that make agriculture different from other industries. In other sectors, low prices stimulate two responses: consumers consume more, producers consume less. In the case of agriculture, low food prices do not stimulate consumers to eat five meals a day, for example. They will switch from one type of diet to another, but they won't necessarily eat more food. They may eat a little bit more, at least the first days, but it doesn't continue.

In the case of supply, we have folks in the other sectors that will reduce the number of shifts or reduce the number of hours work. They will do something to adjust the output level to the way their demand is going and affect their demand. Agriculture can't do that, it isn't in their best interest to do it, and they don't. They farm all of their acreage all the time and they don't reduce their yield-determining inputs significantly, either. And even in the long run, if they go out of business, chances are somebody will come along and put that back into production, maybe at a higher level than they were before.

So I really think that price responsiveness is a basic issue. And when we consider a shift in a policy, if the lack of price responsiveness of aggregate agriculture is not identified as a fundamental problem, the policy is liable to give you unexpected results. Now at the minute there isn't a tremendous amount of price responsive-

ness from one crop to the other. If a farmer has the ability to go from soybeans to corn to wheat or to cotton, he will do it in a heartbeat, but that doesn't necessarily mean that he is going to reduce his total acreage or production on his farm with regard to the sum of all crops.

OK. I think that we are in a situation now where farmers are more dependent upon the Government for a significant share of their income than they had been in decades. In a number of States, where major crop dominates the agriculture, Government payments exceeded net farm income in several years, and many of those were very important agricultural States. Internationally, we have been accused of dumping crops on the market at below the cost of production. I say we are equal opportunity dumpers. We dump the domestically as well as internationally. We provide crops and ingredients, food ingredients, and food ingredients to those that process and use feed at below the cost of production, and we also provide an opportunity for input suppliers to be selling extra inputs that are beyond the general outputs that are beyond what can fetch an economically viable price.

I think that the shape of the 2007 farm bill will be greatly affected by two concerns. One is the Federal deficit and the other is the WTO pressure to eliminate agriculture subsidies. And I am sure there will be others, but those are a couple of the important ones. I think that these issues have one cause, and that is low prices. Both of them are causing that, one domestic, one international.

I think farmers should receive a bulk of their income from the marketplace and not the Government. Agricultural policy needs to be geared to a clear understanding of the unique characteristics of the marketplace rather than ideology. Those supply and demand curves are extremely elastic for aggregate agriculture. And if we don't take that into account, again, we are going to be surprised. U.S. farm policy should not contribute to the dumping of agricultural products internationally or domestically, I would argue, and of course it be a policy that is affordable. I thank you very much.

[The prepared statement of Mr. Ray appears at the conclusion of the hearing.]

Mr. MORAN. Thank you, Dr. Ray. Dr. Piggott, welcome.

STATEMENT OF NICHOLAS PIGGOTT, ASSOCIATE PROFESSOR AND EXTENSION SPECIALIST, DEPARTMENT OF AGRICULTURE AND RESOURCE ECONOMICS, NORTH CAROLINA STATE UNIVERSITY

Mr. PIGGOTT. Good morning, Chairman Moran and Ranking Member Etheridge and committee members. I would like to thank you for inviting me to testify before the committee today. My name is Nick Piggott from the agriculture department at North Carolina State University. I am pleased to be here and to give you my views on U.S. farm policy and the state of the farm economy.

Let me begin by stating that farm policy should include insuring adequate, safe, and high-quality agricultural production with consideration given toward the potential environmental impacts of practices used, without being burdensome on taxpayers and also keeping the WTO agreements. These goals are ambitious and can

present a significant challenge to the policymakers under the real-world constraints of limited budgets, political pressure, and the heterogeneity of the farm sector.

Before I give you my thoughts on farm policy, let me give you a brief overview of the state of the farm economy today. While there are regions of the country that are experiencing weather-related farm losses and—getting products to market because of the disruptions to important ports, the Nation's farmers as a whole experienced record incomes last year, with this year expected to be the second best on record.

The value of crop production is forecast to be 5 percent higher, and livestock production, 70 percent higher in 2005 than the previous 4 years. Projected net farm income is $71.8 billion, benefiting from a significant increases in direct Government payments; account for about 30 percent of this total. If current projections are realized, then this year promises to be prosperous for U.S. agricultural producers. More details about individual commodities can be found in my written statement.

Let me now briefly address three critical elements of U.S. farm policy, starting with the importance of the safety net. Current farm policy has displayed an inability to adapt to the prospering times, exhibiting the characteristic of downward stickiness rather being a safety net. Downward stickiness of Government payments is where payments are resistant to change when market forces indicate that they should decline. Some stickiness and inability to adapt is a reflection of a predominance of policy instruments that are not marketplace and are therefore distorting.

Examination of farm income data—which is spelled out in my written statement, reveals substantial heterogeneity in the farm sector and several key factors in relation to farm incomes which have implications for farm policy. Policy stickiness and heterogeneity of the farm sector call for a restructuring of the safety net, based on marketplace-targeted policies rather than a one-size-fits-all approach.

Policies that provide financial assistance to large farms' on-farm income when an unexpected disaster strikes, preferably through unsubsidized crop insurance, makes sense from the standpoint of ensuring adequate supply of agricultural products, since these farms produce the majority of the products. Providing an economic safety net for small farms through targeted rural development policies that create opportunities to improve or maintain levels of smaller farms' on-farm income will allow these producers to continue to farm, if they choose, and to pursue the rural lifestyle, that much of farm policy is intended to do, makes the most sense. Targeting rural development policies that enhance economic activity also benefit large producers, but importantly, do not further distort price signals in markets from which they derive the majority of their income. They also benefit non-farm household incomes in rural areas, many of which are poor.

The second critical element of farm policy is state-of-the-art production. The goal of producing safe and high-quality agricultural output requires creating an environment for agriculture producers to be the best they can be and to strive for continued improvement. Agriculture policies should facilitate and reward the adoption of

new technologies that result in more efficient, safer, higher quality food, and more environmentally friendly production practices. Patent laws that provide incentives for innovation are important. And the U.S. university land grant system has evolved a role to play here, also.

The third critical element on farm policy is the mitigation of the reliance of some agricultural producers on farm payments. Producers of some agricultural commodities have become reliant on Government payments. Not only is this reliance burdensome on the taxpayer and troublesome in relation to international agreements such as the WTO, it changes producers' behavior and expectations. There is no real evidence to suggest that incomes of farmers who produce commodities that receive significant Government payments is any higher than those who receive little or no Government payments.

There is also reasonable evidence to suggest that Government payments become capitalized in land values, land rents, and specialized assets. When this occurs, the Government payments are not really doing what they are intended to do, namely, to support farm incomes, since the higher land values and land rents means that these increased costs offset the benefits of Government payments. Less reliance on Government payments and a movement toward market-based, non-distorting policies such as unsubsidized actuarially fair crop insurance holds the promise of an efficient and prosperous agricultural economy. The challenge is how to limit the expectation of all Government support in order to encourage participation in crop insurance and to simultaneously reform and further develop the crop insurance portfolio to carry this burden. Part of this challenge is to significantly reduce the current levels of premium subsidies in the crop insurance program, but at the same time maintain participation rates.

This concludes my prepared remarks and I look forward to your questions.

[The prepared statement of Mr. Piggott appears at the conclusion of the hearing.]

Mr. MORAN. I thank you very much. There will be a pause before those questions begin. We have one 15-minute vote followed by two 5-minute votes, so I guess we will be back here in probably little more than a half-hour. It may be an opportunity for you all to have a brief lunch, and the committee will stand in recess until the call of the chair.

[Recess.]

Mr. MORAN. The Subcommittee on General Farm Commodities and Risk Management will resume its hearing. I apologize for the interruption. I think it might be useful, at least for me, if maybe you all would want to give me one sentence or two sentences or less a summary, what it is you would like for us to learn from your testimony? What point would you like for Congress to glean from what you have to tell us today? Dr. Westhoff?

Mr. WESTHOFF. Sure. Let me say, first of all, 2005 is not a good year relative to those before, but it isn't as bad as some other years have been in the past. The second point would be that, given the nature of current farm programs, we do a very good job of protecting against downside risk due to prices. We don't by construction

do much to a downside risk doing the fields and dealing with production costs.

Mr. MORAN. Mr. Funk?

Mr. FUNK. I think the major point here is that, obviously, there are some challenges that are facing us. It is not just something that has come up here real recently just with Hurricane Katrina and Rita, but I think the point is that there is a lot of challenges that do face us, and we need to be very cautious with our restructure or wherever we go from here.

Mr. MORAN. Dr. Ray?

Mr. RAY. I think we need to always go back to the basics of why it is that agriculture is having price and income problems. And before we move to far away in any direction, we need to be sure that there has been a change in those reasons, and that by going in this different direction, you will get the results that you expect.

Mr. MORAN. Dr. Piggott?

Mr. PIGGOTT. I think the major point I wanted to make is that farm policy—include an economic safety net that better recognizes potential—in the farm sector, specifically target policy—to larger farms' on-farm income—policies, creating opportunity to improve or maintain the current levels of small farms' on-farm income.

Mr. MORAN. I thank you all very much. Do you all utilize USDA's economic analysis in reaching the conclusions that you reach, particularly as we talk about farm income being up for 2003 and 2004? I assume those are numbers that you used in your analysis. And we ran out of time. One of the things I continue to think that we ought to explore is the definition of farm income or farm, and this $1,000 income, I think, clearly distorts the true picture of what is going on in agriculture, and I wondered if anyone agrees with that, or is there any consensus within the agricultural economic world that we ought to be taking a look at that definition?

Mr. FUNK. I don't know that anybody really would disagree with the fact that when you start to take those definitions as having expectations for at least a thousand dollars and the farm fails, that that really skews a lot of things. With the Kansas Farm Management Association, our average, comparing 2002 levels with 2002 census, shows that we tend to have the larger size of farms out through there, but yet, at the same time, we don't have the very largest farms and we do have some very small farms in the mix.

Mr. MORAN. What does it take to have $1,000 farm income?

Mr. FUNK. A 4-inch lamb.

Mr. MORAN. I am sorry, I didn't hear you.

Mr. FUNK. A 4-inch lamb or a 4-inch steer.

Mr. MORAN. I understand what you are saying now.

Mr. FUNK. Not much.

Mr. MORAN. Do you know, Dr. Ray?

Mr. RAY. I agree, too, that $1,000 is probably a very small threshold, but I think that it also would be a good idea for USDA to think about generating net farm income by a group of enterprises. We know that the policy that we deal with in this committee, has been major commodities. But yet, the net farm income numbers include horticulture, they include income from, they include livestock, some of which are not really the kind of family farm size that we might be used to thinking about when we are

developing policy. So if we had an increase in net farm income in 2004 of the level that has been discussed, what part of that income actually came from the kind of major crop farmers that we like to discuss in this committee?

Mr. MORAN. Dr. Westhoff, you in particular, I think, raised this topic of farm policy and its relationship to commodity prices, and indicated that we, in a direct way, don't take into account costs of input. Anyone want to address that? To me, one of the things I mentioned at home is that, as we look at a new farm bill, clearly, even if we had a farm bill very similar to the one we have, in which prices matter and trigger certain assistance based upon the price of the commodity, perhaps those triggers need to be adjusted based upon ever-increasing input costs. That would be one way not to have a wholesale change in the way that we deliver farm assistance, but there ought to be a more direct way. Is there something that should be, is there a way to take into account input costs?

Mr. WESTHOFF. Sure. What I would like is an easy solution to this problem, but I do think that we do find that, yes, a lot of the viability in farm income has—production costs, I should say. And I think if you were going to try to design something, you need to think in terms of whether you are trying to protect aggregate-level income, or you are trying to protect income at the farm level, or trying to do things at the farm level than trying to deal with the accounting practices of individuals can be very difficult. Is there something that one could design that would take into account variations in things like fuel and fertilizer prices at the national level, and have some sort of an offset available for those types of changes.

Mr. MORAN. Dr. Ray?

Mr. RAY. One thing that I would say is we have insurance products that look at gross revenue or other kinds of measures of whole farm, and these will work very well under some circumstances. But I think that when we talk about products like that, or if it is not a product, if it is a policy in place of target prices and loan rates, what we are really saying is, is that there is going to be roughly an equal rate of growth in both supply and demand; it is just that, on average, there is going to be problems, but on the average they average out. OK. But now if it is true that demand grows at a half a percent less on average over the next decade, than the supply capacity, both in this country and around the world, all that means is, is that over the next 10 years, that kind of program becomes increasingly more expensive, because it doesn't get at the use of more supply than can be demanded. So it has that disadvantage.

Mr. MORAN. Mr. Funk?

Mr. FUNK. Well, I think, long-term, going back to some of the discussions we had before the 2002 farm bill, we heard Dr. Collins this morning mention, we hope they saved up for a rainy day. I think, at the same time, we start talking about some of the farm savings accounts that we have discussed in the past, those are things that we definitely have to look at in a broad-based framework, along with tax policy and everything else, for what apparent mechanisms do farmers have in order to save up during those good years to be able to prepare for the lean years.

Another aspect, obviously, that came out, the Commission on 21st Century Production Agriculture, before the 2002 farm bill, talked about a revenue-based type of trigger rather than simply a price-based trigger. And I think, especially for your district, Mr. Chairman, when you talk about, can we make a crop, that is the first question, and I think that is one of the imperative things. It is not just price, it is also about what kind of a crop do we have to be able to sell that year.

Mr. MORAN. You and Dr. Collins, I am a supporter of the so-called farm accounts, the idea that we save for the future when years are good. I am waiting for the good years in which my farmers could do that. So it appeals to me in theory, but in reality it seems to me to be a very difficult proposition, and in part, maybe it is the district that I represent. With 4 or 5 years of drought, it is the conditions that have not been desirable. But do you see that, Mr. Funk, you really have real statistics, every day, live farmers. Do you see that? When Dr. Collins tells that in 2003 and 2004, that we had increasing farm income, do you see any evidence that our farmers were saving for 2006?

Mr. FUNK. I think, generally, there was an increase in savings, but I think, long-term, in 2003, obviously, the wheat crop was OK out in western Kansas for the broad scale. It would have been nice if we had some sort of mechanism. Instead of encouraging them to have to invest directly into a brand new combiner, something like that that was a capital investment, we would have loved to actually save those dollars so that in time of lean term, they could turn around and be able to have those dollars to be able to cover family living expenses.

Mr. MORAN. That is something, a much more realistic occurrence, is that if there is any money to be had, you put it back into, you might buy another quarter-section of ground, you might buy a new combine, but it just seems unlikely to me that someone who is earning their living farming puts that money back into a savings account.

Mr. FUNK. And that is exactly what I am saying, it has got to be a real broad-based type of a look. What really can we do? I like the fact that I can invest in my university-sponsored account to be able to invest for my retirement, and if something happens, I can draw the money out in the case of emergency, but at the same time, what do the producers have? And we have got all sorts of mechanisms that are out there. If there is something that is really good, though, we need to be able to put that in a play for them.

Mr. MORAN. Thank you very much. Let me turn to Mr. Etheridge.

Mr. ETHERIDGE. Thank you, Mr. Chairman.

Dr. Westhoff, in your analysis of Federal policy, you noted that current policy is designed to cushion producers from declining prices rather than revenue losses or increased production costs, similar to what we talked about a minute ago. And we have talked about averaging and I would just say as emphatically that the river may only average 6 inches deep, in some places it may be 12, and that is sort of where find farmers in a lot of cases, and that is why it is so difficult making policy across this country. What would be the fate of farm programs that were designed to cushion falling

farm revenues, my farm support programs based on revenues rather than prices, be a way to address both deficit reduction requirements and future WTO trade agreements?

Mr. WESTHOFF. We can look at a revenue-based policy, if there is interest to do so. Based on some past analysis that we have gotten, we can find quickly that you can support a higher level of revenue nationwide through a revenue-based type of system than you can with a price-based system. The trick, as you said, is that revenues at the farm level can be very different than at the national level. An individual may have a crop loss, where his neighbor does not, and the crop loss may have decreased revenues. Are you going to protect revenue at the farm level or at the sector level? For a certain number of dollars you are going to be able to spend, you can protect a higher level of national revenue, if your can focus this protecting national revenue. If you are trying to protect revenue at the farm level, it can be very expensive.

Mr. ETHERIDGE. It seems to me, also, a challenge is that some of our farms are becoming more and more integrated, but still classified as farm operations, but they are integrated almost to the grocery shelf, which puts the small farmers at a very big disadvantage because they can't take advantage of those variations in prices or distortions.

OK, let me move to one other question before I run of time here. Dr. Piggott, in your argument against additional subsidies or tax relief for alternative uses of farm commodities, such as excise tax exemptions on ethanol and those kind of things, let me be the devil's advocate in this one. Does your argument apply to the view of subsidies and tax relief for domestic oil productions, such as depletion allowances as used in agriculture and other things? Or for corporate R & D that winds up in our universities for research for new products? Because a lot of it has some of the same similarities. How do you differentiate in that?

Mr. PIGGOTT. What my point was, is, at a time here now, where gasoline prices have risen to a level where, I think it was mentioned earlier this morning, that ethanol and biodiesel and products like that may become more of an opportunity or a possibility where they may pencil out, if you will. What all is encouraging is, for it to be a long-term structural shift to agricultural commodities being a benefit, you need to make sure that it is science-based in the sense that these alternative fuel options can compete on a science-based perspective. That could be through innovations in crop yields that are specialized towards, or crop production that is specialized towards that production, and/or in production technology. That is what I had in mind. So we have a product that can compete with petroleum-based products on an economic level. That is what I had in mind.

Mr. ETHERIDGE. I think the reason I raise the question, though, is, it is more of a fundamental question as well as a practical question, because if you are going to provide it for depletion or a depletion allowance for petroleum production, and the other things we do, because it is so important to our economy, where we provide, in effect, our military to make sure—any kind of—and we don't provide it for our farmers. And I am not arguing either way, I am just raising the issue here. It seems to me we would be trying to

produce and provide for 100 percent, because if we do an alternative fuel, 100 percent of those dollars, R&D or otherwise, is spent in the United States of America. None of it moves outside. It seems to me it makes it very difficult for us to be able to compete against the very thing we want to find an alternative to replace. Does that make sense? Someone else may want to comment on that. I only raise that as an issue, because I think we need to have the input on it.

Mr. RAY. I guess the only comment I make is that I think it is very clear that what we pay at the pump is just part of our cost of gasoline, if you think of the Middle East and all. So I think that it is a matter of awareness and getting people to understand that you are paying either, you either pay it one way or you pay it another.

Mr. ETHERIDGE. Good point. Thank you Thank you, Mr. Chairman, I yield back.

Mr. MORAN. On that similar topic, the price elasticity that I asked the previous panel, isn't there something different about fuel, that it is slow to respond to increasing prices? I guess the elasticity is what it is, as a result of what we consider is a necessity. Is there something unique about fuel?

Mr. RAY. Is there something unique about energy or food?

Mr. MORAN. Energy. I am sorry.

Mr. RAY. Energy. I think, in the short-run, it is very, very elastic. All we have to do is look at how we as individuals react. We don't change much in the short-run, but the next time that we need a car, it is going to have an impact. And as there are opportunities to develop additional output in the energy sector, it is going to have impact. So I think it is one of those cases where the short-run, it is very inelastic, but over the long-run, it turns out to have a quite bit of elasticity.

Mr. MORAN. That makes sense to me, just as a practical experience in my life. I have concluded that maybe I ought to get a different car, but it doesn't make sense to trade my car in yet.

Mr. RAY. Yes.

Mr. MORAN. But when I go shopping, if gasoline prices are what they are today, I will be looking for something smaller.

Mr. RAY. Yes.

Mr. MORAN. Farmers, is it true when I say, what I at least expressed earlier, that they have little ability to modify their expenditures of fuel, fertilizer, and natural gas? Are farmers generally fuel-efficient, energy-efficient?

Mr. FUNK. Well, they try to be, obviously. You find that they try to basically use the most advanced technology that they can to try to increase their bottom line, and I think that is the thing, is that if they treat it like a business, they are trying to be as efficient in the utilization of the resources that they have, because they know it impacts the bottom line for that farm. In that respect, though, once they have the equipment line already established, and if they want to be able to have a crop, they are going to have to use some sort of level of energy input into that production process in order to make a crop so they have got returns for that year. They can't simply shut it down to the result that they would lose their crop and not be able to have sales for that year.

Mr. MORAN. Is their restriction their banker?

Mr. FUNK. In some cases, in the last couple years, even before I got to Kansas, excuse me for spending 5 years in Illinois prior, we did see, if Representative Johnson were here, I think he would get a kick out of that. When we were sitting over there, we saw some bankers who told them, switch to soybeans. Lower input costs are through there, especially if you can hit with a no-till drill instead of having to go back in with conventional tillage. So there are several options that are available to them and especially switching to crops like soybeans with no-till, but at the same time they have got to make the most opportune use of the resources available.

Mr. MORAN. With the arrival of Mr. Pomeroy, let me turn to him for any questions he might have.

Mr. POMEROY. Thank you, Mr. Chairman. I want to thank you for holding this hearing. There is a lot of wonderful thinking out there on how all this fits together, and often we are focused on the piece of the legislative action in front of us. We don't get this chance very often. I have enjoyed it very much and I have enjoyed the panel as well as the preceding panel in that regard.

Let me begin with FAPRI. And being in your region, a lot of research that you do is of great value to us in North Dakota. We appreciate it. I note that you indicate in your testimony that certain crop insurance products do protect producers against significant reductions in yields or gross revenues, but generally do not provide support when there is only modest reduction in yields. Would you go further and say that crop insurance also does not generally respond to whether it is diminished economic return to the farm or due to quality discount?

Mr. WESTHOFF. Yes, quality has been a problem. There are some attempts being made by the crop insurance program, I understand, to do some quality adjustments, but it has not be satisfactory to many producers.

Mr. POMEROY. Yes, we directed them to, actually, in the legislation, but it has been pretty slow in coming. On the other hand, they indicate they don't want to ensure the grain trade, and I do believe, I learn about a new disease every crop year. It is always something. It is falling numbers and now we are back to vomatoxin and who knows what it will be next year. It is always something and it takes away the economic return to the farmer and it is uninsured. So I think, as we consider a response, a disaster response, in light of what we have experienced in 2005, this is something that we ought to consider. Now we have responded relative to quality loss in the disaster bills of the last 2 years. Have you measured whether that has been helpful to farmers?

Mr. WESTHOFF. We have not looked at that particular question, Mr. Pomeroy.

Mr. POMEROY. Anecdotally, I have heard it has been. But on to the gentleman from Kansas. I can't think of your last name. I am sorry. I found your testimony to be thoroughly depressing about the impact of these fuel costs on the profitability of farming now and really into the future. Well, we talked about, over the midterm, people might seek a smaller automobile. You are not going to go and swap out a combine for a more fuel-efficient combine any time soon. They are pretty well stuck with fuel-intensive, it is a fuel-in-

tensive business, no getting around it. It is a capital-intensive business and it is a fuel-intensive business. Is that your perspective?

Mr. FUNK. Yes, sir. Yes. And you talked about switching out the combine. Obviously, when you look at that, if you go for a larger one that might be able to harvest more with a more efficient kind of an operation, you still run into the circumstance where maybe that larger combine won't fit in the field they have got to be able to get into. You don't necessarily want to go to a smaller one, because the number of acres you have got to cover may not be as efficient as a larger one. So there is a catch-22 to that.

Mr. POMEROY. I have had farmers in North Dakota tell me, basically, that they lost profit this year through the higher fuel costs. Unfortunately, looking at your testimony, I don't see a lot of good news around the corner for them as it involves profitability likely next year.

Mr. FUNK. We just don't see the energy turnaround into 2006. And obviously, where we are at, including in your State of North Dakota, it is a matter of, can we have that crop produced? And that is a big question for us as well. We just don't simply know what yields will be in 2006 and we are still waiting now for 2005.

Mr. POMEROY. Interesting. One final question, Mr. Chairman, and this would be of Dr. Ray. Do you believe that the present, I thought your comments relative to the 1996 farm bill were very interesting. Do you believe that the farm bill that we are operating under is more successful at achieving its ends of taking some of the volatility out of the economics of family farm and agriculture and freedom to farm?

Mr. RAY. To the extent that we have counter-cyclicals now so that we don't need emergency legislation to fill in the gaps, yes, but I would point out that it has same fallacies, really, as the 1996 farm bill. All of the discussion that we have been talking about, how farmers react to energy prices, is the same way they react to crop prices; they will change the mix and they will change how they put things together. But that doesn't necessarily mean that they are going to reduce total output all that much, if you add it all up. So we don't have anything in the 1996 farm bill or the 2002 farm bill that addresses that.

Mr. POMEROY. Well, what about the conservation title? Do you think, as we explore the potential of getting income to farmers for land stewardship practices, totally disconnected to production, that that might provide some means to begin this, to implement it, to incorporate more vigorously into the farm bill the kind of change you are suggesting?

Mr. RAY. It definitely would. To the extent that the activities that were involved took out of production some of the major crops, it definitely would. And in your area of the country, I am sure it would be a very important one, but in areas like Illinois and Indiana, it probably wouldn't take much land out of production and would essentially just change the name of the direct payment and it would change the recipients as well.

Mr. POMEROY. A very interesting comment. Thank you very much. Thank you, Mr. Chairman.

Mr. MORAN. I thank you, Mr. Pomeroy. In that regard, Dr. Ray or anyone else, does the 2002 farm bill create a significant incentive for production?

