Iowa Ag Review

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What's Inside?

The Current Situation

CARD/FAPRI Analyses

Special Articles

Emerging Issues

Meet the Staff

Average Farm Prices Received By Iowa Farmers

	Sep 1994	Aug 1994	Sep 1993
		$/Bushel	
Corn	1.97	2.06	2.11
Soybeans	5.21	5.51	6.19
Oats	1.28	1.21	1.50
		$/Ton	
Alfalfa	76.00	77.00	93.00
All Hay	73.00	73.00	89.00
		$/Cwt.	
Steers & Heifers	66.10	67.00	74.00
Feeder Calves	88.30	89.20	91.20
Cows	42.90	42.70	47.90
Barrows & Gilts	36.40	43.50	49.00
Sows	28.20	30.70	36.80
Sheep	32.30	30.10	28.80
Lambs	81.00	80.80	63.50
		$/Lb	
Turkeys	0.40	0.39	0.38
		$/Dozen	
Eggs	0.37	0.35	0.36
		$/Cwt.	
All Milk	12.40	12.00	12.90
		$/Head	
Milk Cows	1,120	1,120	1,160

Iowa Farm Income Indicators

	1994	1993	1992
		Million Dollars	
Crop Cash Receipts Jan - Jun Total	1,669	2,174	2,062
Livestock Cash Receipts Jan - Jun Total	2,764	2,905	2,783

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Recent CARD Publications

Technical Reports

94-TR 29. "Yield Estimation throughout the Growing Season." **John R. Kruse** and **Darnell Smith**. June 1994.

Working Papers

94-WP 119. "Estimating Changes in Planted Acreage in Iowa throughout the Planting Season." **John R. Kruse** and **Darnell Smith**. February 1994.

94-WP 120. "The Safety Net of Farming: An Introduction and Literature Review of Agricultural Insurance and Other Stabilization Policies and Proposals." **Chad E. Hart** and **Darnell B. Smith**. March 1994.

94-WP 124. "FAPRI U.S. Crops Model: Review and Suggestions." **John R. Kruse** and **Chad E. Hart**. September 1994.

FAPRI Staff Reports

FAPRI 1-94. "FAPRI 1994 U.S. Agricultural Outlook." April 1994.

FAPRI 2-94. "FAPRI 1994 International Agricultural Outlook." May 1994.

GATT Research Papers

93-GATT 4. "GATT and CAP Reform: Different, Similar, or Redundant?" **Michael D. Helmar, William H. Meyers**, and **Dermot J. Hayes**. December 1993.

94-GATT 2. "Brazilian Agriculture and Policy Changes under GATT." **Michael D. Helmar**. January 1994.

94-GATT 18. "CAP Reform Studies: A Comparison." **Chad Hart**, **Michael D. Helmar**, **Dermot J. Hayes**, and **William H. Meyers**. April 1994.

94-GATT 22. "Uruguay Round Agreement on Agriculture: Summary of Commitments from Selected Country Schedules." **V. Premakumar**, **K. Oerter**, **D. Smith**, and **W. Meyers**. August 1994.

Briefing Papers

93-BP 1. "1993 Iowa Agriculture Disaster Preliminary Estimates." **Darnell Smith**, **John Kruse**, Robert Wisner, and Daniel Otto. October 1993.

94-BP 2. "Alternative Policy Options to Address Agricultural Instability." **Chad Hart**, **Darnell Smith**, and **William H. Meyers**. March 1994.

94-BP 3. "Agriculture, Conservation, and the Environment: A Unified Policy." **Chad E. Hart** and **Darnell B. Smith**. May 1994.