Mr. RAY. That is what people tell us, right? We have folks that are telling us that in WTO. We have folks that are telling us that in Brazil. All around the world they are saying that if we just did away with subsidies, our production would decline and prices would go up and everything would be great. Now, I think that is very important to understand that our discussion about energy is exactly the way it works for other crops, too; for changes in price, too. And in the case of cotton, I am sure that there would be a reduction in the acreage of cotton, because it is a high-priced product or it maybe has a little bit more subsidy than some. But that means that soybean production and corn production would probably go up. That land wouldn't lie idle.

So I think that it is, if you look aggregate agriculture, and I argue that as we oftentimes get bogged down in one commodity and then we think that we can use that as a pattern for all commodities, and that doesn't work. So I think that most people that have done work in this, and others can speak for it, the reduction in total output is not as great as we would expect, if you look at all of agriculture.

Mr. MORAN. The laws of economics suggest, in fact, require that any kind of subsidy increases production. I think that is a given. My question is more specific. Are there specific things in the farm bill that encourage production beyond other farm policies? Are there policies in place in the 2002 farm bill that are encouraging production in way that distorts the market even more than some other policy? I think any subsidy is going to have distortion. The question is, are we doing it in the right way?

Mr. RAY. Well, my argument would be that whether you did total decoupled payments or whether you have the current system, you are going to have about the same amount of total production no matter what.

Mr. MORAN. Just different production.

Mr. RAY. Yes.

Mr. MORAN. Potentially. Dr. Piggott, you indicated, and perhaps I may be reading more into your testimony than was there, but I think you suggested that the further we can go in the direction to free market the better we will be, and that one of the ways to assist agriculture is through crop insurance. Are we any place close in this world market that we operate in that we can significantly reduce or eliminate direct assistance to agriculture and replace that with assistance through crop insurance, through risk management tools?

Mr. PIGGOTT. Let me answer that question by saying what Dr. Collins, I think, was trying to also say this morning, is, we have made a great deal of headway there, with about 80 percent of all acres insured now. There is still a lot of work to do in that area, but what I was advocating in my testimony is that there is a vehicle in place which does produce the most efficient market outcomes through crop insurance. And the challenge there is to reduce more hazardous and adverse selection problems. So that can be the vehicle where we can provide assistance in times when it is needed.

And part of the challenge there is to take away some of the other things, like the ad hoc payments, which do change farmers' expectations if they continue to incur year in, year out, and that was my point.

Mr. MORAN. What role do any of you see ethanol playing in the agriculture economy? Is it a significant opportunity for agriculture or is this oversold? Dr. Westhoff?

Mr. WESTHOFF. Well, I think, clearly, with the energy bill in place, we have seen large increases in ethanol production already and in front of us much more to come. In our own projections we just put out in August, we actually have ethanol's use of corn exceeding the exports by 2009. So it has become a very major point of the agricultural economy and we don't see a reason that is going to change.

Mr. MORAN. Let me make sure I understand that. Corn will be more used to produce ethanol than to be exported in 2009?

Mr. WESTHOFF. That is our current projection, that is right.

Mr. MORAN. Anyone else?

Mr. FUNK. I think, obviously, when you start speaking about biofuels in general, not only ethanol but including biodiesel, and now, as we read it from the energy bill, agro-biodiesel, I believe, I think it is an important factor to be able to consider it and it gives producers an opportunity to expand their horizons in looking at investing in other opportunities that may come around to capture some value from the farm gate. At the same time, I think we have to be very cautious in how we feel about looking at ethanol and other crops, and we need to have a lot more integrated educational programs, shall we say, to help them to understand the marketing of the byproducts and the co-products that come along from those. And I think there is a big challenge with a lot of people that start these operations and they think, well, I am just going to produce ethanol, and there is a lot of marketing behind that and a lot of business savvy that is required, as well, that isn't in the traditional area of agricultural production.

Mr. MORAN. Do you see evidence, this may be you, Mr. Funk, or Dr. Westhoff, in regard to increasing, we have seen commodity prices fall and yet we are producing more ethanol, more soy diesel all the time. What is the correlation between the production of ethanol, soy diesel, bio-based fuels and price, commodity price?

Mr. WESTHOFF. Sure. More demand is going to mean a higher price. If we didn't have the level of ethanol demand we have today, corn prices would be even lower than they are. In our estimates we did of the effects of the energy bill, we estimated that the bill would increase the average corn prices by about 12 or 13 cents a bushel in the long-run.

Mr. MORAN. Gentlemen, anything you would like to add to today's record before we close this hearing?

I appreciate your testimony. Thank you for joining us. This will be ongoing discussion about farm policy. And as a number of you indicated, it seems like we have had this discussion before, and you have been trying to find the right answers for a long period of time and we appreciate your help.

Without objection, the record of today's hearing will remain open for 10 days to receive additional material and supplementary writ-

ten responses from witnesses to any question posed by a member of the panel. This hearing on the Subcommittee on General Farm Commodities and Risk Management is adjourned.

[Whereupon, at 1:07 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follws:]

STATEMENT OF KEITH COLLINS
CHIEF ECONOMIST, U.S. DEPARTMENT OF AGRICULTURE
BEFORE THE U.S. HOUSE COMMITTEE ON AGRICULUTRE,
SUBCOMMITTEE ON GENERAL FARM COMMODITIES AND
RISK MANAGEMENT

September 29, 2005

Mr. Chairman and members of the Committee, I appreciate the opportunity to appear at this hearing to discuss the current state of the U.S. farm economy, including the role of farm programs and the impacts of higher energy prices. After a very weak period at the start of this decade due to slow global economic growth and reduced U.S. exports, the U.S. farm economy began a recovery in 2003 that continues today and will remain strong into 2006. Strong global income growth and rising U.S. agricultural exports helped U.S. net cash farm income reach a record high in 2003, eclipse that record by 20 percent in 2004, and remain on track to approach the 2004 level again in 2005. The strong performance in farm cash flows, combined with lower interest rates, has up to this point offset higher energy prices and caused a surge in farm real estate values that has improved farm balance sheets.

While aggregate cash income remains healthy and farm equity is growing, there are a number of developments that will contribute to uneven economic performance for some producers and some regions. Principal crop prices have pulled back following last year's record-large harvests; however, price-based farm program payments are offsetting some of that decline. Meanwhile, livestock and livestock product prices remain robust.

Sharply higher energy prices are cutting into net farm income and will likely continue to affect production input and marketing costs in 2006. Losses caused by drought in the eastern Corn Belt and Hurricanes Katrina and Rita, as well as other regional adverse weather, have reduced income prospects for some producers. Rising interest rates are also adding to farm production costs.

Global economic growth and rising U.S. agricultural exports will continue to underpin growth in the U.S. farm economy for many commodities. Macroeconomic uncertainties for 2006 include the effects of higher oil prices and rising interest rates as well as possible fluctuations in exchange rate changes. The U.S. dollar has trended down in recent years, and further depreciation would strengthen U.S. export prospects. USDA's late August forecast placed U.S. agricultural exports at $63.5 billion for Fiscal Year (FY) 2006, up $12.8 billion or 25 percent from FY 2000. This would be a record-high level of exports, even though Japan and several other countries remain closed to U.S. beef following the discovery of a cow with Bovine Spongiform Encephalopathy (BSE) in December 2003. U.S. beef and veal exports in FY 2006 are forecast to be only $0.8 billion, compared with $3.03 billion in FY 2003, the last full year of beef trade prior to the U.S. finding of BSE.

U.S. and World Economies Support U.S. Farm Economic Growth

The U.S. economy grew a very strong inflation-adjusted 4.2 percent in 2004, while the rest of the world also grew a strong 3.6 percent. For 2005, with the U.S. recovery maturing, interest

rates rising, and oil prices strengthening, U.S. real economic growth (prior to Hurricane Katrina) was forecast at a reduced, but still-strong, 3.7 percent, with the rest of the world slowing somewhat to 2.8 percent, mainly due to weak performance in the European Union and Japan. Prospects for 2006 for the United States and the rest of the world are similar to 2005, although record high oil prices could reduce global growth.

The strong growth in foreign economies during 2004 came after several years of much lower growth. Lagging performance of Europe and Japan and slower growth in transition economies and some other developing nations will slow foreign growth to just under 3 percent this year. However, Chinese growth is expected to continue to exceed 9 percent and economic prospects also appear good for Canada and Mexico, our two major trading partners.

Rising global incomes have been good for the demand for U.S. agricultural products here and abroad. Domestic spending on food, which also drives demand for animal feed, continues to be historically strong. Real personal consumption expenditures on food rose 5 percent in 2004, the largest annual increase since 1976, with spending for food away from home growing a little faster than for food consumed at home. This consumption spending growth compares with an average of 2.7 percent in 2003 and less than 2 percent during the economic slowdown in 2001 and 2002. Food consumption growth has exceeded 4.5 percent during the first half of 2005.

In addition to rising food demand, domestic industrial demand for farm products is also increasing, with ethanol production the most notable example. In 2005, U.S. ethanol production is forecast to be 4 billion gallons and account for 14 percent of corn use. The Energy Policy Act of 2005 requires that 7.5 billion gallons of renewable fuel be used by 2012. USDA's baseline projection prior to enactment was 4.7 billion gallons of ethanol production in 2012. Corn-based ethanol production of 7 billion gallons by 2012, compared with the baseline projection, would require the construction of the equivalent of nearly 40 new 60-million-gallon per year ethanol plants. Corn used in ethanol production would account for 21 percent of U.S. corn production. Currently rising ethanol prices and declining corn prices are strong incentives to expand ethanol production capacity.

The agricultural trade-weighted value of the dollar has depreciated 17 percent from early 2002 to this summer. Further declines are expected for the rest of 2005 and 2006 due to the historically large current account deficit. The declines are expected primarily against the currencies of developing countries, notably Brazil, as the dollar has stabilized against the currencies of developed countries. The weaker dollar and improved foreign economic growth helped U.S. agricultural sales reach $62 billion in FY 2005 and the agricultural trade surplus attain $4.5 billion, well above the zero or negative balance initially expected by many analysts.

U.S. agricultural exports are forecast to rise to a record $63.5 billion in FY 2006. The primary factors leading to the forecasted rise include increased horticultural exports and larger cotton and soybean exports, particularly to China where record imports of these commodities are expected. This export forecast assumes, in part, that the markets that are now closed to U.S. beef exports because of BSE remain closed in 2006. This assumption simply reflects our standard forecasting procedure that assumes the current policies of foreign countries remain in place until they are explicitly changed. While beef and veal exports for FY 2005 are estimated at $0.8

billion, down from $3.0 billion in FY 2003, trade restrictions on U.S. beef created some additional export opportunities for other meats. U.S. pork exports have surged from $1.3 billion in FY 2003 to an estimated $2.3 billion in FY 2005, and poultry exports are up as well.

Outlook for Major Crops

During 2004/05, large global production for most crops exceeded consumption and led to rising inventories and reduced market prices compared with the prior year. For 2005/06, global production for major crops is expected to decline and fall short of consumption, thus reducing global carryover stocks. However, large crops are forecast for the United States, despite drought and Hurricanes, thus limiting U.S. inventory reductions and market price appreciation. Nevertheless, global grain stocks as a percent of total use remain low by historical standards, foreign economic growth appears sound, export prospects are good, farm programs are providing increased payments to program crop producers, and participation in crop insurance is high. In addition, crop prices could move higher over the coming months after the harvest passes and logistical snags caused by Hurricanes Katrina and Rita are fixed.

In 2005/2006, global wheat, rice, coarse grain and cotton production are forecast to decline while global oilseed production remains about the same as in 2004/05. World wheat stocks at the end of the 2005/2006 marketing year are expected to decline 6 percent from a year earlier and global coarse grain stocks are expected to drop 14 percent, while world cotton and oilseed stocks remain stable, each rising about 1 percent.

For **wheat,** plantings for the 2005 crop declined by 1.6 million acres to 58.1 million, mainly due to 4 percent lower winter wheat plantings last fall. However, less abandoned acreage is expected, and harvested area and yields are expected to be very close to last year's levels. U.S. wheat production is estimated at 2.2 billion bushels, about the same as last year. Stable world imports but ample global supplies and increased exports from Russia, Ukraine, Kazakhstan and Canada are forecast to lower U.S. wheat exports by 88 million bushels in 2005/2006. With total U.S. use falling short of production, carryover stocks on June 1, 2006, are forecast to rise to 624 million bushels, up from 540 million this June 1. The farm price of wheat is forecast to average $3.00-$3.40 per bushel compared with last season's $3.40.

U.S. **rice** acreage is about the same in 2005 as in 2004, when producers responded to a strong recovery in prices and returns and boosted seedings. The second largest rice crop ever is expected, with modest Hurricane losses. Stocks ran up sharply last year but by the end of the 2005/06 marketing year are forecast at 34 million cwt, down from 38 million cwt at the start of this year, as domestic use and exports are both expected to improve. The U.S. farm price of rice is forecast to average $7.25-$7.55 per cwt this marketing year, compared with $7.33 per cwt in 2004/2005, as firm world prices are helping to maintain U.S. prices despite abundant U.S. rice supplies.

In 2004, the **corn** crop was a record 11.8 billion bushels as producers harvested a record 160.4 bushels per acre, exceeding the previous record set in 2003 by over 18 bushels per acre. The sharp increase in total supply led to a drop in U.S. farm prices for corn, from $2.42 per bushel for the 2003 crop to $2.06 for the 2004 crop. However, the huge increase in production offset the price decline, so the value of the crop—price times production—was the same in 2004

as in 2003, while government payments went up due to the reduced prices. For 2005/06, farmers planted 81.6 million acres to corn, up only 0.7 million, as increased fertilizer and fuel prices did lead producers to shift as much acreage from soybeans as expected. With drought in several Corn Belt States, U.S. corn production is forecast at 10.6 billion bushels, down 1.2 billion from last year but would still be the second largest crop ever, if realized. Total corn use is again expected to be strong as exports and ethanol use rise. Use is expected to about match this year's production, leaving carryover stocks for 2005/06 about the same this marketing year as last with farm prices averaging $1.70-$2.10 per bushel.

Early-season prices have been weak due to the slowdown in Gulf exports, high barge and rail rates, and limited barge capacity. USDA is allowing emergency and temporary storage to be used for grain pledged as collateral for Commodity Credit Corporation (CCC) price support loans; assisting with the movement of barges of damaged corn from New Orleans; encouraging alternative shipping patterns; and allowing producers to store USDA-owned corn on the farm with the option to purchase to help relieve the pressure on the grain storage and transportation systems until the Katrina-caused logistical problems are fully worked out.

Soybean production reached a record 3.1 billion bushels in 2004, contributing to higher domestic use, exports, and carryover stocks. A sharp decline in Brazil's crop to 51 million tons due to drought and Asian rust contributed to the U.S. export strength. In 2005, farmers planted 73.1 million acres, down from 75.2 million in 2004. The declines were largest in the south, where Asian rust was a factor and in the northern plains, where there was shifting to other oilseeds. USDA's September crop production survey estimated soybean yields down 7 percent from last year's strong outturn but still 17 percent above 2003. Soybean production is estimated to be 2.9 billion bushels in 2005, compared with 3.1 billion last year. Strong demand for U.S. soybeans is expected this year. The U.S. has ample supplies, prices are competitive, and Brazil appears to be curbing its production expansion. USDA estimates that Brazil will reduce soybean acreage for the first time in 7 years. Strong appreciation of the Brazilian currency, low internal soybean prices, high transportation costs and poor yields last year caused a sharp drop in profitability, which is expected to be repeated this year. With U.S. total use of soybeans expected to exceed production, carryover stocks are forecast to decline to 205 million bushels from 295 million at the start of the year. Prices in 2005/2006 are forecast in a range of $5.15-$6.05 per bushel compared with $5.75 in 2004/05.

In 2004, U.S. **cotton** production reached a record 23.3 million bales, up from 18.3 million in 2003. Despite record-high exports of 14.3 million bales, the record-large crop increased carryover stocks and pulled prices down some 30 percent. For 2005, production was estimated post-Katrina at 22.3 million bales, the second highest ever. Loss estimates due to Hurricane Rita are not yet know but do not appear to be enough to change the overall supply/demand picture for 2005/06. Although domestic use is expected to continue its trend decline under pressure from imported textiles and apparel now that textile and apparel import quotas have been eliminated, export prospects are excellent. Reduced production in China and strong growth in demand globally for cotton is expected to boost U.S. cotton exports to a new record, in excess of 15 million bales. Even so, the prospective crop is so large it is likely to exceed use and raise carryover stocks to 7 million bales from 5.75 million this year.

Under the 2002 Farm Bill, lower prices for major crops trigger increases in counter-cyclical payments and marketing assistance loan benefits. Based on current market price projections, counter-cyclical payments could reach nearly $6 billion for the 2005/06 crops, up from about $4.3 billion for the 2004/05 crops and $0.5 billion for the 2003/04 crops. Marketing assistance loan benefits (loan deficiency payments, marketing loan gains and certificate exchange gains) are projected to increase from less than $1 billion for the 2003/04 crops to $5.3 billion for the 2004/05 crops to about $6.5 billion for the 2005/06 crops.

Horticultural markets continue to become an increasing contributor to U.S. farm income. For 2005, cash receipts from fruits, vegetables, and greenhouse and nursery crops are forecast to be $50.1 billion, up nearly $2 billion from last year. Greenhouse and nursery products are expected to see the largest gain, although Hurricane Katrina is estimated to have caused serious damage to Florida's nursery industry. Exports for horticultural crops for FY 2006 are forecast to reach $15.9 billion, up substantially from $14.5 billion last year.

In recent years, strong demand for imported products has increased the U.S. horticultural trade deficit which is forecast at $12.2 billion in FY 2006, up from $11.1 billion in FY 2005. During the past decade, domestic production of fruits and vegetables has averaged 0.5 percent annually, compared with import growth of 4.4 percent. Increasing U.S. consumer preferences for fruits and vegetables combined with rising affluence and demand for food diversity are likely to maintain the import growth.

Sugar production for 2005/06 is expected to be about the same as last year, based on the post-Katrina crop production survey. Some 20 percent of sugarcane acreage in Louisiana was subjected to hurricane force winds from Hurricane Rita, so a further modest reduction in production is possible. Based on the currently announced domestic and import quotas, carryover stocks are expected to be less than 10 percent of use for 2005/06, an unusually low level.

Outlook for Livestock, Poultry, and Dairy

Despite increasing meat and milk production in 2005, livestock and livestock product producers have continued to see a continuation of 2004's good financial returns. Meat and poultry production is expected to be up 2.5 percent in 2005 after little change in 2004. Consumer demand for meat and dairy products has been strong this year, and farm prices have been a record or near-record high. A 2.9-percent increase in total meat and poultry production is expected in 2006, leading to a softer market.

Beef production is expected to be up 1.9 percent in 2005. The increase reflects the end of several years of herd liquidation and lower cattle inventories. In addition, the resumption of imports of Canadian cattle under 30 months of age is augmenting tight supplies of slaughter-ready U.S. cattle. About 650,000 head are expected to be imported during 2005. Between July 18 and September 10, 2005, 119,156 head had been imported. Strong consumer demand for meat protein continues. Normally, the third quarter of the year is seasonally weak, but this year, even with resumption of Canadian live cattle trade, thus far cattle prices have declined less than expected and feeder cattle prices have been very strong. During 2004, the price of choice steers averaged a record $84.75 per cwt, and USDA forecasts prices that will average a new record of $85 per cwt in 2005. For 2006, as the U.S. cattle inventory continues to rise and Canadian cattle

are imported for a full year, U.S. beef production is expected to rise 3.8 percent and Choice steer prices average between $76 and $82 per cwt. Prices could be substantially stronger if Japan and other Asian countries open their markets to U.S. beef.

In 2005, **pork** production is forecast to rise only 1.3 percent despite strong hog prices in 2004 and 2005. The price of slaughter hogs averaged $52.51 per cwt in 2004, up from $39.45 in 2003, as tight supplies of beef boosted the demand for pork. In addition, United States pork exports were a record high in 2004 as demand has been strong in markets that banned beef imports from the U.S. For 2005, hog prices are forecast to average $48.50 per cwt. Hog producers have been cautious about expanding, as indicated in farrowing intentions surveys. Pork production in 2006 is expected to increase 1.6 percent, with hog prices forecast to average $43-$47 per cwt.

Broiler production is expected to increase 4 percent to a record 35.4 billion pounds in 2005. Higher prices for competing meat products and an improving domestic economy pushed whole-bird broiler prices to a record high in 2004. Continued strong prices for competing meats and a rebound in U.S. broiler exports have helped maintain broiler prices this year only slightly below last year's levels. Exports are expected to be up 12 percent in 2005 after Avian Influenza problems closed some U.S. export markets in 2004. For 2006, broiler production is projected to rise 3.1 percent and prices remain strong at 70 to 76 cents per pound, compared with 72.5 cents this year.

In 2005, **milk** production is expected to increase by 3.2 percent, after remaining flat in 2004. In 2003 and 2004, milk production had the slowest growth over a 2-year period since the mid-1980s. Weak milk prices, poor forage quality, suspension of imports of dairy cows and heifers from Canada, and limitations on the availability of bovine somatotropin (rBST) were factors. Tight milk supplies caused the all-milk price to average a record $16.13 per cwt in 2004, up from $12.55 per cwt in 2003. For 2005, the all-milk price is forecast to average $15.15 per cwt. USDA's large purchases of nonfat dry milk finally came to an end in late 2004, and tight domestic and international milk supplies are keeping the price of nonfat dry milk above the CCC purchase price. In 2006, milk production is forecast to increase 2.3 percent as output per cow continues to recover, the normal rBST supply resumes, and lower feed costs boost milk output. The all-milk price is projected to average $13.10-$14.10 per cwt in 2005, down about 10 percent.

Higher milk prices in FY 2004 reduced payments under the Milk Income Loss Contract (MILC) program. The MILC payment rate averaged $0.22 per cwt in FY 2004 with payments being triggered during January through April. In FY 2005, MILC payments were made only in June and averaged less than $0.01 per cwt.

Outlook for Farm Income

In 2004, farm cash receipts, net farm income, and net cash farm income all registered historic highs. Farm cash receipts reached a record $241 billion as both livestock and crop receipts were record highs. Livestock receipts rose by $18 billion in 2004, reflecting strong prices for cattle, hogs, poultry, and milk. Prices for major crops were generally strong in the early part of 2004, allowing producers to sell the remainder of the large harvests from the fall of 2003 at favorable prices. These higher prices were largely responsible for a $7-billion increase in crop receipts in

2004. Net cash farm income reached a record $85.5 billion in 2004, up from the previous record of $71.6 billion in 2003.

In 2005, USDA released income estimates at the end of August, which did not take into account any losses or production cost increases attributable to Hurricane Katrina. Crop receipts are forecast to decline slightly from last year's record high, while livestock receipts remain about the same. Farm cash receipts in 2005 are projected to be the second highest on record, at nearly $240 billion. Higher government payments are forecast to offset the slight drop in crop cash receipts and cash production costs that are expected to be $8 billion higher in 2005 compared with 2004. The record crops harvested in 2004 lowered prices for major crops, triggering additional government payments under the 2002 Farm Bill. With strong receipts and higher government payments, the late-August forecast of this year's net cash farm income was $85.2 billion, very near last year's record. Most producers will face generally favorable conditions, although some, such as those affected by adverse weather, will not see these income benefits.

In 2005, government payments were forecast in late August to reach $21.4 billion, up from $13.3 billion last year but below the record of $22.9 billion in 2000. Lower prices for major crops are expected to increase counter-cyclical payments marketing assistance loan benefits in 2005. Ad hoc disaster payments are forecast to increase from $0.6 billion in 2004 to $3.9 billion in 2005. The increase in disaster payments reflects legislation passed by Congress in 2004 authorizing payments to producers affected by adverse weather in either 2003 or 2004. These payments were disbursed earlier this year. Tobacco producers are also forecast to receive about $1 billion under the Tobacco Transition Payment Program (TTPP) this year, which provides tobacco quota holders and producers of quota tobacco payments for the termination of the tobacco marketing quota and price support loan programs. These payments are financed through assessments on manufacturers and importers of all tobacco products.

A useful indicator of producer returns from the market is net cash farm income excluding government payments. In 2000, net cash farm income excluding government payments hit a cyclical low of $34 billion. As markets have strengthened, net cash income from the market more than doubled to $72.2 billion in 2004. In 2005, net cash farm income excluding government payments is projected to fall to $63.8 billion. While below this past year, net cash farm income excluding government payments remains well above the cyclical low in 2000.

Based on August conditions, farm cash production expenses were expected to increase about $8 billion or 4 percent in 2005, following an increase of $8.3 billion, or 5 percent last year. Higher prices for feed, feeder livestock, labor, fuel, fertilizer, and other inputs pushed up production expenses in 2004. In 2005, feed prices are down but energy-based input costs and interest expenses are up.

The income earned by farm operator households in 2005 is expected to continue the increases of recent years. Average farm operator household income is forecast at $88,105, up slightly from 2004, but 2004 household income was 27 percent above 2003. A 4.3-percent increase is expected in off-farm income in 2005, which will more than offset an expected reduction in household earning from farm operations.

With another sound income year expected, farmland values may rise 7 to 8 percent in 2005. This increase would continue the reductions in farm-debt-to-asset ratios seen in recent years. After ranging between 14.8 percent and 15.2 percent during 1992-2002, the farm debt-to-asset ratio fell to 14.4 percent last year, and a further drop to 13.4 percent is expected this year. In 2004, U.S. farm real estate rose a very sharp 11 percent, and with another strong rise expected this year, the degree of farmland leverage continues to decline, giving farmland owners a measure of equity protection should the agricultural economy weaken.

Perspectives on Energy-price Developments and the Farm Economy

Producers use energy directly for operating machinery and equipment on the farm and indirectly in fertilizer produced off the farm. While both U.S. agriculture and the fertilizer industries have made significant improvements in energy efficiency over time, energy-related expenditures make up an important share of total production expenses. Farm expenditures on energy-related production inputs—electricity, fuels and oils, and fertilizers—rose from about 5 percent of total farm cash expenses in 1910 to over 17 percent of total farm cash expenses in the early 1980s. Since the early 1980s, improvements in efficiency and relatively stable energy prices caused energy-related expenses as a share of total farm cash expenses to fall to about 11 percent by 1999. Since then, increasing energy prices have caused the share of energy-related expenses to start rising again. USDA's August forecasts have energy-related expenses accounting for 13 percent of total farm cash expenses in 2005, up from 12 percent in 2004, as expenses for energy-related production inputs increase $3.3 billion, with fuels and oils accounting for $2 billion and fertilizers $1.3 billion. Energy price increases following Hurricanes Katrina and Rita could add $1.5 billion to these 2005 expense forecasts.

USDA's Economic Research Service (ERS) cost of production estimates provide insights into which sectors of the agricultural economy are most reliant on energy, and, therefore may be most affected by changes in energy prices. Using data collected in the Agricultural Resource Management Survey (ARMS), ERS estimates the cost of production for corn, soybeans, wheat, cotton, grain sorghum, rice, peanuts, oats, barley, sugar beets, tobacco, milk, hogs, and cow-calf operations based on surveys conducted every 3-8 years.

These estimates indicate that commodities with the highest energy-related expenses per acre include tobacco, rice, sugar beets, and peanuts. For example, in 2003, the average energy-related expenses for tobacco were about $400 per acre, with about $100 per acre for fuels, lubricants, and electricity and about $300 per acre for fertilizer and soil conditioners. In comparison, the average energy-related expenses for rice, sugar beets, and peanuts were about $128, $108, and $97 per acre, respectively. Energy-related costs for corn, sorghum, and wheat averaged $66, $51, and $34 per acre, respectively. On the lower end, energy-related costs for soybeans were only $16 per acre because of significantly lower fertilizer use.

To better gauge how per acre energy costs may affect commodity producers, these energy expenses can be expressed as a percent of per acre total farm expenses. Based on 2003 estimates, energy-related costs as a percent of per acre total farm expenses, which includes land and depreciation, are the highest for sorghum, 23 percent; rice, 21 percent; corn, 19 percent; and wheat, 18 percent.

USDA data for 2004 shows production expenses by farmers by region and farm size. For example, energy-related expenses as a share of total farm production expenses were highest in the Midwest, where energy-related expenses accounted for about 11 percent of total farm production expenses, followed by the South and Plains regions at 10 percent, and then the Atlantic and West regions at about 7 percent.

In terms of farm size, larger farming operations incur more expenses in general than smaller farming operations, thus their spending on energy-related inputs is greater than for smaller operations. For 2004, farm operations selling $1 million or more annually of farm products averaged about $144,000 in energy-related expenses, with $63,000 for fuels and $81,000 for fertilizers. In comparison, operations in the $100,000 to $250,000 sales class spent an average of $22,000 in energy-related expenses, with $8,000 for fuels and $14,000 for fertilizers. However, energy-related expenses averaged about 6 percent of total farm production expenses for farmers selling $1 million or more yearly but about 12 percent of total farm production expenses for farmers in the $100,000 to $250,000 sales class.

Natural gas is the primary input in the production of nitrogen fertilizer, representing 70 to 90 percent of the cost of anhydrous ammonia nitrogen fertilizer. When U.S. natural gas prices started to increase significantly in 2000, the cost of domestically produced ammonia also rose significantly. Average U.S. ammonia production costs doubled from 1999 to 2003, the latest year for which we have data.

These rising production costs have been reflected in the prices paid by farmers for fertilizers. From 1999 to 2004, prices paid index for fertilizer rose by 34 percent. The U.S. Department of Energy's Energy Information Administration (EIA) reports that the U.S. average natural gas price for industrial users doubled over the same period. The price paid index for fertilizer for August 2005 rose 0.6 percent from July and was 13 percent above August 2004, reflecting, in part, the increase in natural gas prices from 2004 to 2005.

Long-term increases in natural gas prices will lead to an increase in the cost of U.S. nitrogen fertilizer production and higher expenses for fertilizers. Increasing imports of fertilizer will limit the impact of higher domestic natural gas prices on farmers to the extent that natural gas prices in other countries do not increase as rapidly as prices in the United States.

In the short run, farmers are limited in what they can do to mitigate the effects of higher energy prices. Some producers may be able to shift to alternative crops, reduce field operations by switching from conventional tillage practices to reduced till, or allow crops to dry naturally.

Over the long term, farmers have more flexibility and can acquire energy efficient equipment, which occurred following the energy price hikes in the 1970s and early 1980s. Advanced technologies and farming practices can be adopted, including precision farming, which involves yield monitoring and calibrated application of pesticides and fertilizers.

The spike in energy costs in recent years has raised questions about the effect of higher energy costs on retail food prices. Because energy and energy-related costs represent a relatively

small share of the retail cost of food, we expect that higher energy prices to have only a small effect on food prices.

ERS estimates of consumer spending on food indicate that the farm value represents about 19 percent of the retail cost of food with the remaining 81 percent attributable to food processing, transportation, wholesaling, and retailing. The energy component of the marketing bill for food was estimated to account for 3.5 percent of retail food expenditures in 2000, with eating places incurring nearly 40 percent of the fuel and electricity costs of food marketing. The rail and transportation costs accounted for another 4 percent of food marketing costs, but only a portion of those expenses are energy-related costs.

Energy and energy-related costs are important in agricultural production and higher prices for these production items have increased farm production expenses. Despite the increase in production costs, net cash farm income has continued to rise as cash receipts have stayed strong. Although higher energy costs will surely be a financial problem for some producers this and next year, as long as cash receipts remain strong the farm economy is likely to absorb these costs without crisis. We will continue to monitor the energy price situation closely.

While uncertainty remains over the sustainability of the global economic recovery, rising interest rates, the value of the dollar, issues raised by the Federal budget deficit, trade negotiations, emerging competitors, animal diseases, and oil prices, U.S. agriculture appears strong enough to deal with the uncertainties ahead.

That completes my statement, and I will be happy to respond to any questions.

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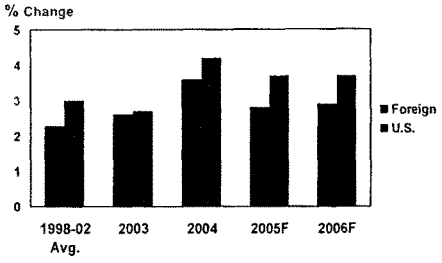
Farm Economic Indicators

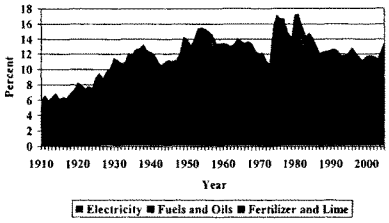
Commodity Prices	Unit	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05E	2005/06F
Wheat	$/bu	2.48	2.62	2.78	3.56	3.40	3.40	3.00-3.40
Corn	$/bu	1.82	1.85	1.97	2.32	2.42	2.06	1.70-2.10
Soybeans	$/bu	4.63	4.54	4.38	5.53	7.34	5.75	5.15-6.05
Rice	$/cwt	5.93	5.61	4.25	4.49	8.08	7.33	7.25-7.55
Upland cotton	cents/lb	45.00	49.8	29.8	44.5	61.8	42.9	NA
		2000	2001	2002	2003	2004	2005F	2006F
Hogs	$/cwt	44.70	45.81	34.92	39.45	52.51	48-49	43-47
Steers	$/cwt	69.65	72.71	67.04	84.69	84.75	84-86	76-82
Broilers	cents/lb	56.20	59.10	55.60	62.00	74.10	72-73	70-76
Milk	$/cwt	12.40	15.04	12.18	12.55	16.13	15.15	13.10-14.10
Gasoline, all grades 1/	$/gallon	1.53	1.47	1.39	1.60	1.89	2.37	2.45
Diesel 1/	$/gallon	1.49	1.40	1 32	1.50	1.81	2.41	2.50
Natural gas (wlhd) 1/	$/K cu. ft.	3.70	4.01	2 95	4.89	5.50	7.81	7.64
Electricity 1/	$/kwh	8.24	8.62	8.46	8.70	8.92	9.22	9.37
Ag. Trade (Bil $)	FY99	FY00	FY01	FY02	FY03	FY04	FY05F	FY06F
Total exports	49.1	50.7	52.7	53.3	56.0	62.4	62.0	63.5
Asia	18.4	19.6	20.1	19.5	21.7	24.3	22.4	NA
Canada	6.9	7.5	8.0	8.6	9.1	9.6	10.4	NA
Mexico	5.7	6.3	7 3	7.1	7.6	8.4	9.0	NA
Total imports	37.3	38.9	39 0	41.0	45.7	52.7	57.5	61.0
Farm Income (Bil. $)	1999	2000	2001	2002	2003	2004	2005F	2006F
Cash receipts	187.8	192.1	200.1	195.0	216.6	241.2	239.6	NA
Gov't payments	21.5	22.9	20.7	11.2	17.2	13.3	21.4	NA
Gross cash income	224.2	228.7	235.6	221.0	249.5	271.7	279.3	NA
Cash expenses	166.3	171.8	175.5	171.6	177.9	186.2	194.0	NA
Net cash income	58.0	57.0	60.1	49.5	71.6	85.5	85.2	NA

E=estimate; F=forecast.
1/ Source: Energy Information Administration, Short Term Energy Outlook, September 7, 2005.

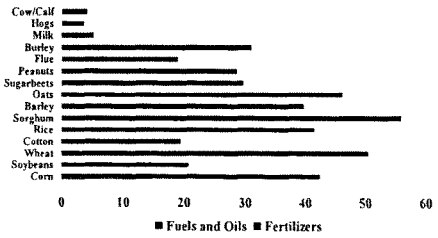
U.S. & Foreign GDP Growth Rates



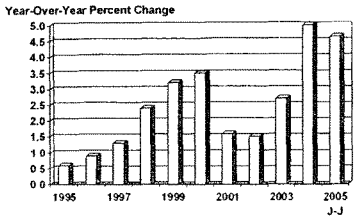
Energy Related Expenses as a Share of Total Cash Expenses



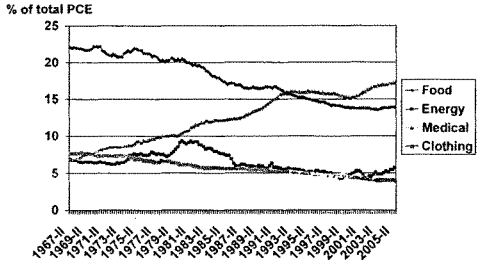
Energy Related Expenses as a Share of Total Operating Costs, 2003



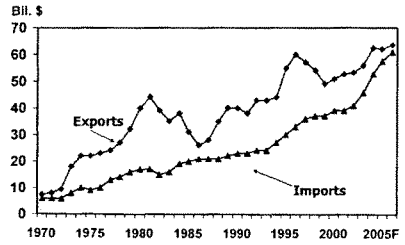
Real Personal Consumption Expenditures for Food



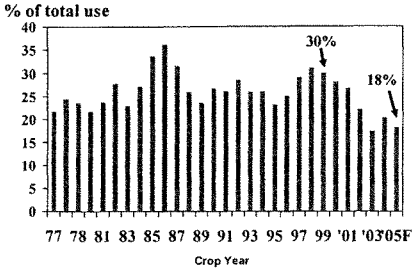
Personal Consumption Expenditures Shares, by Quarter, 1995-2005



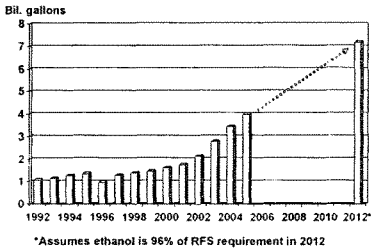
U.S. Agricultural Exports & Imports



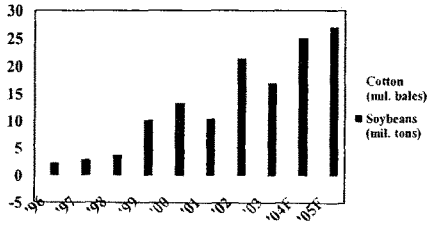
World Wheat and Coarse Grain Stocks



Ethanol Production



China Imports of Cotton and Soybeans



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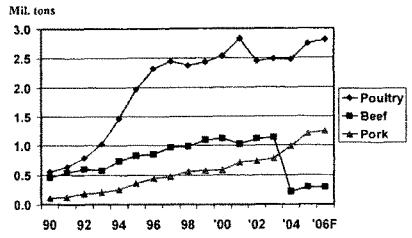
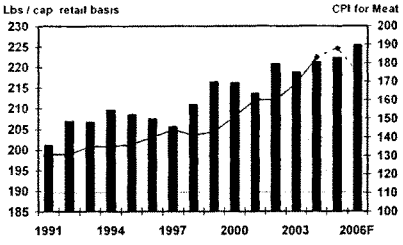
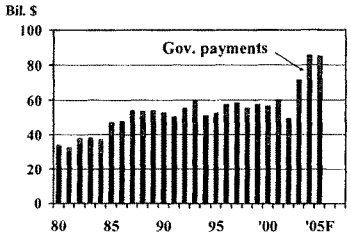
U.S. Meat Exports



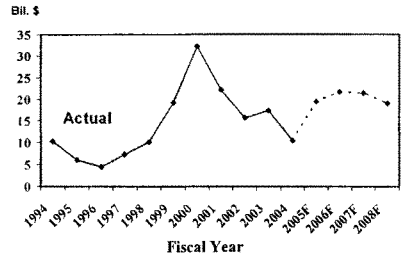
Retail Meat Consumption & CPI for Meat (red line)



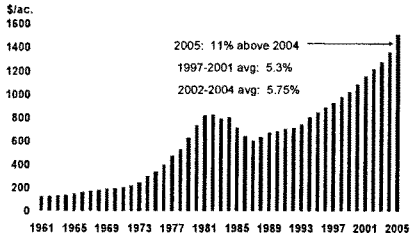
U.S. Net Cash Farm Income



CCC Farm Program Net Expenditures



Value of Farm Real Estate (Jan. 1)



An Assessment of the State of the Agricultural Economy in Increase Energy Prices Associated with Hurricanes Katrina and Rita

Testimony to the U.S. House of Representatives, Committee on Agriculture, Subcommittee on General Farm Commodities and Risk Management

Prepared by Kevin Dhuyvetter, Samuel Funk, Terry Kastens and Michael Langemeier[1]
September 23, 2005

Introductory comments

The general outlook for farm incomes across Kansas must take into account the substantial increase in fuel and fertilizer prices directly used on farms, as well as the higher costs of other inputs and services due to petroleum-based products. In light of the damage caused by Hurricanes Katrina and Rita in the Gulf Coast states and the other off-shore locations, there likely will be additional stress on farms due to the increase in input prices as well as other contributing factors such as mobility of export products through existing channels and the higher level of costs due to the tremendous strain placed on the U.S. economy as a whole. While the final impacts of these two massive storms is yet to be known, it is our intention to provide you further information as it becomes available.

Energy Forecasts

The following tables and charts show expenses for three major crop inputs for Kansas farmers – fuel and oil, irrigation energy, and fertilizer. With the possible exception of irrigation energy, these costs are important for most producers in the U.S., especially those located in the High Plains and Corn Belt regions. Costs are reported for the previous five years (2000-2004) as well as forecasts for 2005 and 2006. Forecasts for diesel prices and natural gas are based on an average of KSU models and Energy Information Administration (EIA) models. Fertilizer price forecasts are based on KSU models only. The KSU models are based on New York Mercantile Exchange (NYMEX) closing futures prices for crude oil and natural gas as of September 22, 2005. The reason for using an average forecast from several sources is that research has shown that composite forecasts generally are more accurate than individual forecasts.

Forecasts for whole-farm expenses for 2005 and 2006 are based on changes in input prices implicitly assuming that producers do not change their production practices significantly in response to the higher prices. For individual farms, this assumption may not hold, however, historical evidence suggests that at the aggregate level producers generally do not make major changes in response to price. Furthermore, research examining optimal input use (e.g., fertilizer, irrigation water) shows that input levels are reduced only marginally when prices increase. That is, producers still use similar amounts of the input for optimal economic production, but their economic returns decrease due to the higher input prices.

With the 2005 information that is in, and for all three inputs considered, costs are expected to increase significantly in 2005 relative to the previous 5-year average (2000-2004). Percentage increases in prices range from a low of +39.7% for fertilizer (composite of individual products) to a high of +94.8% for natural gas. Furthermore, prices in 2006 are forecasted to be above the

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[1] Respectively, Professor, Administrator of the Kansas Farm Management Association Programs, Professor, and Professor all in the Department of Agricultural Economics at Kansas State University.

historically high levels of 2005. This is especially true for fertilizer prices which are forecasted to increase significantly in the fall of 2005 and spring of 2006.

Using the Kansas Farm Management Association (KFMA) Summary's dryland and irrigated farm types, the expense categories of Gas-Fuel-Oil, Fertilizer, and Irrigation Energy were assigned to an energy expense "complex." Across all farms and on a per acre basis, the impact of higher fuel and oil, irrigation energy, and fertilizer prices will increase costs in 2005 approximately $8-$10 per acre for farms in Kansas compared to the previous 5-year average. An increase of this magnitude is also expected for 2006 relative to 2005. The cost per irrigated acre in the KFMA Summary due to the increase in the energy expense complex is expected to rise $32.89 in 2005 and another $15.60 in 2006. The cost per dryland acre in the KFMA Summary is expected to increase $5.72 from 2004 to 2005 with an additional $8.44 projected for 2006. Assuming that producers do not make major production changes, land rents would need to decrease by $14.16 per acre for dryland acres and $48.49 for irrigated acres from 2004 to 2006 in order to offset the impact of higher energy costs alone.

Based on an average from 2000 – 2004, the percentage of Total Operating Expense for these farms represented by the energy expense complex is 22.8% for dryland crop farms and 29.9% for irrigated crop farms. Holding other expenses constant while using the projected future expenses for the energy complex suggests those figures would rise to 33.0% and 41.4% for dryland and irrigated crop farms, respectively, in 2006.

Holding prices, yields and other factors constant; if the 2004 KFMA Summary dryland producers were to absorb the increase in the energy expense complex alone, they would reduce Net Farm Income by $22,227 from 2004 to 2006. For irrigated producers in the 2004 KFMA Summary the reduction in Net Farm Income would be $51,832 in 2006. These figures would represent a reduction in net farm income respectively of 39.8% and 93.6% from 2004 levels.

Given that Machine Hire, Utilities and other costs directly affected by energy prices are expected to increase significantly during this same timeframe we would expect additional upward pressure on input prices. Additional costs are expected for inputs utilizing petroleum-based products such as agricultural chemicals. Furthermore, the increase in building materials and other necessary items in the operation and upkeep of farms likely will continue to impact the total operating expenses of agricultural enterprises.

Revenues would be expected to decline in 2005 as yields for the primary fall crops in Kansas are expected to decline from the historically high levels of 2004. The Kansas Crops Report released by the Kansas Agricultural Statistics Service September 1, 2005 indicates that corn, soybean and sorghum grain production are forecasted to be down considerably in 2005: by 20, 5, and 2 bushels, respectively. While wheat yields statewide were up 2 bushels in 2005 compared to 2004, the overall crop production across the state is down considerably.

Factoring in historically high yields for major crops across Kansas in 2004 and downward pressure on farm-level agricultural commodity prices with higher fuel prices and limited export flows, a sustained level of revenues for Kansas farm families in 2005 is not expected. Reduced revenues and increased expenses result in a more pessimistic outlook for overall net farm incomes.

Table 1. Diesel Prices

	Mar-Oct Diesel Price			Year-to-year percent change		
Year	SW KS	US (EIA)	Average	SW KS	US (EIA)	Average
2000	$1.09	$1.04	$1.07	-----	-----	-----
2001	$1.09	$0.98	$1.04	0.6%	-6.1%	-2.7%
2002	$0.94	$0.88	$0.91	-14.1%	-10.0%	-12.1%
2003	$1.05	$1.05	$1.05	12.1%	18.6%	15.3%
2004	$1.37	$1.34	$1.36	30.0%	28.4%	29.2%
2005 (P)	$1.90	$1.96	$1.93	38.9%	45.9%	42.4%
2006 (F)	$2.07	$2.02	$2.05	9.0%	3.0%	5.9%
05 - Avg(00-04)	$0.79	$0.90	$0.85	71.6%	85.1%	78.2%
06 - Avg(00-04)	$0.96	$0.96	$0.96	87.0%	90.6%	88.7%

P = preliminary (actual prices through August 2005, Sept and Oct are forecasts)
F = forecast

Figure 1. Monthly Diesel Prices, Jan 1994 - Aug 2005
(Sep 2005 - Dec 2006 forecasted)

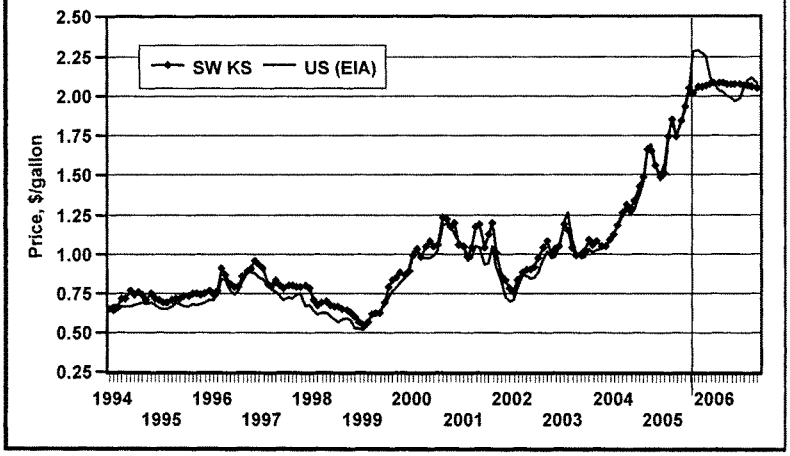


Table 2. Natural Gas Prices

	Mar-Oct Natural Gas Price			Year-to-year percent change		
Year	NYMEX	US (EIA)	Average	NYMEX	US (EIA)	Average
2000	$4.04	$3.85	$3.95	-----	-----	-----
2001	$3.69	$3.49	$3.59	-8.6%	-9.3%	-9.0%
2002	$3.35	$3.12	$3.23	-9.2%	-10.7%	-10.0%
2003	$5.35	$5.24	$5.30	59.5%	68.2%	63.7%
2004	$5.99	$5.63	$5.81	11.9%	7.5%	9.7%
2005 (P)	$8.70	$8.34	$8.52	45.4%	48.1%	46.7%
2006 (F)	$10.36	$7.20	$8.78	19.0%	-13.7%	3.0%
05 - Avg(00-04)	$4.22	$4.08	$4.15	94.0%	95.6%	94.8%
06 - Avg(00-04)	$5.87	$2.94	$4.40	130.9%	68.8%	100.7%

P = preliminary (actual prices through August 2005, Sept and Oct are forecasts)
F = forecast

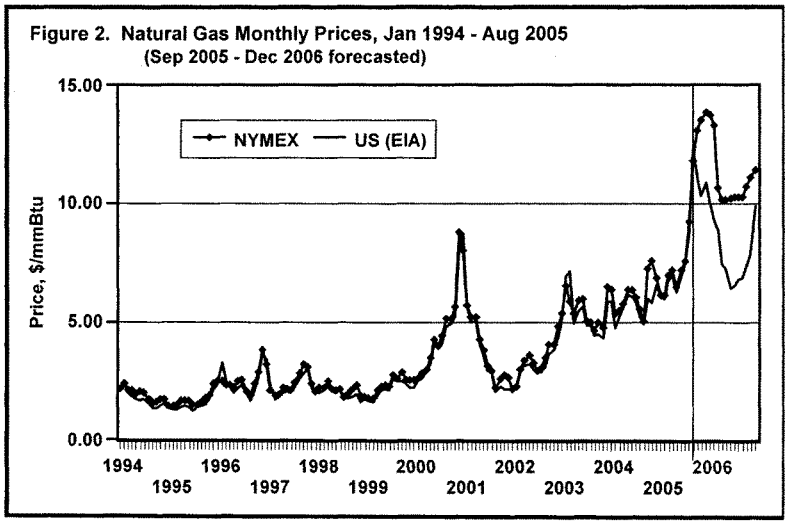


Table 3. Fertilizer Prices (Corn Belt)