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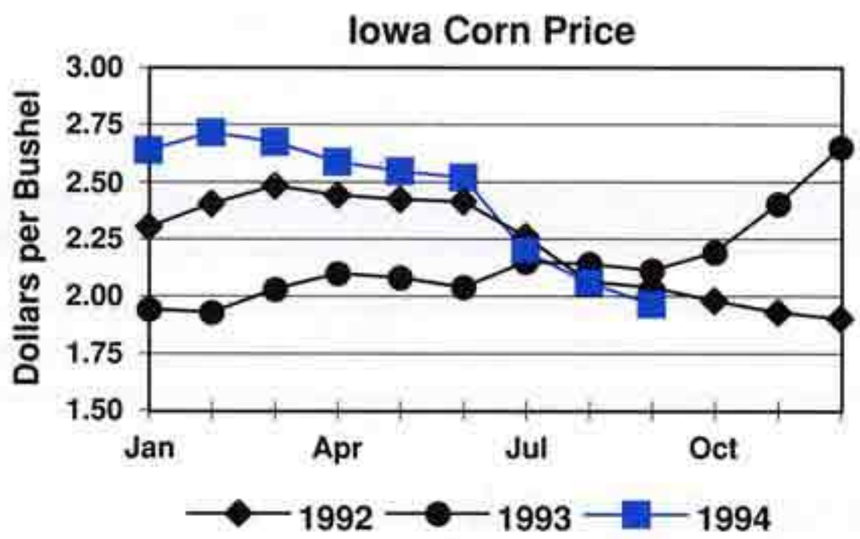
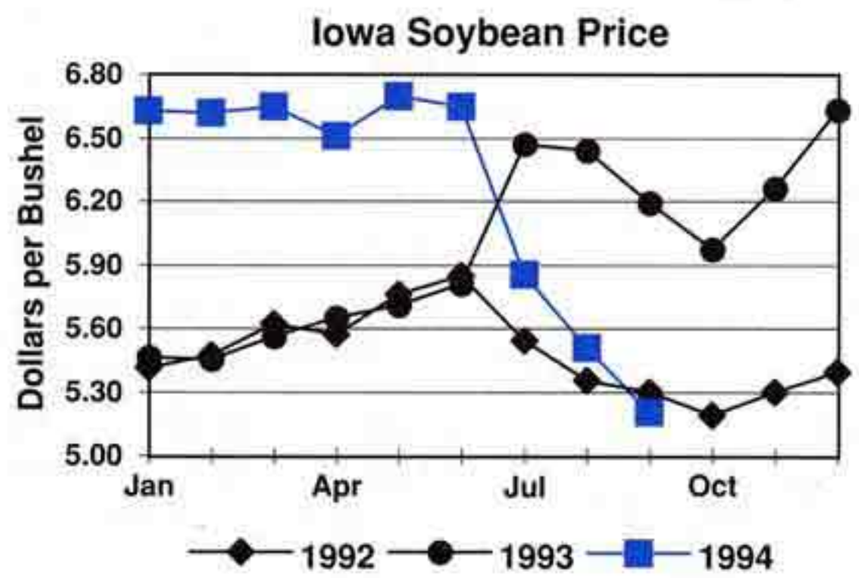
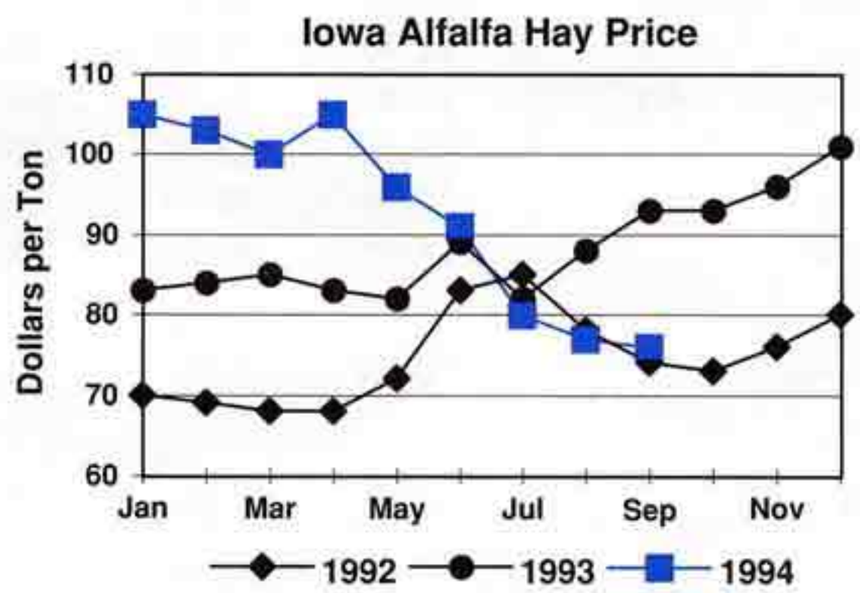
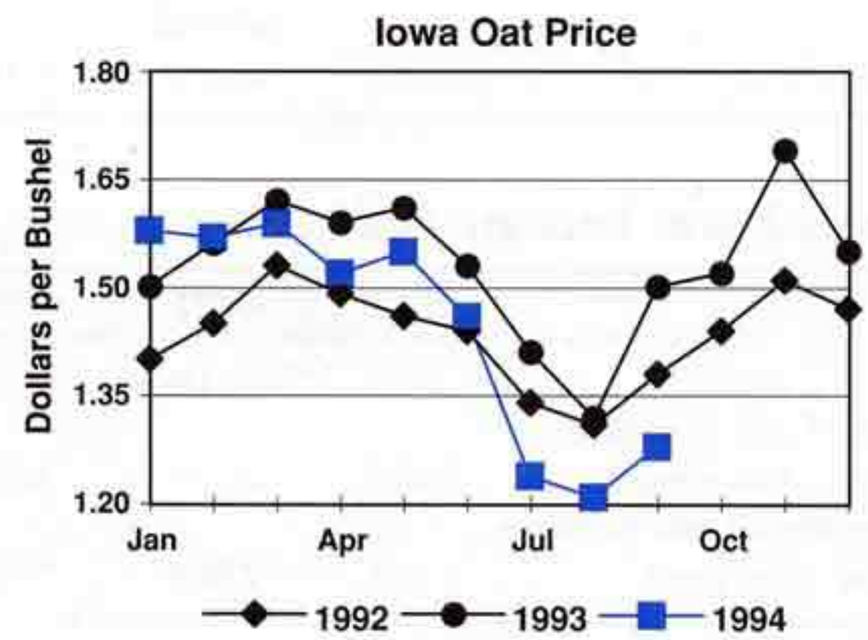