Percent of total	40.0%	17.5%	17.5%	20.0%	5.0%	100.0%	
			Oct-May Fertilizer Price*				Year-to-year
Year	NH3 (82%)	UAN (32%)	Urea (46%)	- P -	- K -	Wtd Avg	% change
2000	222.80	130.49	188.59	218.40	177.78	197.53	-----
2001	355.87	194.93	250.31	225.73	177.30	274.27	38.9%
2002	231.93	139.39	171.91	210.48	172.43	197.96	-27.8%
2003	320.33	162.11	208.69	227.49	169.25	246.98	24.8%
2004	357.91	185.50	240.79	243.71	169.45	274.98	11.3%
2005	390.58	228.15	296.30	262.62	208.54	310.96	13.1%
2006 (F)	578.98	340.43	346.31	284.30	216.57	419.46	34.9%
05 - Avg(00-04)	$92.82	$65.66	$84.25	$37.46	$35.30	$72.62	39.7%
06 - Avg(00-04)	$281.22	$177.94	$134.26	$59.14	$43.33	$181.12	63.3%

* Oct-Dec of previous year (P = average of 10-34-0 and 18-46-0, K = muriate of potash)
F = forecast

Figure 3. Fertilizer N Monthly Prices, Jan 1994 - Aug 2005
(Sep 2005 - Dec 2006 forecasted)

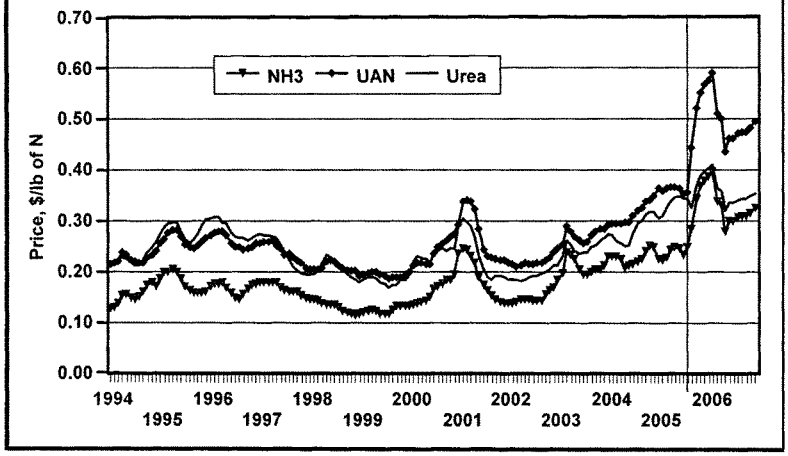


Table 4. Whole-farm Gas, Fuel & Oil Expenses from KFMA Annual ProfitLink Summary

	Non-Irrigated Farms		Irrigated Farms		Weighted
Year	Dollars	Number	Dollars	Number	Average
2000	$10,192	1,367	$19,617	140	$11,068
2001	$10,897	1,308	$17,345	129	$11,476
2002	$9,431	1,270	$15,696	122	$9,980
2003	$10,685	1,210	$16,716	117	$11,217
2004	$12,820	1,179	$19,285	109	$13,367
2005 (F)	$18,251	1,179	$27,455	109	$19,030
2006 (F)	$19,331	1,179	$29,079	109	$20,156
and 2006 relative to the actual diesel price in 2004.					
'05 chg from '04	$5,431	42.4%	$8,170	42.4%	$5,663
'06 chg from '05	$1,080	5.9%	$1,624	5.9%	$1,126
'06 chg from '04	$6,511	50.8%	$9,794	50.8%	$6,789

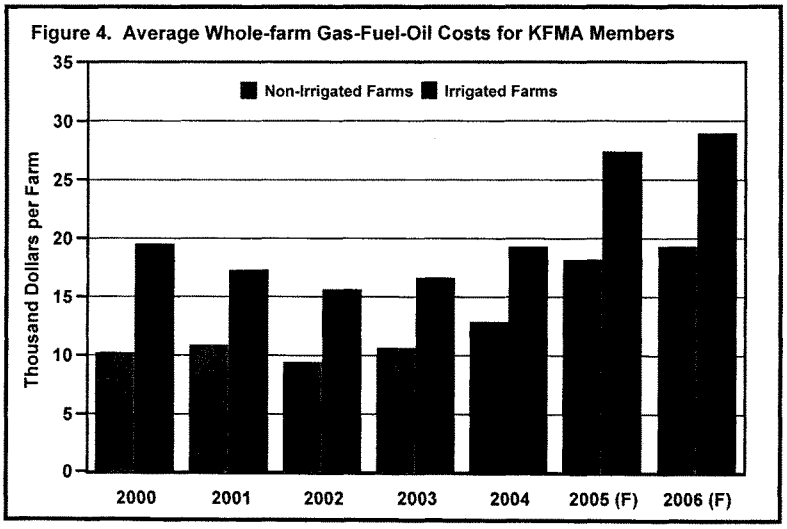


Table 5. Whole-farm Irrigation Energy Expenses from KFMA Annual ProfitLink Summary

	Non-Irrigated Farms		Irrigated Farms		Weighted
Year	Dollars	Number	Dollars	Number	Average
2000	$1,976	1,367	$33,900	140	$4,942
2001	$1,900	1,308	$30,758	129	$4,491
2002	$2,003	1,270	$31,946	122	$4,627
2003	$2,578	1,210	$39,438	117	$5,828
2004	$2,232	1,179	$41,602	109	$5,564
2005 (F)	$3,275	1,179	$61,039	109	$8,163
2006 (F)	$3,374	1,179	$62,880	109	$8,409
2005 and 2006 relative to the actual natural gas price in 2004.					
'05 chg from '04	$1,043	46.7%	$19,437	46.7%	$2,599
'06 chg from '05	$99	3.0%	$1,841	3.0%	$246
'06 chg from '04	$1,142	51.1%	$21,278	51.1%	$2,846

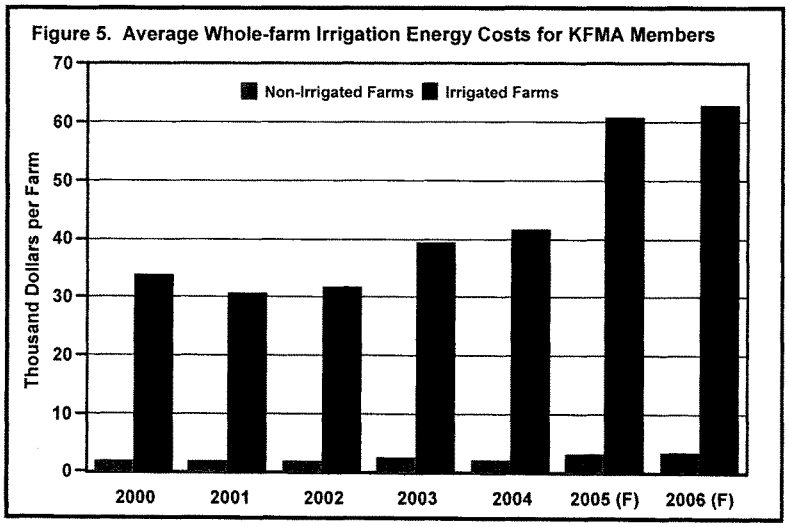


Table 6. Whole-farm Fertilizer & Lime Expenses from KFMA Annual ProfitLink Summary

	Non-Irrigated Farms		Irrigated Farms		Weighted
Year	Dollars	Number	Dollars	Number	Average
2000	$19,999	1,367	$34,515	140	$21,348
2001	$23,806	1,308	$39,076	129	$25,177
2002	$20,705	1,270	$27,506	122	$21,301
2003	$24,638	1,210	$35,434	117	$25,590
2004	$27,737	1,179	$39,511	109	$28,733
2005 (F)	$31,367	1,179	$44,681	109	$32,493
2006 (F)	$42,311	1,179	$60,271	109	$43,831
and 2006 relative to the actual fertilizer prices in 2004.					
'05 chg from '04	$3,630	13.1%	$5,170	13.1%	$3,760
'06 chg from '05	$10,944	34.9%	$15,590	34.9%	$11,337
'06 chg from '04	$14,574	52.5%	$20,760	52.5%	$15,097

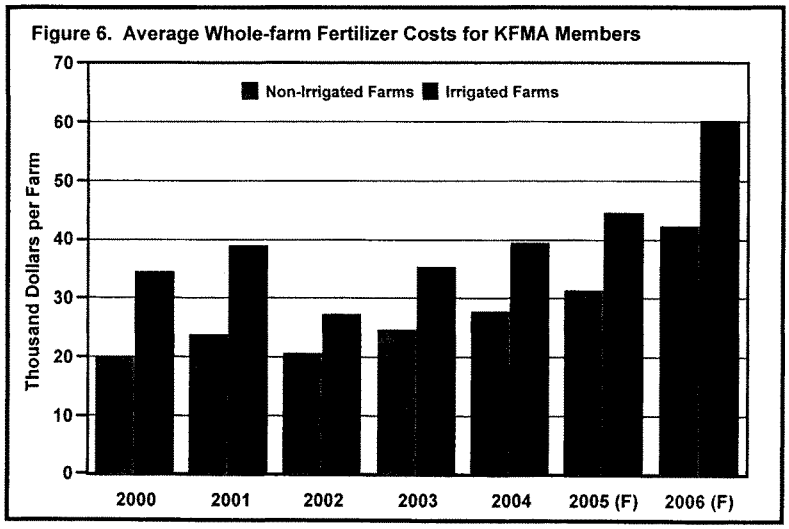


Table 7. Whole-farm Total Operating Expenses/Acre from KFMA Annual ProfitLink Summary

	Non-Irrigated Farms		Irrigated Farms		Weighted
Year	Dollars	Number	Dollars	Number	Average
2000	$112.84	1,367	$177.05	140	$118.80
2001	$120.96	1,308	$189.83	129	$127.15
2002	$112.65	1,270	$178.80	122	$118.45
2003	$118.67	1,210	$195.40	117	$125.43
2004	$127.89	1,179	$209.88	109	$134.83
2005 (F)	$135.30	1,179	$231.69	109	$143.45
2006 (F)	$144.17	1,179	$244.37	109	$152.65
Crop acres in '04	1,365	1,179	1,503	109	1,377
'05 chg from '04	$7.40	---	$21.81	---	$8.62
'06 chg from '05	$8.88	---	$12.68	---	$9.20
'06 chg from '04	$16.28	---	$34.49	---	$17.82

* 2005 and 2006 forecasted expenses are based on changes in prices for 2005 and 2006 relative to the actual prices in 2004.

Table 8. Percent Energy-Related Costs are of Total Operating Costs by Farm Type

	Non-Irrigated Farms			Irrigated Farms		
	2000-04	2005	2006	2000-04	2005	2006
Fuel and oil	6.8%	9.9%	9.8%	6.0%	7.9%	7.9%
Irrigation energy	1.3%	1.8%	1.7%	12.0%	17.5%	17.1%
Fertilizer & lime	14.7%	17.0%	21.5%	11.9%	12.8%	16.4%
Total	22.8%	28.6%	33.0%	29.9%	38.2%	41.5%

Table 9. Amount Land Rent would Need to Decrease to Offset Impact of Higher Energy Costs

			Weighted
Time period	Dryland acres	Irrigated acres	Average
'05 chg from '04	$5.72	$32.89	$8.62
'06 chg from '05	$8.44	$15.60	$9.20
'06 chg from '04	$14.16	$48.49	$17.82

* Note: this is the rent per acre of non-irrigated and irrigated land ACRES not the rent per acre for non-irrigated and irrigated FARMS (which include some land of both types).

Figure 7a. Operating Costs for Non-irrigated Farms in KFMA

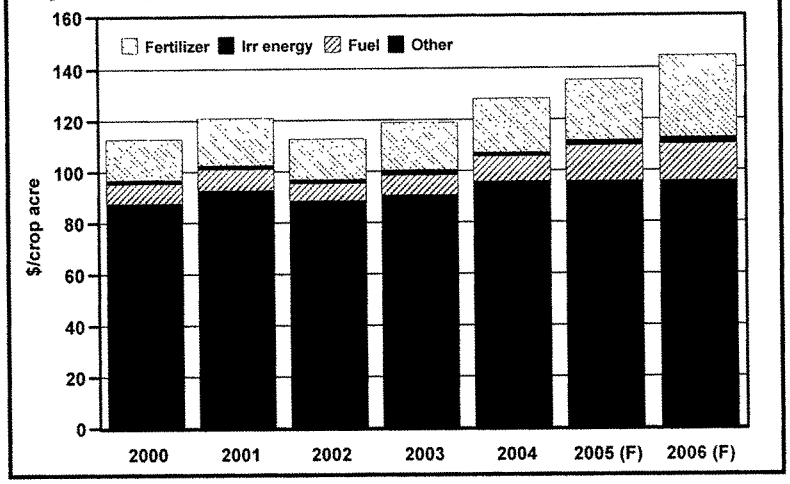
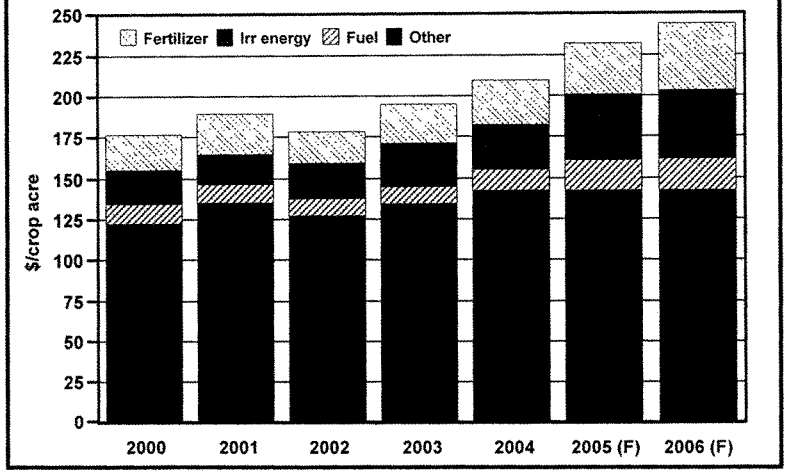


Figure 7b. Operating Costs for Irrigated Farms in KFMA



Testimony of

Howard Gruenspecht

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear before you today to discuss recent developments in energy markets and their possible implications for the agricultural sector.

The Energy Information Administration (EIA) is the independent statistical and analytical agency in the Department of Energy. We do not promote, formulate, or take positions on policy issues, but we do produce data, analyses, and forecasts that are meant to assist policy makers, help markets function efficiently, and inform the public. Our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

Hurricanes Katrina and Rita wrought incredible devastation on the central Gulf Coast, most importantly in terms of human suffering, but also in economic impacts that have spread well beyond the stricken area. At its peak impact, Katrina shut down over 25 percent of U.S. crude oil production, 20 percent of crude imports, 10 percent of domestic refinery capacity, and over 15 percent of U.S. natural gas production. Some of these impacts were temporary, while others will continue to affect output for many months to come.

While the effects of Hurricane Rita had not been completely assessed as of the time this testimony was prepared, we know that it resulted in a shut-in of oil and natural gas production during its passage through the Gulf of Mexico similar to that experienced for Katrina, as well as a precautionary shutdown of over 4 million barrels per day of refinery

capacity. I expect to provide more up-to-date information on Rita's aftermath in my oral testimony.

Energy Use in Farming and Farming-Related Sectors

Before turning to recent energy developments, a brief review of energy's role in the agricultural sector can help provide some of the necessary context. For 2005, EIA estimates that energy use on farms totals about 1,155 trillion British thermal units (Btu) of which: diesel accounts for 38.6 percent of total use, natural gas accounts for 18.9 percent, liquefied petroleum gas (LPG or propane) accounts for 17.2 percent, electricity accounts for 14.9 percent, gasoline accounts for 8.5, and other fuels account for 1.9 percent. In addition to direct farm use of energy, agriculture is indirectly affected by energy requirements in the fertilizer industry, specifically in nitrogenous fertilizers. The energy requirements of this industry, in terms of thermal content, are about 500 trillion Btu, of which 97.5 percent (471 billion cubic feet 2002) is natural gas, and virtually all of the remainder (3.5 billion kilowatthours) is electricity. The cost of natural gas used in the nitrogenous fertilizer industry accounts for almost half the value of its shipments.

Petroleum

Even before Hurricane Katrina struck on August 29th, crude oil and petroleum product prices were setting records. On August 26, the near-month price of crude oil on the New York Mercantile Exchange closed at over $66 per barrel, which was $23 per barrel, or more than 50 percent, higher than a year earlier. Over the same one-year period, retail gasoline and diesel fuel prices had risen 74 cents and 72 cents per gallon, respectively. Oil prices worldwide had been rising steadily since 2002, due in large part to growth in

global demand, which has used up much of the world's surplus production capacity. Refineries have been running at increasingly high levels of utilization in many parts of the world, including the United States.

Many of the facilities shut in by Hurricane Katrina have since restarted. As of September 19, before precautionary shut-ins of production and refinery capacity began in anticipation of Hurricane Rita, about 838 thousand barrels per day of crude oil production remained offline, along with four major refineries with a total distillation capacity of 880 thousand barrels per day.

In the immediate aftermath of Hurricane Katrina, with the extent of actual damage then largely unknown, crude oil prices rose briefly over $70 per barrel, up more than $4 in less than 48 hours, but in less than a week had fallen below their pre-storm levels. The impact on crude oil prices was undoubtedly lessened by the relatively robust inventory levels before the storm and by the quick assurance that refiners unable to obtain adequate crude oil supplies would be able to borrow by way of time exchanges from the Strategic Petroleum Reserve, even before the coordinated release of stocks by the United States and other members of the International Energy Agency was announced on September 2.

The more significant price impact, however, was on finished petroleum products. Spot prices (the level at which large volumes are sold by refiners, importers, and traders) for gasoline rose as much as $1.40 per gallon east of the Rockies within 3 days, while spot diesel fuel prices rose 35 to 40 cents.

The seemingly disproportionate change in finished product prices reflects the severity and expected persistence of Hurricane Katrina's impact on refining operations in the

Gulf. Additionally, the shutdown of the Capline, a major crude oil pipeline from Louisiana to the Midwest, reduced crude supplies to refineries there, causing several to temporarily reduce operations. Finally, the temporary closure of the Colonial and Plantation product pipelines in the aftermath of Katrina virtually halted distribution of products from the Gulf Coast to the lower East Coast, as far north as Baltimore. This led to some temporary product shortages, particularly in the South Atlantic region of the country, in the days immediately following the hurricane.

As U.S. refineries operate increasingly close to full capacity, and product demand continues to rise, the balance of demand must be served with product imports. This, in turn, requires a sufficient price differential between the United States and other world markets to attract the needed imports. Although this differential does not increase the **cost** of refining products in the United States, it does tend to increase the **market value** of finished petroleum products relative to crude oil. And this typically affects all products in the market, regardless of their specific origin.

Wholesale petroleum product prices, like those of crude oil, have fallen back from their peak levels. Similarly, the U.S. average retail gasoline price has dropped by 28 cents per gallon in the past 2 weeks and, as of Monday, September 16, was about 19 cents higher than its pre-hurricane level.

While the near-term outlook for oil markets depends on a number of factors, the rate at which refinery capacity affected by Katrina (and possibly by Rita) can be brought back on-line is the major factor affecting petroleum product markets. Current estimates

indicate that some of the refineries shut down by Katrina may not be fully available for months.

Even if the energy system is fully or near fully restored by December, prices for all petroleum products are likely to remain elevated. On September 7, we released our monthly *Short-Term Energy Outlook*. For this *Outlook*, we considered three cases based on the speed of recovery of the energy system from the effects of Hurricane Katrina—Slow, Medium, and Fast Recovery cases.

In the Medium Recovery case, we project an average price for refiner sales of low-sulfur diesel fuel of roughly $2.12 per gallon in September, up about 22 cents from the August level, which declines to about $2.01 per gallon by December. This September price would be about 79 cents per gallon higher than the same month a year ago, while that in December would represent a year-to-year increase of about 73 cents per gallon.

In line with the impacts seen already in September, and with a significant portion of Gulf Coast refinery capacity expected to remain off-line well into the fourth quarter, EIA's *Short-Term Energy Outlook* also reflects our expectation for lower refinery production and lower inventories for the remainder of 2005.

Natural Gas

Like petroleum and petroleum products, even before Hurricane Katrina struck on August 29, natural gas prices were setting records. On August 26, the near-month price (Henry Hub) of natural gas on the New York Mercantile Exchange closed at $9.80 per million Btu, which was $4.60 per million Btu higher than a year earlier.

At its peak, Hurricane Katrina shut in 8.8 trillion cubic feet of natural gas, roughly 85 percent of total Federal Gulf of Mexico natural gas production. Many of the facilities shut in by Katrina had restarted as of September 19, before Hurricane Rita shut-ins began near the Texas coast; about 3.4 trillion cubic feet of natural gas remained shut-in (about 33 percent of total Gulf of Mexico production).

In our Medium Recovery case, we expect the Henry Hub natural gas spot price to average $8.82 per thousand cubic feet (mcf) in 2005 and $8.42 per mcf in 2006. Depending on the speed of recovery from the supply losses in the Gulf of Mexico due to Katrina, the average price across the three recovery cases for the fourth quarter of 2005 ranges from $11 to $13 per mcf.

On an annual basis, the range in the spot price of natural gas is around $8.75 per mcf to $9.14 per mcf in 2005. In August, the Henry Hub natural gas spot price averaged over $9 per mcf, as hot weather in the East and Southwest increased natural gas-fired electricity generation for cooling demand and crude oil prices increased. The natural gas market is likely to stay tight over the next couple of months, particularly in light of the supply impacts from Katrina. Spot prices are expected to ease going into 2006 as the effects of Katrina fade. However, prices at the Henry Hub are likely to remain above $10 per mcf until peak winter demand is over.

Depending on the region of the country, increases for 2005 natural gas spot prices are expected to range between 37 and 50 percent above the 2004 averages under the Medium Recovery case. Citygate prices (prices that natural gas utilities pay at the point where they take delivery) and end-use prices (prices charged by utilities for natural gas

delivered to end-use customers, including distribution or other charges not included in the utilities' natural gas costs) are expected to exhibit double-digit percent increases for the second year in a row in most regions. For the upcoming winter, pressure on delivered natural gas prices may be sharpest in regions where heating demands are likely to increase the most, such as in the central portion of the United States.

According to our September 22 Weekly Natural Gas Storage Report for the week ending Friday, September 16, working gas in storage increased to 2,832 billion cubic feet (bcf), which is 92 bcf, or 3.4 percent, above the 5-year average inventory level. The implied net addition of 74 bcf is nearly 8 percent below the 5-year average net injection of 80 bcf but about 3 percent above the net injection of 72 bcf during the report week last year. This marks a return to the pattern of below-average injections that has persisted for 11 out of the last 12 weeks. However, this is the first time since June 24, 2005, that the net change exceeded last year's levels. Katrina is likely to reduce the peak storage achievable over the remainder of the injection season.

Domestic natural gas production in 2005 is expected to drop by at least 1.5 percent due mainly to the major disruptions to infrastructure in the Gulf of Mexico from the recent hurricanes. Preliminary EIA data through June yield an apparent decrease in output of 1.5 percent for the first half of 2005 compared to the same period in 2004, as recovery from the disruption caused by Hurricane Ivan in late 2004 was not yet complete. Meanwhile, imports of liquefied natural gas (LNG) into the United States appear to have exhibited minimal year-over-year increases (on average) through the first half of 2005. Currently, total LNG imports for 2005 are expected to be approximately 710 bcf compared to 650 bcf in 2004.

Natural gas demand is projected to fall by 0.7 percent in 2005, but recover by 2.4 percent in 2006 due to an assumed return to normal weather and continued strength in consumption for electric power production.

Ethanol

While higher petroleum product prices are naturally viewed as a negative development by most energy consumers, it should be noted in the context of this hearing that higher petroleum product prices can also serve to improve the competitiveness of ethanol as a vehicle fuel.

EIA recently conducted a study on the near- and mid-term potential price and supply effects of enacting legislating mandating the use of renewable fuels. Our study considered provisions similar to those that were ultimately included in the recently-enacted Energy Policy Act of 2005. The estimated impacts of such provisions were shown to be highly sensitive to the assumptions regarding the future path of world oil prices relative to the costs of ethanol. For example, the base case for that analysis projected growth in ethanol consumption from 3.4 billion gallons in 2004 to 5.7 billion gallons in 2012, because corn ethanol with the 51-cent per gallon Federal tax credit was competitive with gasoline. Under a lower world oil price scenario, ethanol was found to be significantly less competitive absent a renewable fuels mandate, with consumption reaching only 4.5 billion gallons by 2025. Conversely, a higher world oil price scenario could stimulate even more renewable fuels consumption than is mandated by the recently

enacted legislation. This issue will be bear close attention as new oil price scenarios are developed for the *Annual Energy Outlook 2006,* scheduled for release in November 2005.

Energy Expenditures

Dramatic increases in domestic energy costs, assisted by everything from tight world oil markets, to extreme summer heat, to the ravages of Hurricane Katrina, have made for an exasperating summer for many consumers and have set the stage for a potentially expensive winter heating season. Current data and projections from our September *Short Term Energy Outlook* indicate that aggregate domestic expenditures for key energy sources for the summer (April through September) are expected to show the following changes from 2004: petroleum, up 35 percent; natural gas, up 20 percent, and electricity, up 5 percent.

The outlook for the upcoming winter heating season (October 2005 through March 2006) yields expectations for energy expenditures as follows: petroleum, up 34 percent; natural gas, up 52 percent; and electricity, up11 percent. For all of 2005, energy expenditures in the United States are expected to be $1.08 trillion, approximately 24 percent above the 2004 level. This level of expenditures represents approximately 8.7 percent of annual gross domestic product, compared to 6.2 percent as recently as 2002, and is the highest percentage since 1985, when it was 10.4 percent.