The Current Situation In Iowa

Weather and Yields

(John R. Kruse 515-294-6183)

After the flooding of 1993, growing conditions in 1994 appear to have been nearly ideal. As of October 9, 1994, 99 percent of the corn crop and 98 percent of the soybean crop in Iowa were rated in good to excellent condition. The last record yields for corn and soybeans in Iowa were set in 1992 at 147 bushels per acre for corn and 44 bushels per acre for soybeans. For both corn and soybeans, 1994 crop conditions are better than 1992 levels. In 1992, 70 percent of the corn crop was rated in good condition and 22 percent of the corn crop was rated in excellent condition, compared with 50 percent of the 1994 corn crop in good condition and 49 percent of the 1994 corn crop currently in excellent condition. For soybeans, 69 percent and 20 percent were rated in good and excellent condition in 1992, compared with 49 percent in good condition and 49 percent in excellent condition for the 1994 crop. With crops in better condition than 1992, the probability of new record yields is very high. CARD analysis based on technology growth and crop conditions as of October 9 suggested new record yields in Iowa of 151 bushels per acre for corn and 48.9 bushels per acre for soybeans. In the November issue of *Crop Production*, USDA estimated Iowa average yields at 152 bushels per acre for corn and 51 bushels per acre for soybeans.

While record yields appear to be shaping up for Iowa, other states are not faring quite as well. Just to the south, Missouri's crop did not experience the good growing conditions we had in Iowa. As of the last crop condition report on October 9, 43 percent of the Missouri corn crop was rated in fair condition and only 3 percent in excellent condition. CARD estimates, based on October 9 crop conditions, that Missouri corn yields will average 119 bushels per acre compared with 135 bushels per acre in 1992. Soybeans in Missouri were reported in slightly worse shape than corn with 54 percent rated fair and only 3 percent rated in excellent condition. CARD estimates, based on October 9 crop conditions, that Missouri soybean yields will average 33 bushels per acre, down from an average of 38 bushels per acre in 1992. Kansas, North Carolina, Ohio, and other states are also experiencing less favorable growing conditions. Despite less favorable growing conditions in these states, U.S. average yields for corn and soybeans are expected to reach new records in 1994. USDA esti-

mates, reported in the November issue of *Crop Production*, suggest that U.S. corn yields will average 138.4 bushels per acre compared with the 1992 record of 131.4 bushels per acre. The USDA projects that U.S. soybean yields will average 41.5 bushels per acre in 1994, 3.9 bushels above the 1992 record.

Prices at Harvest

With record yield levels for the United States, 1994 crop production is expected to be quite large. The USDA estimates that 1994 U.S. corn and soybean production will be 10 billion bushels and 2.5 billion bushels, respectively. Expectations of a large crop have already forced commodity prices significantly lower. With a 10 billion bushel corn crop, the Iowa season average corn price is projected to be in the $1.85 - $1.95 per bushel price range with average harvest period prices in the $1.75 to $1.85 per bushel range. Iowa season average prices for soybeans are expected to fall in the $5.05 to $5.25 per bushel range with average harvest period prices in the $4.85 to $5.00 per bushel range.