With the full impact on near-term domestic oil and natural gas supply of recent hurricanes is still being assessed, the fuel price outlook for the upcoming winter remains particularly uncertain for now. Assuming that the Medium Recovery case from the September *Outlook* holds, the general expectation for increases in residential per-

household expenditures for fuels this winter generally shapes up as follows: up 71 percent for natural gas in the Midwest, up 17 percent for electricity in the South, up 31 percent for heating oil in the Northeast, and up 40 percent for propane in the Midwest relative to last winter. Expenditure increases for natural gas are expected to be particularly strong in the East North Central region (Ohio, Indiana, Illinois, Michigan, and Wisconsin) because of expected higher heating-related demand in comparison to the relatively mild conditions seen last year. The October edition of the of the *Short Term Energy Outlook*, which will reflect our updated understanding of the impacts of Hurricanes Katrina and Rita and also include an expanded *Winter Fuels Outlook*, will be released on October 12.

Impact of Energy Price Changes on Farm Costs

Using the previous information about energy use on farms and in closely-related sectors, every additional dime added to the price of gasoline and diesel oil, sustained over a year, costs U.S. agriculture almost $400 million annually. Every dollar added to the price per thousand cubic feet of natural gas costs agriculture over $200 million annually in direct expense and costs the nitrogenous fertilizer industry almost $500 million annually. Every dime increase in the price of liquefied petroleum gas (propane) costs agriculture over $200 million per year. Every penny increase in the price per-kilowatthour of purchased electricity costs agriculture about $500 million annually in direct expense and costs the nitrogenous fertilizer industry about $35 million.

This concludes my statement, Mr. Chairman, and I will be happy to answer any questions you and the other Members may have.

Written Statement to the General Farm Commodities and Risk Management Subcommittee hearing on "Farm Policy and the General State of the Farm Economy"

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September 29, 2005

FARM INCOME

In 2005, net farm income in the U.S. is forecast to be $71.8 billion (Table 1). This represents a 13% decline from the record in 2004 but is still the second highest on record. This 2005 forecast includes a decline in the value of crop production of 10% (to a level of $111.6 billion in 2005), a slight increase in the value of livestock production of 0.6% (to a level of $125.3 billion in 2005), and an increase in direct government payments of 60.9% (to a level of $21.4 billion in 2005) from 2004 levels. In absolute dollar terms the forecasted decline in the combined value of the crop and livestock production is $11.659 billion. This is partially offset by the 60.9% increase (an $8.096 billion increase) in direct government payments, mitigating the bottom-line hit to net farm income by 69.4%. Direct government payments are forecast to make up 29.8% of net farm income in 2005, compared with only 16.1% in 2004.

Since net farm income estimates in 2004 and 2005 are the largest and second largest on record, respectively, a more informative perspective on the current state of the farm economy can be gleaned from comparing the 2005 forecast levels with the previous four years (Table 1). This comparison reveals that forecast 2005 net farm income, value of production, and government payments are all substantially higher than their respective previous four-year averages. Net farm income is forecast to be 24.8% higher than the four-year average, the value of crop production 4.6% higher, the value

of livestock production 16.7% higher, and direct government payments 37% higher (Table 1).

Another important way of looking at the recent farm income data is to examine the distribution across sales classes, which reveals some key facets of the state of the farm economy. Based on averages over the period 2001-2004, farms that sell $250,000 or more in agricultural products annually account for only 8.3% of all farms, 74.6% of the crop value of production, 75.7% of the livestock value of production, receive 49.8% of the direct government payments, and account for 90.1% of net farm income (Table 1).[1] Based on averages over the same 2001-2004 period, this means farms that sell less than $250,000 of agricultural products, which includes 91.7% of all farms, accounts for 25.4% of the value of crop production, 24.3% of the value of livestock production, receive 50.2% of government payments, and account for only 9.9% of net farm income. The same comparison, but using a threshold sales class of farms that sell more than $100,000 of agricultural products, reveals that these farms account for 17.5% of all farms, 89.9% of the value of crop production, 88.0% of the value of livestock production, receive 73.0% of the direct government payments, and account for 100.9% of net farm income. Therefore, farms whose agricultural production is valued at less than $100,000 account for 82.5% of the farms, 10.1% of the value of production, 12.0% of the value of livestock, receive 27.0% of government payments, and account for -0.9% of net farm income based on averages over the same period. Thus, national data across all sales classes mask critical distributional aspects associated with the value of production, the receipt of government payments, and net farm income in general. In particular, the distribution of government payments is concentrated on larger farms with 17.5% of the farms receiving 73% of the government payments. This has implications for agricultural policy which will be discussed later.

Another illustrative way of looking at recent farm income data examines average income of farm operator households with respect to typology, distinguishing between income from farm and off-farm sources in comparison with the average U.S. household income (Table 2). Farm operator household income across all family farms in 2005 is

[1] The Economic Research Service (ERS), USDA farm typology distinguishes small family farms as farms with gross sales below $250,000, annually.

estimated to be $88,105 with $12,077 (13.7%) coming from on-farm sources and $76,028 (86.3%) from off-farm sources. This average can be compared with a slightly lower income of $87,072 in 2004, $14,201 coming from on-farm sources, and $72,871 from off-farm sources. A comparison of the average income of farm operator households from farm and off-farm sources by typology illustrates an important point, also masked by the national all-farm estimates. Commercial farm operator household incomes which average $173,450 per year over the period 2003-2005 received 71.8% from on-farm sources and 28.2% from off-farm sources. Rural residential farm operator household incomes which average $76,351 per year over the period 2003-2005 received -1.8% of this income from on-farm sources (a loss) and earned 101.8% of their incomes from off-farm sources. Thus, typology of farms greatly impacts not only the level of household income, but also the sources of income from on-farm and off-farm sources. This also has implications for agricultural policy to be discussed later.

The 2004 estimate of farm operator household income can be compared with average U.S. household income of $60,528, meaning that average U.S. household incomes were only 69.5% of their farm operator household counterparts. It is noteworthy that this comparison does not take into consideration any cost of living differences between metropolitan and rural areas. When such adjustments are made, taking account of the fact that most farm operator households reside in areas with lower costs of living, the gap becomes wider in favor of the farm operator's disposable household income. This characteristic, that farm operator household incomes have exceeded U.S. household incomes, has occurred every year since 1996 (Figure 1). Interestingly, this decade spans two previous Farm Bills, and the gap during this period appears to be widening. Prior to this period this was not always the case, with periods between 1960-1970 and 1979-1983 in which U.S. household income exceeded farm income. The historical perspective comparing these two income estimates reveals that farm household income is much more volatile than U.S. household income (Figure 1).

A final important comparison and indicator of well-being of the agricultural economy is farm wealth, or net worth, compared with all U.S. households. Covey et al. (2004) provide estimates based on 2003 Agricultural Resource Management Survey (ARMS) data on the income/wealth of farms relative to median U.S. household income

and wealth. Based on median incomes of U.S. households in 2003 of $43,527 and median wealth of $89,544, they provide the following estimates concerning farm households: 4.2% of farm households had lower income-lower wealth, 42.2% had lower income-higher wealth, 2.2% had higher income-lower wealth, and 51.4% had higher income and higher wealth relative to median U.S. household income and wealth estimates. Therefore, 93.6% of farms had higher median wealth than the U.S. households, and 53.6% of farms had higher median incomes than U.S. households in 2003.

Based on this discussion, the following main points can be made concerning farm incomes in relation to the state of the agricultural economy:

- Net farm income in 2005 is forecast to be $71.8 billion, the second highest on record, and 24.8% higher than the previous four-year average.
- The value of crop production is 4.6% higher, livestock production 16.7% higher, and direct government payments 37% higher in 2005, than the previous four-year averages.
- Direct government payments are forecast to increase 60.5% in 2005 from 2004 levels to a total of $21.4 billion, accounting for 29.8% of net farm income.
- 17.5% of all farms with sales greater than $100,000 annually account for 89.9% of the value of crop production, account for 88.0% of the value of livestock production, receive 73.0% of the direct government payments, and account for 100.9% of net farm income.
- Household income averaged across all family farms in the U.S. in 2004 is 43.8% higher than the U.S. average household income (not accounting for cost of living differences).
- Across all family farms over the previous three years, on average only 13.9% of household income comes from on-farm sources. Over the same period commercial farms earned an average of 71.8%, intermediate farms 15.9%, and rural residential farm earn -1.8% (a loss) of their income from on-farm sources.
- 93.6% of farm households had higher median wealth than the U.S. households and 53.6% of farm households had higher median incomes than U.S. households in 2003.

COMMODITY OUTLOOK

With 2005 forecasted net farm income expected to experience a 13% decline from the record 2004 level, but still to achieve the second highest on record, we can reasonably anticipate the current commodity outlook to be favorable. This next section briefly discusses the outlook for the primary row crops and livestock commodities, which are the agricultural commodities that account for a large share of the value of agricultural production and, therefore, greatly impact the state of the agricultural economy.

Crop Outlook

Total planted acreage of corn, soybeans, wheat and cotton is estimated to be 227 million acres in 2005 (Table 3). This represents 2.5 million acres (-1.1%) fewer than 2004, with 0.8% more corn acres planted, 2.8% fewer soybeans acres planted, 2.6% fewer wheat acres planted, and 3.8% more cotton acres planted. Forecast yields for these primary crops in 2005 are less than 2004. The largest decline is for corn yields with 17.2 bushels per acre less (10.7%), although projected yields are slightly above 2003 yield. Cotton yields are forecast to be 8.5% less but 7.1% higher than 2003, soybean yields 6.8% less, but 14.4% higher than 2003, with wheat yield experiencing only a slight decline of 0.5% compared to 2004 but a 2.3% decline from 2003 levels. These acreage shifts and lower yields result in forecast reductions in production for corn (9.9%), soybeans (9.1%), and cotton (4.2%), with wheat production forecast to slightly increase (0.4%) over 2004 levels. The midpoints of forecast U.S. season average price ranges for these crops are currently below 2004/05 marketing year averages. The forecasted season average prices currently represent declines of 7.8% for corn, 2.6% for soybeans, and a 5.9% for wheat.[2] In short, the outlook and state of the four primary row crops, all appear to be quite favorable for the 2005/06 marketing year, despite slightly lower levels of production and expected season average prices from the previous year, which posted a record level net farm income. This brief analysis of individual crops is consistent with crop production values averaging 4.6% higher than the previous four-year averages, but less than the record 2004/2005 marketing year.

[2] The USDA is prohibited by law from publishing projected cotton prices.

Livestock Outlook

Total production of beef, pork, and broilers is projected to increase in 2006 (Table 4). The largest percentage increase in production is beef (3.8%), followed by broilers (3.1%), and pork (1.6%). Trade flows are favorable to the domestic markets with beef imports down 0.9% and exports up 0.2%, pork imports down 2.5% and exports up 2.8%, and broiler exports up 2.3%. Projected consumption is favorable toward domestic meat demand across the board, with beef consumption expected to increase 3.0%, pork consumption 1.3%, and broilers 3.0%. Based on the midpoints of projected price ranges, beef and pork prices are projected to decline 7.1% and 7.2%, respectively, while broiler prices are projected to increase slightly by 0.7% in 2006 relative to 2005. In short, the outlook of the three primary livestock commodities is quite favorable, with expected increases in production and declining imports on the supply side, and increased exports and consumption on the demand side.

Based on this discussion, the following main points can be made concerning commodity outlook:

- Primary row crops planted acres in 2005 declined 1.1% compared with 2004. More corn acres (0.8%) and cotton acres (3.8%) were planted, but fewer soybean acres (2.8%) and wheat acres (2.6%) were planted.
- Primary row crop forecasted yields for 2005 are lower compared with 2004 (reductions of 10.7% corn, 6.8% soybeans, 0.5% wheat, and 8.5% cotton) which, combined with shifts in acreage, resulted in forecasted reductions in production of corn (9.9%), soybeans (9.1%), and cotton (4.2%), with wheat production forecast to increase slightly (0.4%).
- The midpoints of forecast U.S. season average price ranges are currently below 2004/05 marketing year averages with expected declines of 7.8% for corn, 2.6% for soybeans, and 5.9% for wheat.
- Production of meat is projected to increase in 2006—beef (3.8%), pork (1.6%), and broilers (3.1%). Trade flows are favorable to domestic markets with beef imports down 0.9% and exports up 0.2%, pork imports down 2.5% and exports up 2.8%, and broiler exports up 2.3%.

- Domestic consumption is projected to be favorable to meat demand across the board, with domestic beef consumption expected to increase 3.0%, pork consumption 1.3%, and broiler consumption 3.0%.
- Prices based on the midpoints of projected ranges have beef and pork prices declining about 7% and broiler prices increasing 0.7% in 2006 compared with the previous year.

In summary, the state of the agricultural economy in relation to net farm incomes is sound, due to favorable commodity outlooks and significant increases in direct government payments over previous years. If current projections are realized, then 2005/2006 promises to be prosperous times for U.S. agricultural producers in general. Projected net farm incomes are the second highest on record, benefiting from direct government payments that account for 29.8% of this total. Both the values of crop production and livestock production are projected to be above recent four-year average levels with increases of 4.6% and 16.7%, respectively.

FARM POLICY

Important goals of farm policy should be to ensure adequate, safe, and high-quality agricultural production, with consideration given toward the potential environmental impacts of practices used without being burdensome on taxpayers and to be consistent with WTO agreements. These goals are ambitious and can present a significant challenge to policy-makers under the real-world constraints of limited budgets and political pressure. Another obstacle in creating this policy is the heterogeneity of the farm sector. To successfully meet these goals, U.S. farm policy should include three critical elements: (a) an economic safety net; (b) the adoption of state-of-the-art production technologies; and (c) the mitigation of the over-reliance of some agricultural commodities on government payments. Each of these elements will now be briefly discussed. Empirical evidence of the state of the agricultural economy will be utilized and referred to where appropriate.

Safety Net

A safety net in the context of agricultural policy can be broadly defined as financial support in *unexpectedly severe market and/or production conditions*. Ensuring an adequate supply of agricultural production requires that producers can earn a reasonable rate of return in a highly competitive industry, one which sometimes presents some challenging circumstances, and potentially catastrophic, circumstances that threaten the financial solvency of the farm due to factors completely exogenous to the producer's actions. Less than ideal production conditions due to adverse weather such as flooding, droughts, and outbreaks of disease and pests are not uncommon in agriculture, and can adversely impact yields, production, and, therefore, farm incomes. An economic safety net should be in place for agricultural producers during these periods. The challenge from an economic and policy-making standpoint is to simultaneously establish this safety net without distorting market signals. Of course, this is complicated in practice but serves as a guiding principle for evaluating alternatives.

The invisible hand of agricultural markets and current U.S. farm policy can be compared with the performance of trapeze artists capably swinging, switching, and flipping from the highs and lows of a platform on a bar (the agricultural market), with a safety net in place below to break their fall if they unexpectedly miss their mark and free fall (the farm policy). The safety net is precisely positioned to catch the trapeze artists, high enough to prevent any permanent damage but low enough not to encumber their free flowing movements, allowing for significant miscues (market adjustments to shocks) that can be corrected to avoid free falling into the net. Importantly, the safety net cannot be set too high as it may alter the trapeze artists' concentration and gusto, introducing complacencies and less than their best performances. That is, the artists' performances need to be free and unencumbered by the safety net, striving for excellence and precision to prevent falling, but knowing that death is not imminent if they falter unexpectedly through no fault of their own. The challenge is to determine the height of the net relative to the performing trapeze artists to extract the best performances. Policy-makers are presented with similar challenges in establishing the safety net for farmers. Ideally, they must define (choosing the appropriate instruments)

and position the safety net relative to the market, without distorting market signals, allowing it to operate at full efficiency. As already noted this is complicated in reality because things are less clear-cut and political pressures arise to meet short-run needs rather than tackle longer-term goals of economic efficiency and reduction of the burden on taxpayers. In practice the policy-maker might be limited to identifying and implementing the *least* distorting policy instruments in an effort to achieve the *most* efficient outcome possible.

Basic economics tells us that the market forces through the "invisible hand" mechanism of the free interaction of demand and supply determining price, ensures the most efficient allocation of resources.[3] Based on this logic, agricultural policies are preferable that establish a market based safety net which is not price-distorting. However, developing and implementing market-based agricultural policies is a challenge in itself. This challenge is compounded by the fact that the farm sector is heterogeneous. The earlier comparison between income levels and sources of income between on-farm and off-farm for rural residential, intermediate, and commercial farms, as well as their relative contributions to agricultural production values, exemplifies this inherent heterogeneity. A one-size fits all agricultural policy that ignores this heterogeneity will be effective for some agricultural producers but not for others. Targeted agricultural policies that recognize and address this heterogeneity within the farm sector will be more effective at achieving an appropriate safety net and ensuring an adequate, safe, and high-quality supply of agricultural products. In general, the agricultural economy will be less distorted from agricultural policy that utilizes unsubsidized crop insurance from among the instruments in the suite of current agricultural polices. Direct (decoupled) payments are the next-least distorting, followed by counter-cyclical payments, and then loan deficiency payments. Another instrument often utilized is ad-hoc disaster assistance. Although thought to be non-distorting if it is indeed ad-hoc, its repeated use causes farmers to form expectations, and these expectations induce market distortions. For example, there is a clear disincentive for a

[3] Exceptions do occur when there is market failure, the case where markets do not efficiently provide or allocate goods and services. More generally, market failure refers to situations where market forces do not serve the perceived public interest.

producer to purchase crop insurance if he has expectations for disaster payments if unexpected events occur.

The importance of market-based, non-distorting agricultural policies cannot be over-emphasized if the goal is to achieve market efficiency whilst maintaining a safety net. To deal with the inherent uncertainty of agricultural production due to weather, disease, and pests, and the adverse impact this can have on farm incomes, the most preferable market-based solution and least-distorting policy is crop insurance. Crop insurance products *without* premium subsidies, with producers bearing the entire actuarially fair rate premium, comprise the most efficient and least-distorting safety net policy instrument. Crop insurance premium subsidies can cause production distortions when subsidies encourage production in more risky environments where the unsubsidized actuarially fair rate would make it cost prohibitive. The challenge with crop insurance is to develop products that will be "comprehensive," so they provide adequate coverage to cover losses, and "comprehendible," so they are easy for producers to understand, encouraging participation, but at the same time, mitigate the potential for moral hazard and adverse selection problems.[4] Lack of comprehensiveness and comprehensibility has adversely affected participation in the past, whereas moral hazard and adverse selection problems have negatively influenced the actuarial performance. This is a monumental challenge but recent developments in crop insurance products over the past decade, particularly the last several years, with innovations in product development including the advent of crop revenue products and livestock insurance, have been encouraging. However, less encouraging is the increasing cost of the crop insurance program and the significant premium subsidies that have been enacted to increase participation.

Glauber (2004), citing recent testimony from Davidson in 2004, who reported that since the Federal Crop Insurance Improvement Act of 1980 and two reform bills later, the current insurance program boasts an 80% participation rate with over 215 million

[4] Moral hazard occurs when a producer, after purchasing insurance, alters their production decisions in a fashion that increases the likelihood of receiving an indemnity. Adverse selection occurs when a producer with relatively higher risk is able to purchase insurance at the same cost as a producer with relatively lower risk. Both problems stem from asymmetric information, moral hazard involves the unknown actions of the insured increasing the risk of loss, while adverse selection involves the insurer having insufficient information to accurately rate the risk of loss.

acres enrolled and total liability in excess of $46 billion. More than 57% of participating acres are enrolled at coverage levels of at least 65%. Also the aggregate loss ratio over the period 1994-2003 was 0.98 (Glauber 2004). These increased participation rates and improved actuarial performance are also encouraging. However, as Glauber (2004) also points out, despite the large increase in participation, congress still passed supplemental disaster assistance in 2002, two years after passage of the Agricultural Risk Protection Act. The breakdown of government payments (Table 5) reveals that, over the period 2001-2004, ad-hoc plus emergency payments was the largest component of direct government payments making up 22.1% of the average $15.619 billion spent annually over this period.

Glauber (2004) also points out that this increased participation has been expensive, with expected annual costs of more than $3 billion. He reports that, over the period 1994-2003, producers received about $2.19 in indemnity payments for every $1.00 of premium paid, reflecting the high level of subsidization of producer premiums. These subsidies, which have been introduced to encourage increased participation, also distort production. Clearly, the crop insurance program has challenges moving forward with respect to the current rising costs of the program and the increased level of production-distorting subsidization of premiums that has occurred in order to increase participation levels.

Targeted Agricultural Policies to Address Heterogeneity of the Farm Sector

Targeted agricultural policies recognizing and addressing the heterogeneity of the farm sector are paramount to avoiding distortions in the agricultural economy. Take for example the heterogeneity with respect to farm size class and the importance of targeting and tailoring agricultural policies to these different classes of farms—for the larger farms, which tend to produce the majority of output (Table 1), and that derive the majority of income from on-farm income (Table 2), the safety net needs to be in place when unexpected disaster strikes. A crop insurance program, where producers pay the actuarially fair rate (unsubsidized premiums), is the most efficient market-based alternative to implement the safety net for these producers without running the risk of distorting price signals. A second best alternative would be direct payments, which are

decoupled from production and price. A third best alternative would be counter-cyclical payments, and a fourth best would be loan deficiency payments with loan rates capped at close to break-even prices and total payment limits in an effort to limit distorting price signals. *Providing an economic safety net, meaning an economic policy or instrument that provides financial assistance to these larger farms' on-farm income when unexpected disaster strikes, preferably through the policy instrument of crop insurance, makes sense from the standpoint of ensuring that an adequate supply of agricultural products will be available since these farms produce the majority of the production.*

For the smaller producers, who are large in number but only account for a small proportion of the agricultural production (Table 1), and who derive a majority of their income from off-farm income (Table 2), policies that are targeted at increasing rural development such as education, health, services, and rural economic activity in general provide the most appropriate safety net. It seems counter-productive and inefficient to try and supplement their on-farm income with a one-size fits all policy that might cause distortions in how it impacts larger farmers, which in turn can offset any benefits that might have occurred to the smaller farmers rather than enhancing or even maintaining their off-farm income levels which would allow then to continue to farm if they choose. Furthermore, providing an economic safety net for these producers from the rationale of maintaining an adequate food supply and supplementing their agricultural based incomes also does not make much sense, nor is it supported by the empirical data, since they produce so little. *Providing an economic safety net for small farmers, through targeted rural development policies that create opportunities to improve or maintain current levels of smaller farms' off-farm income, allowing these producers to continue to farm if they choose and preserve the rural lifestyle that much of farm policy is intended to do, make the most sense. Targeted rural development policies that enhance economic activity also benefit larger producers, with increased goods and services in the communities where they live, but importantly do not further distort price signals in the markets from which they derive the majority of their income. These targeted rural development policies will also benefit non-farm households in rural areas, many of which are poor. Policies that attempt to create a safety net for small farmers by enhancing their on-farm incomes will be insufficient because their primary source of*

income is from off-farm and may be even counterproductive depending on their impact on larger farmers.

The Stickiness of the Portfolio of Current Farm Policy Instruments

The net farm income estimates, as well as estimates of the value of crop and livestock production and government payments (Table 1), highlight two important points with respect to the state of the farm economy and current farm policy that deserve specific mention. The first point, with respect to the state of the farm economy, is that producers' net incomes are prospering in 2005, with values of crop and livestock production significantly above average levels of the past four-years. These higher values of production are only slightly offset by modestly higher production expenses of 4% in 2005 (ERS-USDA 2005a), meaning higher production values are partly the reason for the second highest net farm income on record.[5] The second point, with respect to the current farm policy, is its apparent inability to adapt to these prospering times, exhibiting the characteristic of downward stickiness rather than being a "safety net." This stickiness is illustrated by the fact that it is difficult to rationalize why direct government payments in 2005 should be 37% above the previous four-year average, when the value of production for crops and livestock are both above their respective previous four-year average, up 4.6% and 16.7%, respectively with only modest increases in expenses.

A comparison of the breakdown of total direct government payments over recent years, shown in Table 5, reveals that the forecasted $8.076 billion increase in 2005 over 2004 predominantly come from two line items which account for 78% of the increase. These are an increase in ad-hoc and emergency payments of $3.357 billion and an increase in counter-cyclical payments of $2.978 billion (Table 5). A comparison of forecast 2005 total direct government payments compared with an average of the previous four years reveals that forecast 2005 payments are $5.760 billion above the average, with increases in 8 of the 12 line items. Given the prosperity of the 2004 and 2005 production years, this is difficult to rationalize. Such stickiness and inability to

[5] This estimate of higher production costs will almost certainly be revised upward due to the substantial increase in energy and fuel costs in recent months due to unanticipated hurricane events.

adapt is a reflection of a predominance of policy instruments that are *not market-based and, therefore, are market-distorting.* In terms of ranking the policy instruments as shares of total direct government payments over the period 2001-2004, ad-hoc and emergency program payments were 22.1%, direct payments were 19.7%, loan deficiency payments 16.2%, and conservation programs were 13.6% of the average $15.619 billion in payments annually over this period (Table 5).

In absolute and percentage terms the largest increase in government payments in 2005 was the increase in counter-cyclical payments of 352%, or $3.193 billion, compared with the average payments in 2001-2004. This substantial boost in net farm income from counter-cyclical payments, a shot in the arm of $4.1 billion or 5.7% of the total of net farm income, despite the prosperous times, is supportive of the idea that the current set of farm policies within the portfolio exhibits downward stickiness with an inability to adapt to current economic conditions. The challenge to policy-makers is to find instruments that recognize prosperous times better, strictly providing a safety net when an unexpected event occurs that adversely impacts farm incomes to below average levels.

A More Economically Efficient Safety Net

It is fair to say, as illustrated by the data presented in previous sections, that the current farm policy is failing to act as *safety net alone* and *does not avoid being burdensome to the taxpayer.* Intuitively, one would not expect under an efficient safety net regime that direct government support should increase unless production values and net farm incomes are *below* average levels. The current policy portfolio effectively increased direct government payments, and substantially so (by 37%), when net farm incomes declined 13% below a record level, but remained 24.8% above the previous four-year average.

A farm-policy portfolio that focuses on market-based polices targeted at large producers and commercial agriculture, such as unsubsidized, actuarially fair crop insurance holds the most promise, compared with other instruments such as direct payments, counter-cyclical payments, loan deficiency payments, and ad-hoc disaster assistance. Continued investments in research and development of crop insurance

products that are innovative, comprehensive, and comprehensible, that minimize moral hazard and adverse selection, and do not involve premium subsidies, are the most promising safety net for these classes of farms and ensure an adequate supply of agricultural production. Educational programs about crop insurance products and risk management in general are also critical to their acceptance and increased participation. It also should be emphasized that counter-cyclical payments, loan deficiency payments, and ad-hoc disaster assistance, must be phased out and eliminated if crop insurance is to be an efficient instrument. Failure to eliminate these other policy instruments discourages producers from purchasing crop insurance which is especially the case for ad-hoc disaster assistance. The expectation of disaster assistance hinders crop insurance participation.

A farm-policy portfolio that concentrates on rural development polices such as education, health, services targeted at small producers and promoting rural economic activity in general, would be most beneficial to this class of producer. These policy instruments provide a financial safety net for these small producers since it positively impacts these farmers' primary source of income, which happens to be from off-farm sources. This policy instrument preserves the small farm rural lifestyle but without distorting the agricultural economy by trying to enhance these farmers' on-farm source incomes.

State-of-the-Art Production Technologies

The goal of producing safe and high quality agricultural output requires creating an environment for agricultural producers to be the best they can be and to strive to be even better. Agricultural policies should facilitate and reward the adoption of new technology which results in more efficient, safer, higher quality food and more environmentally friendly production practices. Increased product quality and safety enhances values and increases demand for agricultural products. Attributes of agricultural products' which increase in value due to innovations, combined with more efficient methods that reduce the costs of production, ensures profitability for agricultural producers. Attaining these goals requires a farm policy committed to continued investment in research and development of these new technologies. The U.S.

university land-grant system has a vital role to play here with research and extension efforts. Further, Patent laws that provide incentives for innovation are also important. During times of wavering budgets at U.S. land grant universities, the resolve of continued investment in research and development that leads to more efficient, safer, improved quality food and more environmentally friendly production practices in agriculture must remain steadfast.

The Mitigation of the Reliance of Some Agricultural Sectors on Farm Payments

U.S. producers of some agricultural commodities have become reliant on government payments. This is not a good thing. Not only is this reliance burdensome on the taxpayer and troublesome in relation to international agreements such as the WTO, it changes producers' behavior and expectations. It is probably a safe bet that agricultural producers would rather not have to rely on farm payments to get by, and the taxpayers certainly would rather not incur the current cost burden. Furthermore, there is no real evidence to suggest that the incomes of farmer's who produce commodities that receive significant government payments, are any higher than those who receive little or no government payments. There is also reasonable evidence to suggest that government payments become capitalized in land values, land rents, and specialized assets. When this occurs the government payments are not really doing what they were intended to do, namely, to support farm incomes, since the higher land values and land rents mean that these increased costs offset the benefits of the government payments. This point is highlighted by the fact that approximately 59% of the acres farmed in the U.S. are rented (ERS-USDA 2005b). So how should U.S. farm policy attempt to wean those sectors that have become reliant on government payments? This is a very difficult and challenging task, which will meet much resistance. Reduction in land values could have a significant impact on the debt to asset ratios of those farmers who are highly leveraged due to high land costs. Current debt-to-asset ratios in U.S. agriculture are approximately 14% (ERS-USDA 2005c).

Expectations about the future stream of government payments have an important impact on land values. Land values in the U.S. are markedly higher than in other countries with which the U.S. competes (for example South America), partly because of

the expectation from purchasers and sellers of this land that government payments will be forthcoming in the future. This expectation of government payments is incorporated into the price of farmland. If this expectation of future government payments were eliminated, we would see a lowering in land values and rents. Another benefit from the removal of expectations of government payments would be producers making more efficient decisions concerning resource allocation and not worrying about how to allocate resources to maximize government payments in the future, some of which occurs within the current farm program. The difficult question is, what is the most effective and efficient manner in which to wean producers from government payments and over what time frame should this adjustment take place? Once this course of action is determined, if it is indeed chosen as a way to proceed, it must be steadfast in eliminating this expectation altogether, not wavering toward the re-introduction of government payments or even ad-hoc assistance during the next unexpected event. This is a real challenge for policy-makers. Less reliance on government payments and a movement toward market-based, non-distorting polices such as unsubsidized actuarially fair crop insurance holds the promise of an efficient and prosperous agricultural economy. The challenge is how to eliminate the expectation of all other government support in order to encourage participation in crop insurance and to simultaneously reform and further develop the crop insurance portfolio of policies in place to carry this burden. Part of this challenge is to significantly reduce the current levels of premium subsidies in the crop insurance program so that producers are paying more of the actually fair rate, but at the same time to maintain participation rates.

This is a challenging prescription, but a feasible one, aimed at achieving increased economic efficiency in the long-run. It is consistent with achieving an agricultural economy that is prosperous by producing an abundant, safe, and high-quality food and fiber supply with acceptable environmental impacts from the practices used, and without being burdensome on the taxpayers. It also serves to achieve some of the trade liberalization goals, leading by example. This prescription is also consistent with a more competitive world economy in agriculture in general.

ENERGY POLICY

The most recent events of hurricane Katrina and the recent higher fuel and energy costs have brought to bear some challenges for energy policy moving forward, with implications for the agricultural economy. When gasoline prices recently shot past the $3.00 per gallon level, increased attention seemed to turn toward current energy policies and alternatives to petroleum.

When thinking about energy policy it is useful to segregate the short- and long-term effects, and their impacts on the agricultural economy. In the short term the higher fuel costs will adversely affect agricultural producers in terms of higher harvesting costs. Some estimates had called for increases of $2 billion in energy costs for farmers before hurricane Katrina (The Associated Press, citing Keith Collins, USDA Chief Economist) and updated estimates have added another $0.5 billion (Feedstuffs, September 5, 2005 citing Terry Francl, American Farm Bureau Federation), for a total estimated increase of $2.5 billion in energy costs in 2005. It will also result in lower local prices due to weakening basis levels reflective of higher transportation costs, and larger domestic supplies of some corn and soybeans, since exports have been disrupted out of the Gulf of Mexico. For some agricultural producers, namely livestock and local bio-energy producers, this is beneficial. These are all short-term problems that will not be long-lasting but will adversely affect farm incomes in the near term, which it should be emphasized, have not been factored into earlier estimates used in this testimony. It is really, in most cases, too early to tell the impact of hurricane Katrina, and it is especially the case with hurricane Rita further exacerbating the problem.

More interesting for this discussion, are the longer-term issues that arise from these recent events, and the discussion of increased effort toward agricultural-based fuels to compete with petroleum based energy. From an economic standpoint it is advantageous to have viable substitutes that promote competition, especially if the substitutes have environmental benefits and can be cost competitive. But it is imperative that this development and rise or fall of agricultural based fuels be science-based and can be able to achieve the economic efficiencies required to stand alone as a viable source *without* subsidies and tax relief. Although significant advances have been made with the pursuit of ethanol and bio-diesel, it is fair to say that at this stage

more advances are required to make these products economically viable as permanent competitive substitutes. One outcome of the science-based approach is that it might find that agricultural based fuels cannot "pencil out" and be an economically viable option without subsidies and tax relief.

The nucleus of the effort should be to develop the science to make these fuels competitive without subsidies and tax relief. Financial support to the scientific development is a much better investment, compared with subsidies and tax relief to current technologies that are not yet competitive in the open market. A successful science-based approach will facilitate a long-term structural benefit to the agricultural economy. Biotechnology will likely play an important role and may hold the key to developing the product attributes needed to achieve the economic efficiency for agricultural based fuels to become a mainstay as an energy source.

Concluding Remarks

The state of the agricultural economy in relation to net farm incomes is sound due to favorable commodity outlooks and significant increases in direct government payments. The current farm policy is exhibiting the characteristic of downward stickiness rather than being a "safety net" due to its apparent inability to adapt to these prosperous times. Such stickiness and inability to adapt is a reflection of a predominance of policy instruments that are not market-based and are, therefore, market-distorting, and should be revised to be more responsive to prosperous times.

In this context, current farm policy could be improved with an economic safety net that better recognizes the heterogeneity of the farm sector. Targeted policies that provide financial assistance to *larger farms' on-farm income* when unexpected disaster strikes make sense from the standpoint of ensuring an adequate supply of agricultural products since these farms produce the majority of the production. Rural development policies creating opportunities to improve or maintain current levels of *smaller farms' off-farm income*, allowing these producers to continue to farm if they choose and preserve the rural lifestyle that much of farm policy is intended to do, makes the most sense for smaller farmers without being distorting to larger farmers.

Agricultural policies should facilitate and reward the development and adoption of new technology which results in more efficient, safer, higher quality food and more environmentally friendly production practices. Similarly, agricultural policies targeted at agricultural-based fuels competing with petroleum-based energy must be science-based and strive to achieve the economic efficiencies required to stand alone as a viable source without subsidies and tax relief. It is still uncertain whether this will be economically feasible.

Farm Policy Impacts on Agriculture

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Written Statement Extends Oral Testimony of Daryll E. Ray before the
United States House of Representatives
Subcommittee on General Farm Commodities and Risk Management
September 29, 2005

Introduction

Thank you Chairman and the members of the Subcommittee on General Commodities and Risk of the US House of Representative for your invitation to participate in this hearing on the status of agriculture and the impact of farm policy on agriculture. It is indeed an honor to appear and to interact with the subcommittee.

I have chosen to focus my remarks on the impact of recent farm policy on agriculture and why those impacts have turned out as they have. The written statement is organized as follows: After summarizing the status of selected impacts of recent farm policy, I begin by looking at farm policy objectives and then move to a discussion of the nature of food and agriculture, the expectations or premises that lead to the current policy direction, and why the expectations were likely unrealistic. The concluding remarks and summary section underscore some of the major points discussed in the text. Farm policy includes a wide array of components in addition to commodity policy, but I will limit my discussion primarily to the commodity program portion of farm policy. For the purpose of communicating ideas, farm policy, commodity policy, farm programs, and commodity programs are used interchangeably.

Status of Recent Farm Policy Impacts

- Each year since 1998, with the exception of 2004, between a quarter and a half of all net farm income has come from government payments. One would have to go back to the PIK years in the 1980's to find a time period in which farmers have been so dependent upon government payments for a significant portion of their income.
- For producers of program crops the dependence on government payments is even higher than for farmers as a whole. In many states where growing the covered crops is the dominant form of agriculture, government payments exceeded net farm income in the years 1999-2001. That is to say, farmers used a portion of their government payments to meet the expenses of growing the crops that were sold at prices below the cost of production. In the years surrounding that three year period, government payments ranged between 50 and 100 percent of net farm income. Without government payments, many producing areas would have faced a major financial crisis.
- Yet, as dependent as crop producers have become on government payments, their income levels do not generate excessive rates of return to labor or capital. Their income levels are comparable to the income levels they could receive from the market if they produced

[1] Harwood D. Schaffer, Agricultural Policy Analysis Center, made substantial contributions to this statement, but any errors of fact or logic remain the responsibility of the author.

only the output levels that would generate prices to cover a larger share of total production costs. Thus, payments replace income that should have come from the market. When viewed this way, it becomes clear that by providing output at well below the full-cost of production, crop farmers are passing-through the government subsidies to those that process or use crops. Input suppliers also benefit by selling the extra inputs that are used to produce more output than can fetch an economically-viable price.

- At the same time that farmers have become more dependent upon government payments, they have been accused of (1) using payments to overproduce; (2) driving prices downward as a result of this overproduction; (3) dumping commodities on the world market at below the cost of production. Interestingly, during the years following the passage of the 1996 Farm Bill in which prices were the lowest, 1998-2002, total production for the 8 major crops did not exceed 1994 production levels. Obviously additional considerations came into play.
- As the result of the accusations of dumping and several recent WTO decisions, some would see a future US farm policy that is shaped more by the need for trade compliance than by the needs of US farmers and ranchers. While the details of WTO negotiations put pressure on farm policy from one side, the US budget deficit puts the heat on from the other side. Continuation of the current set of policies, with only minimal changes, seems highly problematic.
- The current year ending stock levels of corn are such that they are able to meet normal needs of the marketplace. However, if in any year we had a production shortfall of 25 percent or more from the previous year's production, and/or had a dramatic increase in export demand like the early 1970's, US agriculture would have difficulty meeting the demands of both domestic and export customers. If the production shortfall were to precede or follow a similar shortfall in the Southern hemisphere, food supplies could be severely strained. In the wake of the New Orleans disaster, we in agriculture need to be thinking about our preparedness for worst case scenarios.

Farm Policy: Purpose Please

It is almost seems like we have lost track of why we have farm policy. Based on some of the discussion and rhetoric of recent years, one could come to believe that farm policy exists only because agriculture has the political muscle to extract billions of dollars from Congress. And that farmers receive large piles of money, not because it partially replaces severely depressed market receipts, but because the farm program provide a money spigot that the richest of farmers are addicted to. Furthermore, current farm program recipients, meaning primarily those that grow primary/program crops, are now the envy of other farm producers, many of which have marketing orders or previously have taken great pride in not being a part of a federal farm program.

Others say, if taxpayers are going to spend all those billions of dollars on agriculture, let's get farmers to do something for the payments. Translation: Shift taxpayer dollars away from commodity programs and toward whatever payment-basis is consistent with the policy objectives of the speaker. Still others say it is fine to provide income supports to farmer if that is what society wants to do. Just be sure that the payments have no strings attached. That way, farmers are free to plant any crop or no crop at all.

These possibilities all have one thing in common. They imply that commodity programs serve no real purpose, other than supply unearned income to farmers. Many have bought into that

conclusion and have given it an innocuous-sounding name: public choice. The basic idea is that farmers have developed the political power to persuade Congress to give them money, and they regularly use that power. The underlying assumption of the public choice interpretation of farm policy is that the aggregate agricultural market, like most other markets, will work just fine, especially if the government gets out of the way. That is, market adjustment will occur automatically in a free-market economy in response to changes in price. But as the following sections of our statement suggest, that assumption is highly suspect. The commodity program portion of farm policy has historically been in place because aggregate—not crop by crop but aggregate crop agriculture—does not self-correct in a timely fashion.

Total Quantity Supplied of Major Crops Unresponsive to Price

So why have we had special price and income stability programs for agriculture? Part of the answer is that taxpaying public has "too" successfully intervened in agricultural markets with investments in research, extension, Land Grant Universities and in other means that increase the productive capacity of agriculture. These productivity investments, coupled with private research, result in crop yields that consistently outpace growth in crop demands. This is a good thing. The sustained ability to maintain or expand the distance between agriculture's capacity to produce food and the demand for food is one of America's great accomplishments.

The problem arises because major crop producers tend to use every morsel of productive capacity that is made available to them. Other industries gauge their use of productive capacity to the quantity that can be sold at a profitable price. But since grain, soybeans and cotton are individually homogeneous and since no one farmer produces a sufficient quantity to influence the product's total supply; and therefore its price, farmers have no incentive to idle part of their acreage. They plant all their acreage all the time to something. Thus, aggregate crop output declines very little in the face of even drastic reductions in farm price levels.

Even when prices are below the farmer's variable cost of production, he may borrow-down his equity until his net worth is decimated or the bankruptcy court won't let him in the field. While a redundant tire plant would be permanently shutdown with assets transferred to another industry, bankruptcy of a farm's owner/operator usually results in no such transfer. The land remains in agriculture and another farmer, probably with superior management abilities, immediately brings the land back into production. Since the total acreage of major crops does not respond significantly to reduced price levels, crop agriculture does not and cannot "cure low prices with low prices" within a reasonable time frame.

Quantity Demanded of Total Agricultural Output Is Unresponsive to Price

Just as total crop supply tends not to adjust significantly to lower prices, neither does the quantity demanded. The demand for domestic food and total agricultural output is notoriously unresponsive to price. While the mix of food consumed and the demand for services attached to the food respond to price changes, the volume of food consumed in a country such as the U.S is largely invariant to the general price level or to changes in income. We do not go from three meals a day to five because of a dramatic drop in food prices or because our incomes have changed. This fundamental characteristic of food demand constrains the price elasticity of total domestic demand for agricultural output, even though industrial demand, livestock demand for feed and textile demand for cotton provide slightly more price responsiveness to total farm output than otherwise would be the case.

Total World Quantity Demanded Also Not Very Response to Price

This same principle generally applies to total world demand for food. People in Japan, European Union, and other major U.S. export-customer countries are no more likely than Americans to eat additional meals per day because food prices have dropped. Thus, total world food demand is price inelastic. Albeit somewhat less inelastic than in the U.S., since in countries with inadequate food supplies, a price decline may allow hungry consumers to purchase a larger quantity.

Export Demand Is More Price Responsive—But Not Much More

A country's export demand does not necessarily exhibit the same, extremely low, price responsiveness as total world demand. If five countries are the major sources of an agricultural crop for export, a country with a small share of the world export market may experience a relatively large increase in exports by dropping its price because other exporting countries do not choose to lower their price in response since the quantity of exports involved may be minimal. Of course, in an oligopolistic market structure, which has long characterized agricultural export markets, a price change by a dominant exporter usually results in "follow the leader" behavior among other exporters.

While much has been made about export's potentially higher price elasticity, a couple of things are clear. One is that in the short-run countries that have a large share of crop exports have trouble gaining much advantage in the export market by lowering their prices because all other export countries follow suite leaving each of them with little change in the export volume or changes their respective export shares. Thus, each country exports about the same but receives less revenue because of the lower price.

Secondly, for farmers to benefit from a highly price responsive export market, exports must be a large proportion of the country's total crop demand and/or the price responsiveness of exports must by very, very large. That is the case because farmers only benefit from a lower price if the TOTAL quantity demanded increases by larger percentage than the percentage reduction in price. Or, from the farmers standpoint, there must be longer term benefits that will greatly expand the country's exports over time such that the increased exports will more than compensate for the low price elasticity of, say, a relatively constant domestic demand.

Thirdly, for exports to increase sufficiently for a country's farmers to benefit, assuming that the extra exports would actually make total demand elastic, the additional exports can only come from two places: increased total imports or by wrangling exports away from other exporters. As we saw earlier, the first source is not very promising because, just like U.S. domestic demand, the world demand for agriculture's output is not very responsive to declining prices. Nor are the lower prices likely to persuade farmers and governments in importing countries to significantly reduce indigenous production. In addition to the considerations that cause U.S. farmers not to curb output significantly when crop prices decline, many, if not most, importing countries want to retain their agriculture's productive capacity for national food security or other reasons despite even a deepening cost disadvantage of domestic production compared to importing. Thus, it is unlikely that the size of the total export pie is going to dramatically expand with lower prices.

The other longer-term source of additional exports originating from a prolonged, say policy-based, price decrease is from other exporters. Now we are talking about such countries Canada, EU, Australia, Brazil, and Argentina; the countries that, like the U.S., consistently produce more bushels or tons of major crops than can be consumed domestically. To fix ideas,

consider how U.S. farmers and U.S. general farm and commodity organizations would react to a market or farm policy that professes to shrink the size of U.S. agriculture down to domestic needs. Neither are the farmers and farm groups in other exporting countries going to be willing to give up export markets. Even under high cost of production to price conditions, observed behavior suggests that our export competitors jealously guard their existing export markets and also covet the exports of others.

Although exports are generally recognized to be somewhat more elastic than domestic demand, lower prices have historically not brought forth the large increases in the quantity exported that many have expected.

Demand Grows With Population and Income—Yes But...

Traditionally, the most important domestic demand shifter for agricultural output is population. Changes in tastes and preferences and per capita incomes affect the consumption of individual commodities/foods but have relatively little impact on total demand.

On the other hand, changes in per capita income as well as population growth in importing countries are important world demand shifters, and by extension, export demand. But export demand tends to be fickle. It is influenced by weather in importing and exporting countries, general economic conditions and political decisions, all of which can take unexpected twists and turns. There only have been three times during last century when prolonged bursts in exports generated a prosperous major-crop agriculture. The source of those export bursts was not a sustained increase in per capita incomes of importing countries or some other permanent demand shifter. Rather, they occurred because of political decisions or circumstances surrounding the two world wars and the decade of the 1970s.

Putting it All Together—Here Is Why We Have Had Commodity Programs

The traditional explanation for agriculture's chronic price and income problems relates directly to characteristics of the crop agriculture's economy just discussed. Since farmers cannot affect commodity prices, they strive to reduce costs by adopting new technologies, much of which is publicly financed. As more and more farmers adopt a given new technology, output increases, and the aggregate supply expands. Typically, aggregate supply expands faster than total demand—so prices drop and crop inventories accumulate. The lower prices provide the signal that producers and consumers are expected to use to help correct the situation. The signal is there but the response is puny.

The lower prices do not cause a large enough increase in the quantity demanded by output-buyers nor sufficient reduction in the quantity supplied by farmers to reduce inventories and boost farm prices in a reasonable length of time. This is not what is supposed to happen. It happens because of the unique characteristics of food demand—a finite quantity is demanded whether prices are "high" or "low"—and aggregate supply—resources, especially land, tend to be used to grow something over an extremely wide range of prices—keeps crop agriculture from self-adjusting like other sectors.

The nicely sloped, i.e. relatively price elastic, demand and supply curves that appear in textbooks bear no resemblance to the aggregate demand and supply curves for crop agriculture. To represent aggregate crop agriculture's ability to adjust quantities as prices change, we need to pivot the textbook supply and demand curves so each is nearly vertical. Thus, in the nutshell, as traditionally viewed by agricultural economists, commodity programs were enacted to overcome

the market characteristics that result when exogenous forces cause a nearly vertical supply curve to shift to the right faster than a nearly vertical demand curve.

That Was Then—What About Now?

The New Era Euphoria and the 1996 Farm Bill

Overtime, and especially around the time that the 1996 Farm Bill was debated and passed, the conventional wisdom was that things are different now. The old characterizations of aggregate major-crop market structure were no longer valid. Agriculture was beginning a new era and the more free-market oriented farm bill would facilitate agriculture's full realization of its prosperous future. It was apparent that there were major adjustments in the each of elements that have long caused price and income problems in agriculture: a) the rate of shift in the aggregate crop demand curve relative to its supply, b) the responsiveness of the quantity demanded to price changes and c) the price responsiveness of supply.

New Era Expected

In the years prior to debate on the 1996 Farm Bill, China and a number of other Asian countries were experiencing unprecedented annual rates of per capita income growth, some in the double digits. Higher incomes in Asia were postulated to generate increased per capita expenditures on higher-value food items such as meat and poultry products. The increase in these products would increase the need for feed grains, primarily corn. The collective judgment of those that generate projections and policy baselines was that the livestock and poultry grain requirements would exceed the countries' grain production capacity. The mere size of China's population made it the central focus of the analyses. Analyses by the U.S. Department of Agriculture (USDA), Congressional Budget Office (CBO), the Food and Agricultural Policy Research Institute (FAPRI), and others projected substantial Chinese corn imports.

Figure 1 shows baseline projections made by FAPRI in 1996, the first year of the 1996 Farm Bill, through 2005. Similar baseline projections were made by CBO and the USDA. FAPRI showed Chinese net imports at 500 million metric tons by 2002. Rather than import 500 million tons, China exported 500 million tons in 2002.. Actual data through the year 2004 are shown plus FAPRI's 1999 projections. Note that in the1996 projection, China was expected to have net imports of nearly 800 million bushels of corn in 2005 which would be close to one-half the level of U.S. exports in some recent years.

Figure 2 shows how the projected growth in Chinese net imports during the mid-90s was translated into increased U.S. export demand for corn. FAPRI's baseline projections are shown but again, USDA's or CBO's 1996 baseline projections would show a similar upward path for U.S. corn exports. Actual U.S. corn exports are also shown through the year 2004 along with CBO's 2001 baseline projections of corn exports through 2010. Actual corn exports in 2002 were nearly 1 billion bushels less than the1995 projected quantity for 2002.

But the New Era Did Not Arrive

Clearly, agriculture did not enter a new grain export era in the mid-1990s. In retrospect, the misplaced optimism about China's need to import grain is an example of not taking into account the unique nature of food and agriculture.

Countries View Food as a Matter of National Security

Food is a national security issue in many if not most countries. Presented with the China's projected grains-needs for the decade ahead, the U.S. interpretation was for large and accelerating grain exports to China. China, on the other hand, may have viewed the projections as a wake-up call to jack up productive capacity through increased investments in agriculture and alliances with multinational agribusinesses.

Also, especially in the case of China, data availability and accuracy issues contribute to projection difficulties. For example, it was determined at the beginning of this decade that China had maintained huge grain stock levels, orders of magnitude larger than analysts had been using for years in their supply and demand tables for China. The fact that China maintains grain stock levels large enough to satisfy many months' worth of use, speaks volumes about their general commitment to food security/self-sufficiency issues.