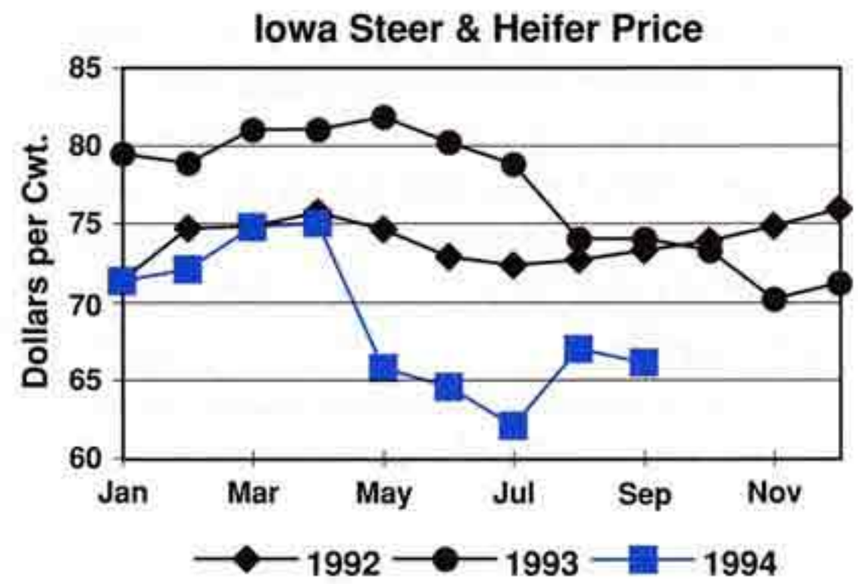
Policy Announcements

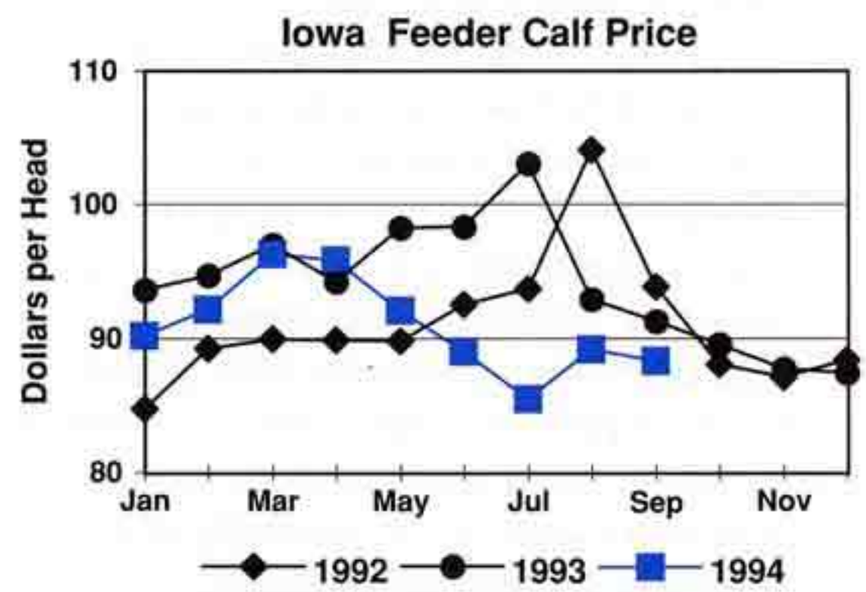
The Secretary of Agriculture is required by law to announce ARP (set-aside) rates before planting season. For wheat, the Secretary must announce a preliminary ARP rate by June 1 of the year prior to the calendar year in which the crop is harvested. The secretary must make any changes in the preliminary ARP rate by July 31 of the year prior to the calendar year in which the crop is harvested. Secretary Espy set the ARP rate for the 1995 wheat crop at 0 percent. The preliminary ARP rates announced on September 30 became final November 15, setting an ARP rate of 7.5 percent for corn and 0 percent for sorghum and barley. The 1990 FACTA set the oats ARP at 0 percent through 1995.