While 95 percent of the world's population lives outside the U.S., that does not mean that the U.S. can view the rest of the world as never-ending reservoir of willing export customers. Even as per capita incomes and availability to pay increase over time, so does the agricultural productive capacity of importing countries and our export competitors.

American agriculture is affected by outward expansion of two supply curves. One is the domestic aggregate supply curve, fueled by technologies that increase crop yields and productive capacity. The other is the foreign aggregate crop supply curve that is shifted rightward by expansion in planted area of productive cropland in Brazil and several areas of the world as well as yield enhancing technologies. When the foreign supply curve shifts to the right faster than foreign demand, U.S. exports stagnate. Except for weather induced gyrations and periods in our history when political decisions or events provided a multiyear stimulus to exports, there are relatively long periods of time in which major-crop export demand remains flat or increases at a slow rate.

Indeed, in the case of major crops, rather than being the engine that drives U.S. agricultural prosperity, exports are often part of the reason that total crop demand expands more slowly than supply.

Exports Flop—Can Ag Now Pull Itself Up by It's Bootstraps?

Okay, so export demand did not grow at the rate that was expected following the passage of the 1996 Farm Bill. If agricultural producers and consumer respond to the lower prices by sharply cutting back on the quantity supplied and/or greatly increasing the quantity demanded, the market would self-correct, easily overcoming a lack of growth in exports or any other exogenous shock that might beset agriculture.

Is Agriculture More Price Responsive Now?

There are a number of reasons for believing that crop agriculture might be more price responsive now than in decades past. For one thing, most of the inputs used in crop production are supplied from outside the farm and must be paid for. Items such as fertilizers, herbicides, fuel and seed are now purchased from off-farm sources rather than depending on livestock manure for fertilizer, using homegrown oats and hay to fuel the real horsepower, using cultivators and hoes to eliminate weeds and using seed saved from last year's crop. Also, the number of commercial farmers had dropped from 2 million to a few hundred thousand farmer/businessmen. For these and other reasons—even before the 1996 farm bill was passed—it seemed reasonable to expect farmers to be more responsive to general farm price levels than when farm programs

were first introduced. But with the passage of the 1996 Farm Bill expectations were even higher. With the bill's planting flexibility and decoupled payments, farmers could finally plant for the market, adjusting crop mix as needed and if all prices are in a tailspin, reduce total production.

Figure 3 displays data on total acreage of corn, soybeans, wheat and cotton, and on three measures of prices or measures of per unit revenues for the four crops for crop years 1996 to 2000. Data for all variables are converted to an index with 1996=100. Acreage for the four major crops remained nearly constant over the period. In fact, acreage in crop year 2000 slightly exceeded acreage in the first year of the 1996 Farm Bill, 1996. This constancy of acreage occurred despite a 40 percent drop in the index of prices for the four crops between the 1996 and 2000 crop years.

It can be argued that the loan rates are the supply inducing prices since farmers receive loan deficiency payments (LDP) to offset price levels below loan rates. When loan deficiency payments are included, average per unit revenue for the four crops shows a decline of 30 percent. While economists usually argue that fixed contract payments have no influence on output decisions, many farmers and farm groups believe market prices and government revenue are perfect substitutes. If, in addition to market price and loan deficiency payments, the per unit revenue equivalent of fixed production contract or AMTA payments and emergency Marketing Loss Assistance (MLA) payments are added, then revenue per unit declined by 22 percent between 1996 and 2000.

So depending on which per unit revenue measure one believes that governs farmers' acreage decisions, "prices" have declined by 40 percent, 30 percent or 22 percent, but the crops' total acreage has held constant. The corresponding supply curve doesn't just approach vertical, it is vertical. Adding in barley and oats would show only a slight reduction in total acreage. Figure 4 extends the price and acreage measures 4 more years. Basically, acreage remained unchanged during the 8 year period of declining and increasing prices.

But Doesn't Planting Flexibility Mean No Need To Plant At All?

Planting flexibility has enhanced farmers' ability to vary crop-mix in response to changes in relative crop prices (or per unit revenues). But freeing farmers to "plant for the market" did not result in a significant reduction in total crop output when prices plummeted.

Analysts, farmers, and farm groups who vigorously argued that farmers would reduce production as needed in response to market price signals are now saying that the reason farmers did not cut back is because, with government payments added in, farmers' per unit revenues are above variable costs of production. That explanation seems to suggest that the aggregate crop supply curve is kinked at the price equal to the per unit variable cost—vertical for all prices above the variable cost and with a, presumably, highly elastic slope below that price. But economic theory says producers should not produce when the price is below the variable cost of production. Thus, following economic theory, the implied supply curve would end at the "kink." So, are those that have believed in the past that farmers would cut back aggregate output as price declines now logically implying that the supply curve is perfectly inelastic?

Actually, anyone who has been in the midst of farmers for any length of time knows that in a given year the aggregate crop supply curve can extend below the variable cost of production. A farmer will use up his (or her) equity, work 40 hours off the farm or do whatever he can to stay in agriculture as long as possible. If he does go bankrupt, production continues under a new operator whose supply curve may exist at even lower prices.

Contrary to the expectations of many, we have learned, once again, that the aggregate crop supply curve continues to be extremely price unresponsive. While a list of distracting side issues can be brought into the discussion, the fact remains that a 20 to 40 percent drop in the crop price level resulted in no reduction in the total acreage of the four most important field crops.

Does Production Go Down Because Farmers Cut Back on Input Applications?

Farmers adjust their expenditures on inputs that have little or no affect on yields. Reducing per acre use fertilizer, pesticides, and seed tends to compromise per acre revenue by more than any reductions in cost. Farmers may alter the mix of crops in favor of less input-intensive crops when faced reduced prices, but it is almost universally penny wise and pound foolish to scrimp on a crop's most important yield-determining inputs. Total production changes little.

Well, Has Demand Become More Price Responsive Then?

If aggregate crop demand has become sufficiently price responsive, so that buildups in crop inventories disappear quickly when prices drop, then the markets could self-correct from the demand side. Such increased price responsiveness compared to decades earlier could come from a more price responsive food/feed demand, the emergence of a significant industrial demand and/or because of increased reliance on exports. The export market receives the most attention as the opportunity for a price responsive market. Actually, industrial demand, such as using corn to make ethanol, may be one of the most price responsive crop demands, but it is not large enough nor price responsive enough to turn total demand elastic. The increased concentration of the livestock industry has likely made domestic feed demand less rather than more price responsive. High fixed investments and long-term contracts in the poultry and hog industries tend to diminish their response to changes in corn and soybean meal prices.

That leaves exports as the last hope for increases in the quantity demanded following a price decline. As already mentioned, there are two sources of possible export increases for the U.S. following a decline in U.S. crop prices. One is selling additional exports to importing countries. The other is swiping exports from our competitors.

The probability of successfully increasing aggregate crop exports to importing countries—solely because of lower prices—is typically very low for two reasons. First, price has relatively little to do with how much our major importing countries consume of food/agricultural products. If our import customers are rich enough to be a major cash-paying customer, they are probably rich enough to have a reasonable well-fed populace that is unresponsive to changes in food/agricultural prices.

Secondly, the fact that a country is a significant importer of U.S. agricultural products does not mean the country has no interest in producing as much of its own agricultural products as it reasonably can. Our experience and common sense tells us that food security and other non-price issues are extremely important to many countries. Hence, savings that an importing country may achieve by additional long-term imports of lower-priced food/agricultural products may not overcome the country's feeling of "loss" in food self-sufficiency/security from diminishing domestic agricultural production.

Our export competitors seem a more promising source of increased exports following a sustained decrease in U.S. crop prices. Since they produce more of the export crop than is needed

domestically, economic considerations may be of primary importance in setting acreage and production levels.

Export Competitors' Acreage Response to Lower Prices

Let's look at the how foreign acreage changed after 1995. According to USDA's PS&D database, total foreign harvested acreage for the eight major crops increased by nearly 40 million acres between 1995 and 1996; that is, between the year before the 1996 Farm Bill and the first year of the bill. After 1996, foreign acreage trended steadily downward and by 2000 was 15 million acres below its pre-1996 Farm Bill level (Figure 5). These data are in line with what one might expect. Acreage went up in response to the increased prices of 1995 and has declined with the lower prices of the last three years to below it level before the 1996 Farm Bill. This bodes well for expanding our exports to replace the reduced foreign production. But what if we focus on acreage changes for those countries that tend to be our major export competitors?

Figure 6 shows harvested acreage for the eight major crops for our nine major competitors: Canada, Argentina, Brazil, EU-15, Australia, Pakistan, India, Thailand, and Vietnam. Thirty of the nearly 40 million acre increase in 1996 foreign harvested acreage came from our competitors. Our competitor's acreage remained constant in 1997, but then increased significantly each of the next three years, increasing by 11 million acres between the relatively low-price years of 1999 and 2000. The acreage reductions occurred in countries that neither are major export competitors nor are currently sizable markets for U.S. agricultural exports.

Export-Driven Farm Policy Fails to Deliver Exports

Given all the considerations discussed, generally how have exports performed during more export-oriented farm policy of the last quarter century and specifically how have exports fared during the declining prices of the last years? Figure 7 shows U.S. experience with domestic demand and export demand for all grains and seeds as defined by USDA's PS&D database since 1961. The data are shown in index for with 1979=1.0. Also, for comparison U.S. population is also shown indexed so 1979=1.0. This figure shows a number of things. The 1970s multi-year burst in exports—the last of the three multi-year ramp ups in crop exports during the twenty century, is evident as is the steady upward growth in domestic demand since the mid-70s. In fact, domestic demand, which includes industrial as well food and feed demands, has increased faster than U.S. population since 1979.

Note especially what has happened to export demand since 1979. By 1983, exports of all grains and seeds had fallen to about 80 percent of its 1979 level. Exports have varied around the 80 percent mark ever since. While there are many factors influencing grain and seed exports, clearly policies to ensure that U.S. is not pricing our grains "out-of-the-market" beginning with the reduction of loan rates in the 1985 Farm Bill and culminating with the replacement of non-recourse loans with marketing loans in the 1996 Farm Bill have not conquered a two-decade stagnation of grain and seed exports.

Of course, had support prices not been lowered and if the marketing loans had not been introduced, exports would likely have been somewhat lower yet during this period. But driving down prices to below the full-cost of production is of no help to farmers if export volume and market profitability do not improve, even after several years have past.. Clearly over the two decade period, which includes a wide range of macroeconomic conditions, export quantities are nearly the same regardless of whether prices are "high" (like the mid-1990s, for example) or "low" (like 3 years later).

A commodity by commodity analysis shows the same pattern. Corn for example shows a steady growth in domestic demand since the mid-70s, increasing from 4 billion bushels in 1976 to 8.7 billion bushels in 2004 while exports hover under 2 billion bushels for the full 25-year period. Soybeans show some growth in exports during the last 25 years and soybean exports appear to be more price responsive than the exports of corn and other grains. In the case of wheat, exports has dropped sharply from the levels of the 1970s and early 1980s. At its maximum in 1981, 1.7 billion bushels of wheat were exported. Wheat exports have hovered around 1 billion in recent years.

And The Conclusion Is...

The shift toward export oriented policies, beginning with the 1985 Farm Bill and before, have not successfully increased major-crop exports and thus have failed to boost farm income through increased market receipts. Unless increasing exports is a goal unto itself—a volume maximization goal that no economist would ever want to sign on to—there was little hope of success from the beginning.

Reasons for Failed Export-Oriented Policy Remain Today

The list of negative conditions includes: a) a total world demand for aggregate agricultural products, while likely less price inelastic as U.S. domestic demand, is highly inelastic nonetheless, b) an oligopolistic international grain market structure, c) domestic demand represents a large share of total demand for most U.S. major crops so the export demand price elasticity must be extremely large to offset the highly inelastic domestic demand, d) importing countries generally prefer to import less rather than more agricultural products so a lower price tends to neither materially increase consumer demand or reduce indigenous production, and e) our export competitors are as much into providing for the export market in long haul as the U.S. so lower prices tend to have minimal impact on total area planted to major crops.

Policy Implications

The 1996 Farm Bill would have been heralded as a stroke of genius had crop exports increased at the rates projected at the time the bill was passed. Prices would have been strong, farmers would have experienced increased net incomes from greater market receipts plus government payments, agribusinesses would have their large volumes of inputs to sell and outputs to process and transport, and taxpayers would have a decline in government program expenditures over the length of the bill.

But we did not enter a new era for agriculture based on accelerated export growth. That too would be okay if agricultural markets had truly overcome the lack of price responsiveness that has plagued aggregate agriculture for four score plus years. It turns out the supply and demand for the total of major crops still respond very little to reduced prices.

But now we know legislation like the 1996 Farm Bill does not work. Are we going to continue to use post-hoc-cleanup-the-mess-after-the-crash type farm and special legislation or are we going to recognize, even celebrate, our sustained tendency, because of continuing and largely publicly supported new technologies, to expand agricultural output faster than it can be utilized at profitable prices? Are we going to recognize that promising that export growth "will make it all better real soon now" demolishes our credibility? Can we fashion a policy that encourages innovation and technological advances but, borrowing from the perspective of another industry, does not idly standby while output-increasing new technologies are applied to

all an industry's plants for each of three eight-hour shifts for every day of the year despite prices that have been driven to below the cost of production? Can we look to other areas besides exports for potential demand growth?

The commodity portion of a farm policy that recognizes the nature of aggregate major-crop markets should include a number of key elements. With nearly vertical supply and demand curves, random shifts due to weather-based yield fluctuations in the U.S. and/or abroad can cause wide price fluctuations. A farmer-owned-buffer stock program can be used to truncate the low and high tails of the price distribution. Even moderate reductions in short-term price fluctuations would ensure that the U.S. crop industry is a dependable supplier to domestic livestock producers and other domestic and international grain and oilseed customers.

Recognizing that public investment in "agricultural overproduction capability" is a good thing, mechanisms should be put in place to hold excess productive capacity in reserve in various short-term and longer-term forms. Recognizing that domestic demand, not export demand, has been the source of demand growth for the last quarter century, policy incentives and market development expenditures should focus on existing and potential domestic sources of demand growth. Use of major crops to produce industrial and energy products already represents a significant part of demand growth for major crops. New crops that have potential to provide energy feedstock to electric utilities, for example, could provide farmers with an alternative to major crops which could provide a new income source and, since some major crop acreage would be displaced, provide higher prices and incomes for major crops.

Concluding Remarks and Summary

The outcome of the 2007 Farm Bill will be greatly affected by concerns about the federal deficit and the WTO pressure to eliminate agricultural subsidies. While these two issues may seem to be unrelated, one domestic and the other international, they in fact stem from a common cause: low crop prices. If crop prices in the 1997-2004 period were at the same level that they were in early 1996, the intensity of concern over each of these factors would be much less.

Low market prices for the eight major US crops caused spending on the farm program to zoom to over $20 billion a year in the 1997-2004 period; recently payments to farmers have settled back into the mid-teens. Much of the time over the last nine years, crop prices have been well below the cost of production, however defined. As crops are sold into export markets at low prices, farmers and governments around the world accuse us of dumping our excess production on international markets. As a result we have seen a growing chorus of those who, as a part of WTO negotiations, are calling for the elimination of all subsidies in the US and other developed countries.

Recent changes in farm policy occurred because there was an across-the-board shift in how people thought about the operation and prospects for the agricultural sector, particularly crop agriculture. Going into the 1996 Farm Bill, it was assumed that (1) the agricultural sector behaves more like other economic sectors than it did when farm programs were first adopted in the 1930s; (2) exports are the key to a prosperous US agricultural sector, after all 95 percent of the consumers of food live outside the US; and (3) government farm programs are the problem, not the solution, and if the government would get out of the way and allow markets to work, US agriculture would be on the road to a market-driven prosperity. But these assumptions are in direct conflict with the reality that has confronted agriculture since that change in thinking was codified into legislation in 1996. These assumptions also are in direct conflict with what major-crop agriculture has experienced for most of the last century.

There are certain things about the nature of agriculture that are as true today as they have been for nearly a century. Thus, a change in farm policy, predicated on a fundamental but phantom switch in the nature of agriculture, is unlikely to—and did not—generate the predicted or desired results. The long-standing nature of agriculture and associated implications can be summarized quickly.

Food and agriculture are different. In other economic sectors, low prices stimulate two responses—consumers increase their purchases while manufacturers reduce production quickly returning to industry to profitability. Low food prices, however, do not stimulate consumers to increase their food intake from three meals to five meals a day. Similarly, it is not in the best interest of individual crop farmers to measurably reduce their acreage or their use of yield-determining inputs in the face of lower prices. Any income they receive above the variable cost of production can be put toward the fixed costs.

Promising an export-driven prosperity for crop agriculture is an audience pleaser but the odds are against it. US farmers have enjoyed an export driven prosperity three times in the last century—WWI, WWII, and the mid-to-late 1970s—and none of them were triggered by US farm policy instruments. These periods of surging exports lasted a total of no more than 14 years out of the last hundred. Most countries view their domestic food production in the same way that US residents view the military, it is a matter of national security.

Nations that have an adequate amount of arable land typically prefer to grow their own staples rather than become dependent on imports. The level of US exports of crops like corn in a given year is more a function of production variations in other nations around trend than it is a function of price. It is foolish to think that importing countries will embrace opportunities to reduce production of staples in their countries because they can buy staples so-many cents a bushel less from the US. It is also unrealistic to expect US export competitors—some of which are using agriculture as a development vehicle—to unequivocally hand over export markets to the US. For these reasons and because food and agriculture of other countries share the same unique characteristics as the US, unfettered free trade in food and agricultural—WTO driven or not—will be much harder to achieve than for other sectors.

In my view, price responsiveness is the basic issue that must be considered when evaluating the effectiveness of alternate farm bill proposals. If the lack of price responsiveness of aggregate agriculture is not identified as the fundamental problem motivating the policy proposal, the proposal may achieve certain policy objectives but not necessarily a more stable market environment for production agriculture.

Agricultural productive capacity is ever expanding, typically at a pace that exceeds domestic demand. Under government farm programs in effect prior to the adoption of the 1996 Farm Bill, the non-recourse loan rate set an effective floor on program-crop prices by taking production out of the commercial market and placing it into government storage. With the extension of Loan Deficiency Payments (LDP) to crops like corn, soybeans, and wheat, prices could fall below the loan rate, farmers could collect the difference between the posted county price and the loan rate while still retaining possession of the crop that could then be sold at prices well below the cost of production.

U.S. farm policy has been criticized in the past as market distorting because of the "high" levels at which price supports were set in certain periods. Of course, from an economic theory perspective, market distortions resulting from policy-caused "low prices" are equally troublesome. The combination of using LDP/MLGs and the elimination of other program

instruments may have caused program-crop markets to be more distorted in recent years than in previous times under other configurations of commodity programs.

A comparison of corn prices before and after the implementation of the FAIR Act shows that for the same year-ending stocks-to-use ratio, prices in the post 1996 period were 34 cents a bushel lower than they were when government policy put a floor on corn prices. Before the adoption of the FAIR Act, government policy worked in a manner so as to ensure that farmers received the bulk of their income from the marketplace and at the same time maintained lower government costs. With a floor on crop prices, other nations had little reason to accuse the US of dumping.

As the process of thinking about the shape of the 2007 Farm Bill gets underway, a new vision is needed for agricultural commodity policy. This new policy vision needs to be based on a clear set of principles. Here is my list:

- Farmers should receive the bulk of their income from the marketplace and not the government. Commodity programs should not use payments to crop farmers to launder subsidies for integrated livestock operations, agricultural commodity processors and importers by facilitating purchases of feed and food ingredients at substantially below full cost. Neither should commodity programs enable agribusinesses to benefit from selling extra seed, fertilizer, pesticides and other inputs that result in production levels that are too large to fetch economically-viable market prices.
- Agricultural policy needs to be based on a clear understanding of the unique characteristics of the marketplace rather than ideology. Producers produce and consumers consume about the same amount of total agricultural output with little regard to changes in prices. Market self-correction can only occur if producers and consumers react to market signals—changes in prices. Also, betting on exports to bail-out crop agriculture is a low-probability bet at best.
- US farm policy should not contribute toward the dumping of agricultural products on international markets.
- The policy must be affordable.

Figures

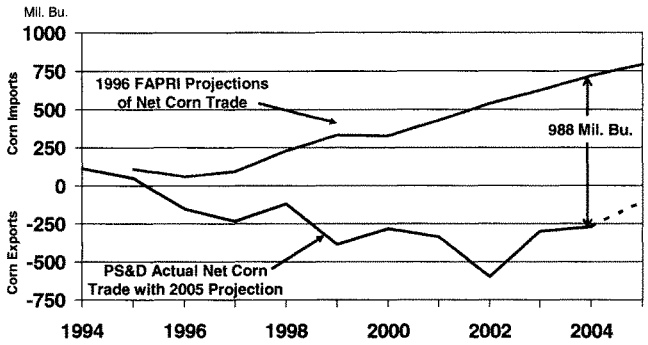

Figure 1. 1996-2005 FAPRI baseline projections made in 1996, the first year of the 1996 Farm Bill. Actual data through the year 2004 are shown with a projection for 2005. China was expected to have net imports of nearly 800 million bushels of corn in 2005 which would be close to one-half the level of U.S. exports in some recent years. In 2004 the gap between China's actual exports and the projected imports amounts to 988 million bushels.

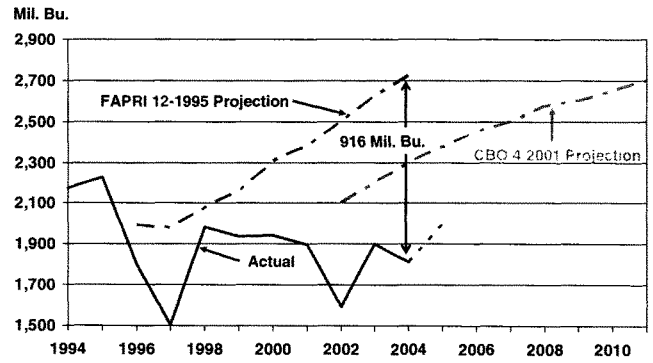

Figure 2. 1996-2004 projected growth in US corn exports compared to actual exports. This figure shows how FAPRI translated the projected growth in Chinese net imports into increased U.S. export demand for corn. As was also true for the China projections, USDA's and CBO's 1996 baseline projections showed an upward path similar to FAPRI's for U.S. corn exports. Actual corn exports in 2004 were nearly 918 million bushels less than FAPRI's 1995 projected quantity for 2004.CBO's 2001 baseline projection shows a parallel shift in the expected trend but displayed continued export optimism.

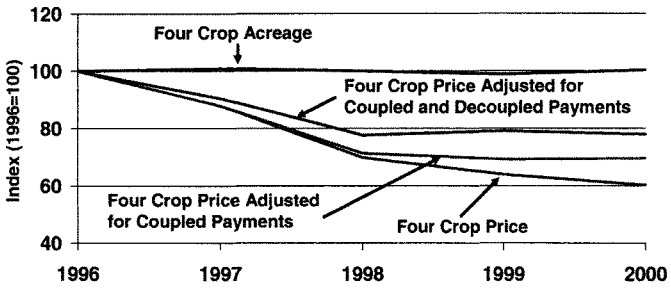

Figure 3. Indexed total acreage of corn, soybeans, wheat and cotton, and three measures of prices or measures of per unit revenues for the four crops for crop years 1996 to 2000. 1996=100. Acreage for the four major crops remained nearly constant over the period despite a significant decline in price. Source: Computed from USDA data.

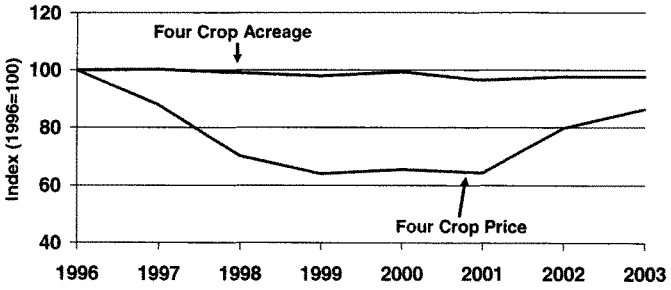

Figure 4. Indexed total acreage of corn, soybeans, wheat and cotton, and the four crop price for crop years 1996 to 2003. Basically, acreage remained unchanged during the 8 year period of declining and increasing prices. Source: Computed from USDA data.

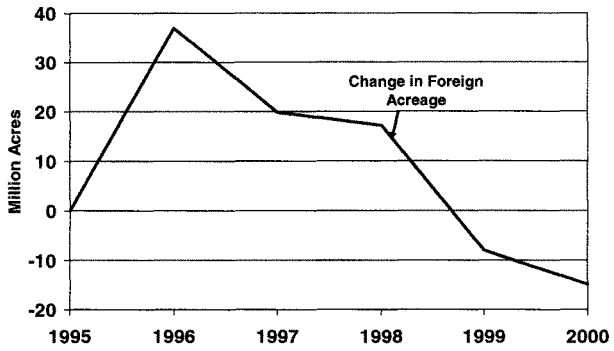

Figure 5. 1995-2000 change in foreign acreage for the 8 major crops. According to USDA's PS&D database, total foreign harvested acreage for the eight major crops increased by nearly 40 million acres between 1995 and 1996; that is, between the year before the 1996 Farm Bill and the first year of the bill. After 1996, foreign acreage trended steadily downward and by 2000 was 15 million acres below its pre-1996 Farm Bill level.