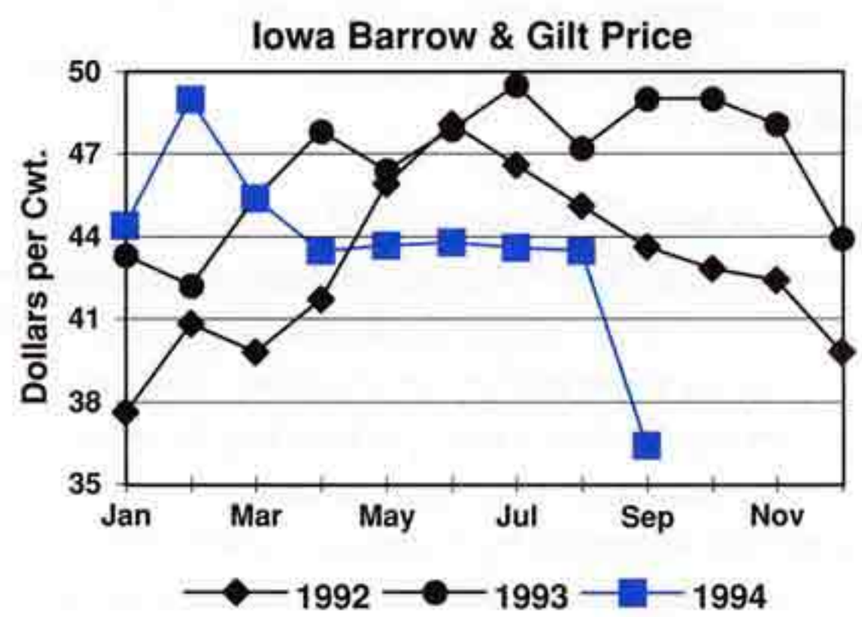
Near Term Outlook for the Pork Sector

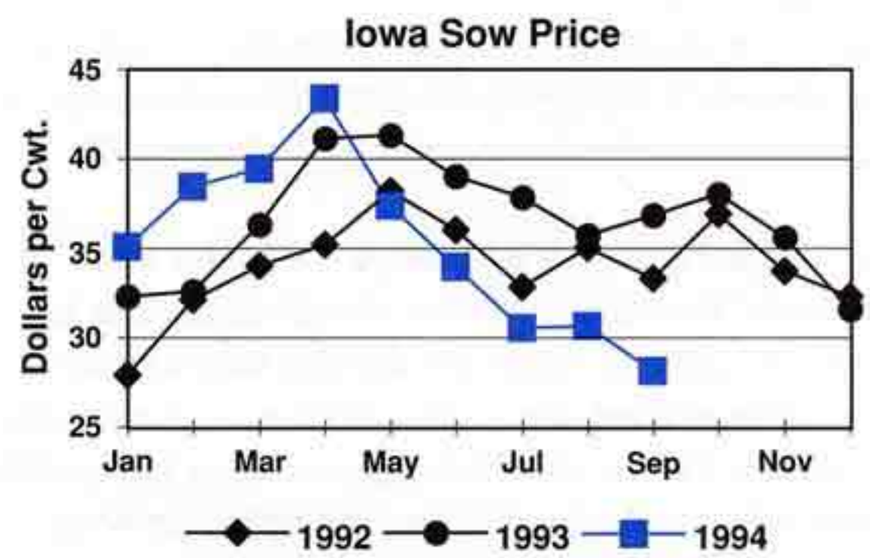
(Seth Meyer 515-294-6183)

The USDA reported in the September issue of *Hogs and Pigs* that, for the third consecutive quarter, hog inventories throughout the United States were above previous year levels with the largest inventories existing since 1980. The USDA estimated that total hog inventories as of September 1 were 4 percent above the same time last year. In previous quarters, USDA estimated total hog inventories were 3 percent higher on June 1 and 1 percent higher on March 1 from the same time last year. Not only have market









hog inventories increased, but the breeding herd inventory continues to expand, further increasing potential production and keeping prices low. Breeding herd inventories for September were estimated to be 4 percent above 1993 levels with farrowing intentions for December through February up 5 percent from the same period last year. If producers follow through with their stated intentions, the increased supply of hogs will continue as the hogs from those farrowings come to market in the third quarter of 1995.

This raises the question, "Will hog production continue to expand?" In the past, producers have ridden out 12 months of losses before a breeding herd liquidation begins. ISU *Extension's Estimated Returns for Farrowing and Finishing Hogs in Iowa* shows producers have been in the red since December 1993. This would suggest that breeding herd liquidation may take place in the first quarter of 1995. But it contradicts the farrowing intentions in the September 1 report for the December to February 1995 period which showed a 4 percent increase. Remembering that this is an intention stated before having experienced 12 months of losses suggests the possibility of a downward revision in farrowing intentions in the December 1 report. Even with a downward revision in farrowing intentions, supplies will remain above the previous year levels until at least the end of the third quarter of 1995.

Iowa has not been contributing to the recent surge in pork production. This raises the concern of whether or not Iowa, the nation's largest pork producing state, will hold its market share in pork production. The September 1, 1994 report shows that the breeding herd remained constant from a year ago while the whole U.S. breeding herd increased by 4 percent. Iowa's share of the U.S. breeding herd has fallen from 25 percent in 1992 to 23.3 percent in 1993 to 23 percent in 1994. The decline in share was due to a relatively stable number of market hogs in Iowa, while the United States overall showed a 4.9 percent increase in market hogs on hand from September 1, 1992 to September 1, 1994.

Is this a signal of Iowa's decline as the leader in pork production? In order to answer this question one has to take into account recent events that may explain Iowa's recent market share slip. 1992 was an unprofitable year for Farrow to Finish operations in Iowa. The Extension Service at Iowa State University reported losses in the estimated returns from Iowa farrowing and finishing hog operations for 6 of 12 months in that year, and even profitable months were only marginally so. In 1993, Iowa had to contend with severe flooding, which caused economic hardship and increased feed costs. In addition, structural changes have been occurring in the pork industry with a move toward larger farms. Much of the expansion in the current cycle could be associated with these larger farms. With laws discouraging corporate farming, fewer large hog farms have located in Iowa when compared with surrounding states. However, Iowa continues to have, relative to the rest of the United States, lower feed costs and excess slaughter capacity, giving it a competetive advantage in pork products. The coming recovery may give early indications of Iowa's future place in pork production.

With prices averaging $40 per cwt for the second quarter of 1994, and live hog prices currently falling to below $30, one could speculate that we may already be entering a period of breeding herd liquidation. The most recent sow slaughter for the week ending October 22 showed an increase of 11 percent head in U.S. sow slaughter from the previous year. However, even if this trend would continue for the rest of the quarter, only 84,000 additional sows would be slaughtered over last year, or only 1 percent of the breeding herd based on September inventory numbers. The gilt replacement rate remains unknown.

We can expect prices to remain in the low $30s for the first and possibly second quarters of 1995 with a few dollars per cwt. being added to the farm-level live hog price as the currently high farm-to-retail price margin is distributed between consumers and producers after a 6 to 9 month lag. If the December to February farrowing intentions are revised downward, we are likely to see prices average in the mid to upper $30s through March 1, 1996.

The price recovery will come, but will likely not reach the price levels of past recoveries, and will be at the expense of the marginal producers. The newest large-scale operations, which tend to be low cost producers, are capital intensive and less able to move in and out of production. Therefore we will see a recovery, but under a changed market structure it will likely be less dramatic than the recoveries of previous cycles.

International Developments

(Karen Oerter 515-294-6175)

World Soybean Production

The USDA preliminary estimates for 1994/1995 world soybean production are currently set at 127.75 mmt, or about 10 percent above the 1993/94 level. This increase is due primarily to a bumper crop in the **United States**, estimated as of August to be 62.12 mmt for the 1994/1995 crop year, which is a 26 percent increase over the 1993/1994 crop. Argentina is forecast to produce 12.5 mmt of soybeans in 1994/95, up slightly from an estimated 12.2 mmt crop in 1993/1994. **Brazil** is expected to hold its soybean production at 24.3 mmt in 1994/1995, down slightly from 1993/94 production of 24.5 mmt.

Canada is expected to have record production for both soybeans and rapeseed in 1994/1995. Rapeseed and soybean area in Canada continues to expand in response to favorable prices and yields. In 1993/1994, Canada produced 5.4 mmt of rapeseed, and forecasts are calling for 7.2 mmt of rapeseed to be produced in 1994/1995. The majority of Canadian rapeseed exports find their way to Japan. In the **European Union**, **France** is forecast to expand oilseed area by 16 percent in 1994. The majority of this area expansion will go to rapeseed production for industrial use on set-aside land. In **Italy**, oilseed production decreased 36 percent in 1993, due to CAP reform, which reduced the attractiveness of oilseeds relative to other crops such as wheat and corn. In 1994 however, there will be a 37 percent increase in oilseed area in Italy, switching some corn back to soybeans, but the majority going to sunflower seed on set-aside land. Elsewhere, **India** is expecting a record soybean crop, estimated at 4.2 mmt, while **China** is expected to hold its soybean area at the record 1993/1994 level of 9.7 million hectare. Yields, however, are expected to be lower in China in 1994/1995, resulting in production of only 13.8 mmt, or about 10 percent below last year's level.