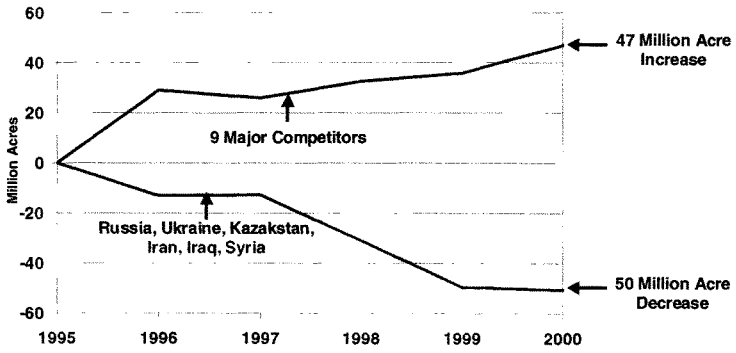

Figure 6. 1995-2000 harvested acreage for the eight major crops for US's nine major competitors: Canada, Argentina, Brazil, EU-15, Australia, Pakistan, India, Thailand, and Vietnam. While total foreign 8 crop acreage declined by nearly 15 million acres by 2000, the US's nine major competitors increased their acreage by 47 million acres. The largest decline in acreage in that period came from Russia, Ukraine, Kazakhstan, Iran, Iraq, and Syria, amounting to 50 million acres. Source: USDA PS&D.

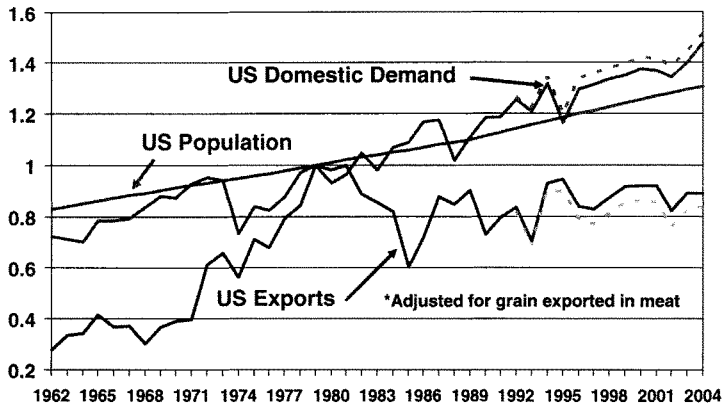

Figure 7. Index of 1962-2004 US population and domestic and export demand for all grains and seeds as defined by USDA's PS&D database, 1979=1.0. The dotted lines show demand data reported by PS&D unadjusted for grain and oilseeds exported in meat. The 1970s multi-year burst in exports—the last of the three multi-year ramp ups in crop exports during the twenty century, is evident as is the steady upward growth in domestic demand since the mid-70s. In fact, domestic demand, which includes industrial as well food and feed demands, has increased faster than U.S. population since 1979. Clearly export demand has not been the driving force in US major-crop markets in the last quarter century despite price decreasing policies designed to make US bulk commodities more competitive in the world marketplace.

State of the Farm Economy and the Impact of Federal Policy on Agriculture

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Testimony before the Subcommittee on General Farm Commodities and
Risk Management, U.S. House Committee on Agriculture, September 29, 2005.

Mr. Chairman, thank you for the opportunity to appear before the Subcommittee. My name is Pat Westhoff, and I am an economist with the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri.

FAPRI receives funding from annual USDA special research grants to provide information to members of Congress and their staff. Each year, we prepare baseline projections for the farm economy to provide a snapshot of what agricultural markets might look like under a continuation of current farm policies. Then we try to estimate how those projections might be affected if there were a change in U.S. policy, a change in world trading rules, or even a change in the weather.

This year, for example, we have published reports looking at possible impacts of the President's budget for agricultural programs[1] and of the energy bill recently signed into law.[2] The reports provide estimated impacts on everything from the farm price of wheat to net farm income and the taxpayer cost of farm programs.

We know it's never possible to accurately predict what will happen in agricultural markets—the only thing we can say with certainty about our projections is that they will prove to be incorrect. That is why we do not simply look at a single most likely future, but rather at a range of 500 possible futures. This approach allows us to look at how policies perform under a range of possible market conditions—when yields are high and when yields are low; when export demand is strong and when it is weak. This is helpful when looking at policies like the marketing loan and counter-cyclical payment programs that have major effects when prices are low but are less relevant when prices are high.

State of the Farm Economy

What one thinks about the current farm economy depends upon one's point of reference. If the point of comparison is 2004, one can say a lot of negative things about the farm economy in 2005:

- In contrast to the record yields of 2004, drought has sharply reduced crop yields in parts of the Midwest, including my home state of Missouri, and Hurricane Katrina has damaged crops and disrupted shipments of agricultural products.

- Higher energy prices have increased farm-level expenditures on fuel and fertilizer.

- Based on mid-September information, it appears that prices for corn, soybeans, and wheat are all likely to be lower for the crop harvested in 2005 than for the crop harvested in 2004.

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[1] FAPRI, "The President's Budget: Implications of Selected Proposals for U.S. Agriculture," FAPRI-UMC Report #03-05, FAPRI: Columbia, Missouri, March 24, 2005.
[2] FAPRI, "Implications of Increased Ethanol Production for U.S. Agriculture," FAPRI- UMC Report #10-05, FAPRI: Columbia, Missouri, August 22, 2005.

Average milk and hog prices are lower this year than in 2004, and cattle and poultry prices are about the same.

USDA estimates, and we would agree, that farm income is likely to be several billion dollars lower in 2005 than in 2004.

Government farm program costs in fiscal year 2005 may be double what they were in fiscal year 2004.

The outlook is much more positive if one does not use 2004 as the point of reference:

National average yields for most major field crops in 2005 are generally near or even above the long-term trend, in spite of the serious regional yield problems.

Consumer demand for meat and dairy products has remained strong in 2005, and annual average prices for cattle, poultry, and milk are all higher than expected earlier this year.

At least in nominal terms, net farm income is still on track to be the second highest ever in 2005.

One could pick any number of other indicators to talk about the health of the farm economy. Whether higher land values are good or bad depends on one's perspective, but the average value of farm real estate increased 11 percent last year, and all reports indicate a further increase this year. Debt-asset ratios are low by historical standards, and institutions providing credit to farmers report low levels of problem loans.

Looking beyond 2005, one can again cite reasons for optimism, pessimism, and uncertainty:

Provisions of the energy bill should contribute to increased production of ethanol and biodiesel and increased demand for corn, soybeans, and other crops.

China is already a major market for U.S. soybeans and could become a major market for grain in the years ahead, but it continues to be hazardous to make predictions about Chinese agricultural markets.

Brazil and Argentina have demonstrated their ability to expand crop production, but the pace of future expansion remains uncertain.

USDA and FAPRI both expect lower 2006 prices for cattle, hogs, poultry, and milk, in part because of supply response to recent strong prices and returns.

The agricultural economy will continue to be sensitive to movements in energy prices, and any increase in interest rates could affect debt repayment ability and land prices.

Impact of Federal Policy

All sectors of U.S. agriculture are affected by federal policy, but the largest and most direct effects are felt by the sectors receiving the bulk of government farm program payments (grains, oilseeds, and cotton) and the sectors benefiting from price support programs (dairy and sugar). While these commodities account for most of the harvested cropland in the country, they only account for about 40 percent of cash receipts.

To illustrate how markets and policies interact, consider the experience of the corn sector under the 2002 farm bill (Table 1). In 2004, corn yields reached record levels, and as a result corn prices fell sharply from the prices paid for the 2003 crop. Multiplying price times yield, the national average gross return per acre fell by about $14 per acre between 2003 and 2004, as the effect of lower prices marginally outweighed the effect of higher yields.

Federal marketing loan and counter-cyclical payment programs are based on prices, not revenues. Thus the large drop in 2004 prices triggered a large increase in payments under those two programs. Total payments per base acre planted to corn increased by more than $65 between 2003 and 2004, so corn producers had an unusually good income year in 2004, in spite of lower prices.

For the 2005 corn crop, both prices and yields are expected to be lower than they were in 2004. That translates into a large reduction in gross receipts from market sales, which is aggravated by a significant increase in production costs because of higher fuel and fertilizer prices. While government payments may increase slightly, overall net returns per base acre planted to corn are expected to be lower than they were in 2004 and even 2003.

Finally, however, note that 2005 net returns with payments are still expected to exceed those of 2002. Prices were substantially higher in 2002 than they are expected to be this year, and production costs were also much lower. The difference in overall net returns is entirely explained by differences in government payments. Prices were high enough in 2002 that there were no counter-cyclical payments and limited marketing loan benefits.

The lesson is that current corn program provisions are, by design, focused primarily on cushioning producers from the effects of lower prices. They are not designed to deal with net revenue losses caused by low yields or increased production costs. Certain crop insurance products do protect producers against significant reductions in yields or gross revenues, but they generally do not provide support when there is only a relatively modest reduction in yields. Federal programs do not protect producers from the risk of increased production costs.

As you consider farm policy options, Mr. Chairman, I would encourage you and your staff to continue to use FAPRI as a resource. Thank you for the opportunity to speak with you today.

Table 1. National average corn returns

Crop harvested in:	2002	2003	2004	2005
		(bushels per acre)		
National average yield	129.3	142.2	160.4	143.2
		(dollars per bushel)		
National average price	2.32	2.42	2.06	1.90
		(dollars per acre)		
Gross market revenue	300.06	344.16	330.33	272.08
Variable production expenses	143.77	159.67	168.57	182.70
Net market return	156.29	184.49	161.76	89.38
Marketing loan benefits	0.24	1.09	38.71	42.96
Net return including loan	156.52	185.58	200.46	132.34
		(dollars per base acre)		
Counter-cyclical payments	0.00	0.00	28.20	38.90
Direct payments	24.35	24.37	24.37	24.37
		(dollars per base acre planted to corn)		
Total government payments	24.58	25.46	91.28	106.23
Net return with all payments	180.87	209.95	253.03	195.60

Notes: Figures for 2002-2004 based on USDA reports. For 2005, average yields and prices are from USDA's September World Agricultural Supply and Demand Estimates. Other 2005 figures are from unpublished FAPRI estimates. Variable production expenses are defined as USDA's operating costs and hired labor, but exclude land and other fixed costs.

Agriculture Energy Alliance

Representing agriculture as a producer and consumer of energy

September 9, 2005

The Honorable Dennis Hastert
Speaker
United States House of Representatives
Cannon 235
Washington, DC 20515

Re: Hurricane Katrina – Energy Issues

Dear Speaker Hastert:

Hurricane Katrina has affected many members of the Agricultural Energy Alliance directly and our concerns are with our employees, our family members and all who have experienced hardship during this most difficult time. Our number one priority is to make sure that we help those in need to assure full recovery and rebuilding.

The impact that this disaster has had on the energy infrastructure on the Gulf Coast has been sobering. It has made us more resolved than ever to continue to educate members of Congress on the need both for fuel diversity and for geographic diversity of our nation's energy supply. From an energy standpoint, the major lesson learned from this tragedy is that the United States was operating on the edge with respect to the supply of oil and natural gas. A single incident has led to major disruption of supply. A related lesson is that the U.S. is too dependent on an energy infrastructure that is concentrated in a small geographic area. We also do not have the fuel diversity required to insure that industries have the energy they need to produce strategic products, including food.

Since 2000, when natural gas price levels and volatility began to increase, agriculture has spoken out in every forum available, warning of a looming crisis because of public policies that create demand for certain energy resources, like natural gas, while restricting access to supply sources. We have pointed out that the only way to solve this problem is to increase supply and reduce demand. The agricultural community can produce an abundant, affordable and healthy food supply, but we need Congress and the Administration to implement policies that will enable us to utilize the resources needed to produce that supply.

U.S. agriculture depends on natural gas for some very basic items in the food chain. We use natural gas for irrigation, crop drying, food processing and crop protection and nitrogen fertilizer production. By far, the most intensive use of natural gas by the farm sector is in the production of nitrogen fertilizer, which is used on virtually every crop produced in this country. The food we grow, consume and sell to the world depends on a ready supply of fertilizers

like ammonia, urea and diammonium phosphate. It should be noted that the agricultural community has become more efficient in its use of energy resources. For example, since 1980, U.S. farmers have increased nitrogen use efficiency by 35 percent and improved crop yields by 40 percent.

According to the Minerals Management Service, there is an estimated 406 trillion cubic feet of natural gas in the Outer Continental Shelf. This potential supply is clearly needed, yet it is off limits due to federal policies that leave 85% of all federally controlled offshore areas subject to a federal moratorium on development. The agricultural community believes that it is strategically critical for Congress to remove these production barriers now to provide new sources of natural gas and oil supplies. A high priority should be placed on opening up Lease Area 181 in the Gulf of Mexico to exploration. Lease Area 181 is known to have an abundant supply of energy resources with access to existing pipeline infrastructure that will facilitate speedy delivery of much needed natural gas to the marketplace. This area alone could insure that agriculture has access to natural gas to continue manufacturing fertilizer, grow our crops and feed our citizens. It is that simple. Action is needed now.

The recently passed energy bill, H.R. 6, took a step in the right direction by calling for an inventory of the outer continental shelf areas. Hurricane Katrina's impact on energy prices makes it clear that more needs to be done. The moratoria that was put into affect 24 years ago in these offshore areas was done when energy supplies were plentiful. Times have changed and these policies must be reexamined and changed to reflect this new reality of short supply and greater demand. Drilling technologies are much more sophisticated today and it was has been proven that this energy can be produced in an environmentally responsible manner.

Recently natural gas has been called the "forgotten fuel," meaning so much attention is being placed on high gasoline prices. While gasoline prices surely hurt consumers, the high and volatile natural gas prices affect agriculture's ability to produce an abundant food supply. This trend cannot continue. With Congressional leadership and action this trend can be reversed.

The Agricultural Energy Alliance respectfully requests that Congress focus on the lessons learned from Katrina immediately. As we assist displaced Americans and repair the Gulf Coast infrastructure, we need to understand the vulnerabilities that exist in our energy supply and make the necessary changes now to correct the situation. We thank you for your support of this very critical issue.

Agribusiness Association of Iowa
Agribusiness Council of Indiana
Agricultural Council of California
Agricultural Retailers Assn.
Agrium, Inc.
Alabama Crop Management Assn.
American Farm Bureau Federation
American Soybean Assn.
Arkansas Plant Food Assn.
CF Industries, Inc.
CHS Inc.
California League of Food Processors
CoBank (CO)
Colorado Grain & Feed Assn.
CropLife America
Delaware Maryland Agribusiness Assn.
Diamond of California
Far West Agribusiness Assn. (WA)
Georgia Agribusiness Council, Inc.
Georgia Feed & Grain Assn., Inc.
GROWMARK, Inc.

Hawaiian Alliance for Responsible Technology & Science
Illinois Fertilizer & Chemical Assn.
Indiana Grain & Feed Association
Indiana Plant Food & Ag Chemicals Assn.
Intermountain Farmers Assn.
Iowa Institute for Cooperatives
Kansas Agribusiness Retailers Assn.
Kansas Grain and Feed Assn.
Land O' Lakes, Inc.
Louisiana Ammonia Producers
MFA Incorporated
Michigan Agri-Business Assn.
Minnesota Agri-Growth Council
Minnesota Crop Production Retailers
Missouri Ag Industries Council, Inc.
Montana Agricultural Business Assn.
National Association of Wheat Growers
National Barley Growers Assn.
National Chicken Council
National Corn Growers Assn.
National Council of Farmer Cooperatives
National Grain Sorghum Producers Assn.
National Grange
National Renderers Association, Inc.
National Sunflower Assn.
National Turkey Federation
Nebraska Agri-Business Assn.
North Dakota Agricultural Assn.
Oklahoma Ag Retailers
Oregon Wheat Growers League
Plant Food Association of North Carolina, Inc.
PotashCorp
Rocky Mountain Agri-Business Assn.
Society of American Florists
South Carolina Fertilizer and Agrichemical Assn.
South Dakota Agri-Business Assn.
Southern Crop Production Assn. (GA)
Tennessee Agricultural Production Assn.
Terra Industries
Texas Ag Industries Assn.
Texas Agricultural Cooperative Council
The Fertilizer Institute
The Mosaic Company
U.S. Canola Assn.
USA Rice Federation
Virginia Crop Production Assn.
Virginia Poultry Federation, Inc.
Western Plant Health Association (CA)
Wisconsin Fertilizer and Chemical Assn.

Statement of AHEAD
The Alliance for Health Economic and Agricultural Development
Submitted to the Subcommittee on General Farm
And Risk Management

The Alliance for Health Economic and Agriculture Development (AHEAD) appreciates the opportunity to submit this statement to the General Farm and Risk Management Subcommittee of the House Agriculture Committee concerning the state of agriculture in the United States. The Alliance is an informal coalition that was established to educate policy makers about opportunities for changing the way in which tobacco and tobacco products are grown, processed, manufactured, distributed, labeled and marketed. Its mission is based on a set of Core Principles released by tobacco growers and health groups in 1998 as well as the presidential commission report, **Tobacco at a Crossroad**.

We want to first and foremost commend the Committee for holding hearings on the state of agriculture in the US. US farmers have a significant role to play in both the US and global economies. In order to effectively compete they need the support of the US government that will provide incentives and opportunities for being more competitive in the global markets. And though we recognize that another Subcommittee of the House Agriculture has traditionally dealt with tobacco we believe that it is important to raise the issue whenever an opportunity arises- particularly in light of the uncertainties in a post – buyout tobacco environment.

Last year Congress enacted legislation that provided US tobacco growers with an industry funded 'buyout' , allowing tobacco producers and quota holders the opportunity to obtain the 'equity' that Congress had provided them under the 1938 tobacco program. In providing the financial assistance through the 'buyout', Congress also repealed many other important provisions of the 1938 tobacco program leaving virtually nothing in place. While the buyout was urgently needed and obviously appreciated by tobacco producers, the action has left many tobacco producing communities in a continued state of uncertainty and instability and will have significant consequences (intended or otherwise) on the health, welfare and safety of millions of Americans. No one disagrees that the 1938 tobacco program had outlived its usefulness but it made no sense to 'throw the baby out with the bathwater'.

We cannot turn back the clock to the 108th Congress but we can make some important inroads to ensuring meaningful changes in the 109th Congress. Visionary reforms surrounding the agricultural production of tobacco can make a significant impact on not only US growers but also on the nation's public health.

As is well known, the use of tobacco is responsible for significant health problems in this country. In fact the use of tobacco has long been the leading preventable cause of death

and disease in the United States costing taxpayers billions of dollars in health care costs and lost productivity at a time that this country faces record budget deficits. Yet visionary changes in tobacco production offer some feasible avenues for producing leaf that is lower in toxins and which *may* be shown to reduce some of the serious risks associated with the use of tobacco and tobacco products.

With the removal of geographical limitations on where tobacco is grown we can expect to see more tobacco not only being grown elsewhere in the US but also an increase of foreign tobacco coming into the US – all unchecked and unmonitored. With the elimination of all inspections of imported tobacco and cigarettes there are no controls over chemicals or pesticides that can be used on that tobacco. In addition there is evidence that some foreign tobacco is grown using child labor and under conditions that do little to protect workers. These unfair practices hurt US growers who play by the rules and further jeopardizes public health and a consumers 'right to know' where the tobacco originated and under what conditions it was produced.

Tobacco is unique and in some ways very distinctive from other agricultural commodities. Yet, technological innovations that are being used in other agricultural commodities also have the potential for being used with tobacco. The application of biotechnology is a good example. Tobacco is often referred to as the 'white rat' of the plant world. Yet there has been little to no discussion in Congress about how new technologies can positively impact on US tobacco producers as well as protect the public's health.

It seems inconceivable that with the knowledge that we have about the hazards of tobacco; with the knowledge that we have about how some of the tobacco overseas is being produced; with the knowledge that about how new technologies can be applied to help growers produce leaf that is lower in health risks, that Congress would have failed to look beyond the 'buyout' and to discuss new legislative initiatives that would bring tobacco production into the 21st century.

As the Subcommittee continues its assessment and deliberations on the state of agriculture in the US we strongly encourage that it specifically focus some attention on the state of tobacco agriculture production in the US and overseas--- giving specific attention to the need to establish a system to monitor and test tobacco for quality as well setting health and safety standards. The Subcommittee needs to hear not only from agricultural experts but biotech experts and public health scientists and researchers as well. This should include representatives from the Department of Health and Human Services, the Environmental Protection Agency and Homeland Security. Cooperation and coordination between government agencies will be needed if we are to implement tobacco policy reforms that serve growers, the public health and responsible and accountable tobacco companies.

The Chairman of the full Agriculture Committee, Mr. Goodlatte has said that he 'works to ensure that American producers can succeed in today's market place'. If that is the case we hope that he and the Subcommittee will provide the necessary leadership to thoroughly consider needed *tobacco* agricultural reforms as it considers the broader issues related to the future of tobacco agriculture in this country.

Respectfully Submitted,

Steering Committee

Rod Kuegel
Former President, Burley Tobacco Growers Cooperative
Tobacco Farmer

Andrew Shepherd
Virginia Representative to Flue Cured Tobacco Stabilization Cooperative
Tobacco Farmer

Jeff Nesbit
Former Chief of Staff to FDA Commissioner David Kessler
Former Communications Director to Vice President Dan Quayle

Keith Parrish
National Tobacco Growers Association
NC Representative to Flue Cured Tobacco Stabilization Cooperative

Rich Hamburg
Former Director of Government Relations, American Heart Association

Henry West
President, Burley Tobacco Growers Cooperative
Tobacco Farmer

Johnny Shelley
President, South Carolina Tobacco Growers Association
Tobacco Farmer

Ridge Schuyler
Former Legislative Director to Senator Charles 'Chuck' Robb (VA-Rtd)

Rebecca Reeve
Former Director, Southern Tobacco Communities Project
Public Health Advocate

Scott Ballin
Former VP and Legislative Counsel, American Heart Association
Former Chairman, Coalition on Smoking OR Health

National Corn Growers Association
www.ncga.com

National Corn Growers Association
Written Statement Submitted for the Record
Before the
House Agriculture Subcommittee on
General Farm Commodities and Risk Management
Washington, D.C.
September 29, 2005

The National Corn Growers Association (NCGA) appreciates the opportunity to submit written comments for the record on the impact of high natural gas prices on farmers.

Growers rely on affordable natural gas as a feedstock for fertilizer, but also energy for irrigation, powering farm equipment, drying grain and producing ethanol. Increased natural gas prices have already had an adverse effect on farmers due to higher production costs. This trend is expected to worsen in the future. Whether used directly as a feedstock or for heat and power generation, reasonably priced natural gas is essential to grower profitability. Our ability to be efficient and environmentally friendly corn producers will face huge obstacles if our nation cannot come to terms with its desire to have limitless resources, like natural gas, and not realize that these resources have to come from somewhere.

- ***Fertilizers account for more than 40 percent of the total energy input per acre of corn harvested.*** The largest cost component of making all basic fertilizer products is natural gas, accounting for more than 90 percent of the cash cost of production. A $1 per mmBTU increase in natural gas translates into a $33 per ton increase in the cost of producing ammonia. The farm price for anhydrous ammonia has increased 70 percent since its 1999-2000 average of $245 per material ton to an average price in spring 2005 of $416 per ton. Urea and UAN prices have also increased by almost 60 and 40 percent respectively since 1999. Spring 2006 prices for anhydrous ammonia are expected to top $500 per ton.

- ***Nitrogen fertilizer is a key input for the bountiful yields achieved by U.S. corn farmers.*** Natural gas is the primary feedstock used in the production of virtually all nitrogen fertilizers. Farmers have seen the price of nitrogen fertilizer (comprised mostly of natural gas) increase from $175 per ton in 2000 to more than $400 per ton during the 2005 planting season. The 2006 planting season price for nitrogen could hit $500 per ton throughout the Midwest.

- ***Offshore imports now account for half of the total U.S. nitrogen fertilizer supply.*** Reliability of in-season supply is a critical issue with fertilizer imports. It can take up to two months to transport the imported product to the major Midwest markets. Anhydrous ammonia has a highly specialized distribution, storage and handling system, which has been constructed around a North American supply base. There is a limited infrastructure to offload, store and transport imports. Farmers face higher nitrogen fertilizer prices and the prospect that there might not be an adequate supply of nitrogen fertilizer to satisfy farmers' demands at any price.

- ***Higher natural gas prices will also negatively impact this country's growing ethanol industry***. The second biggest cost in ethanol production – second to feedstock – is the cost of energy, generally natural gas. Energy costs typically make up about 15 percent of a dry-mill plant's total costs.

Government policy has created a supply squeeze for natural gas over the last decade. On one hand, electric utilities and other industries are moving away from using our plentiful supplies of coal and towards the use of natural gas. Natural gas has been the fuel of choice for more than 90 percent of the new electric generation to come online in the last decade. As that happens, our access to natural gas is also limited due to environmental policy. Clearly, we can't have it both ways. We can produce corn, but we need Congress to produce the kind of policy that enables us to use the needed resources to do so. Congress needs to enact natural gas policy to further develop all energy resources for a more diverse portfolio, and environmentally sensitive production of adequate domestic supplies of natural gas.

Simply, farmers need access to reliable sources of energy and raw materials so they can use the fertilizers necessary to produce an abundant, affordable and healthy food supply. We urge Congress to promote the expanded production and construction of infrastructure for natural gas and other domestic energy resources to help secure future economic growth for our nation.

Thank you again for the opportunity to provide comments.