Figure 1. 1994 World Soybean Production Million Metric Tons

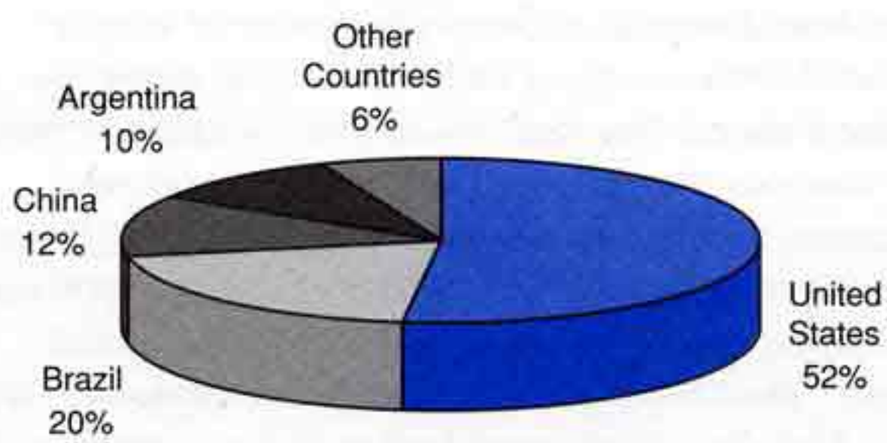
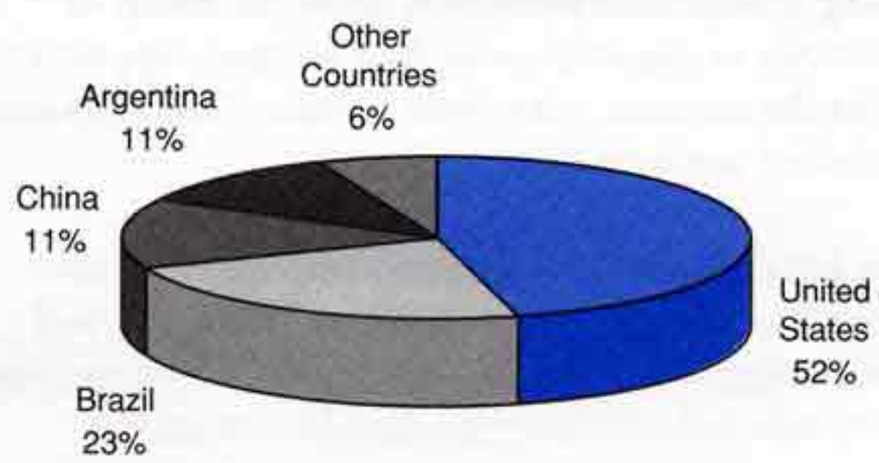


Figure 2. 1993 World Soybean Production Million Metric Tons



CARD/FAPRI Analysis

The Iowa Baseline

(John R. Kruse 515-294-6183)

Each year the FAPRI analysts conduct a baseline projection for U.S. and international agriculture. This baseline is unlike the traditional forecast in that it does not necessarily represent the most likely scenario for future events. This is because the FAPRI baseline is predicated on a continuation of current farm policy with normal weather conditions. Many times, when the baseline is created, it is generally accepted that some part of the current farm program will change; however this anticipated change is not incorporated into the forecast. One may wonder why the most likely scenario is not considered. Since the FAPRI analysis is funded by and prepared primarily for Congress, it is designed to meet their needs. Congress typically tends to view changes in U.S. agricultural policy in comparison with existing policy. Subsequently, the baseline serves as a benchmark from which changes in farm policy can be evaluated.

The Iowa baseline is constructed by CARD in the same manner as the U.S. and international baseline projections and assumes a continuation of current farm policy. Links to U.S. policy variables and farm prices are maintained in the Iowa model. The Iowa baseline consists of ten-year annual projections for Iowa crops, livestock, and farm income. Changes in U.S. farm policy are evaluated with the Iowa model by incorporating the changes, solving the model, and comparing the new results with the baseline. If you are interested in the Iowa Baseline, please order a copy of the forthcoming 1995 Iowa Agricultural Outlook- February 1995. (Ordering information on page 15.)
Two policy analyses (the GATT Agreement and the CRP Program) using the Iowa model are presented in this issue of *Iowa Ag Review*.

The GATT Agreement: A Layperson's Description

(John R. Kruse 515-294-6183)

What is the General Agreement on Tariffs and Trade (GATT)? The GATT may be best described as an ongoing process through which trade distortions among countries are defined and targeted for reduction. There have been seven previous GATT agreements over the years. The recent GATT agreement represents the eighth round of trade negotiations and is often called the Uruguay Round in reference to Punta del Este, Uruguay, where the agenda was set in 1986.

The Uruguay Round of trade negotiations was the first to achieve committments on trade distortions in agriculture. Agricultural trade distortions were chosen largely due to increasing budgetary constraints for agricultural programs around the world. An agreement from the Uruguay Round was finally reached in December 1993, after seven years of negotiations with 117 nations participating. Despite the fact that an agreement was reached, the U.S. Congress still has to approve the agreement for it to become U.S. law. With the agreement slated to take effect on July 1, 1995, the lawmakers will have to move quickly to pass GATT implementing legislation if the GATT agreement is to be approved it its present form. If GATT is not approved by Congress by the spring of 1995, many of the agreements will have to be renegotiated.

While the Uruguay Round of GATT negotiations did focus on areas other than agriculture, agriculture was very prominent. The four areas of negotiation (called disciplines) were: market access, export subsidization, internal support, and sanitary and phytosanitary measures. Market access was defined as the amount of imports of a particular country that are allowed to enter that country with little or no tariff and no nontariff barriers. The majority of countries currently have import tariff or nontariff barriers of some kind on some or all of their agricultural products. The goal of negotiating market access was to increase trade by opening markets that were previously inaccessible. To determine market access levels, a base period of 1986-1988 was selected from which changes in market access could be negotiated. Negotiations led to starting and ending market access rates being set. The starting rate of market access beginning in 1995 was set at 3 percent of a country's domestic consumption over the 1986-1988 base period. This rate would increase to 5 percent of the countries' domestic consumption by 2000 and then level off. For example, the United States must allow 5 percent of its domestic butter consumption to enter with low tariffs. This does not mean that 5 percent of domestic butter consumption must enter, but if world prices are such that foreign countries would like to export butter to the United States with low tariffs, they may do so on up to 5 percent of U.S. consumption.

The next discipline, export subsidy reduction, requires countries to reduce both the amount of money spent on subsidies and the quantity of the commodity exports subsidized. Budget pressures for many countries, especially the European Union (EU) and the United States, are really what made this a key topic of negotiation. Similar to market access, a base period from which reductions would be made was negotiated. In the case of export subsidies, the greater of the 1986-1990 average subsidized exports and expenditures or the 1991-1992 average subsidized exports and expenditures was chosen as the base period. Negotiations resulted in two levels of required reductions, one for subsidy expenditures and one for subsidized quantities. Total subsidy expenditures are to be reduced by 36 percent from the base level by 2000. The quantity of subsidized exports is to be reduced by 21 percent by 2000. For the United States, this means that spending on the Export Enhancement Program (EEP) and the Dairy Export Incentive Program (DEIP) will have to be reduced. However, concerns over the federal budget deficit may reduce expenditures on EEP and DEIP anyway.

The next discipline addressed was internal support. Most countries support their agricultural sectors in some manner. Negotiations on this discipline centered on discouraging the practice of increasing internal supports to offset a reduction in trade barriers. From the negotiated base period of 1986-1988, a 20 percent reduction in internal supports by 2000 was agreed upon. The United States is already in compliance with this discipline given the reduction in target prices and in payment acreage from flex. Many other countries are also in compliance with this discipline, but the ruling is important because it limits the ability of countries to simply expand their internal support to offset the required reductions in export subsidies and increased market access.

The last discipline, sanitary and phytosanitary measures, was designed to synchronize food safety and health regulations across countries by setting uniform standards and establishing scientific monitoring

committees that can make binding assessments. In the past, countries had used food safety and health regulations to restrict imports which may or may not have posed heath problems. This discipline seeks to insure that scientific fact is used to set standards.

In addition to the standard agreements on the four disciplines, many side agreements were also negotiated. The specifics of the GATT agreement and side agreements listed by country are found in the CARD GATT Research Paper 94-GATT 22 entitled "Uruguay Round Agreement on Agriculture: Summary of Commitments from Selected Country Schedules."

Implications of the GATT Agreement for Iowa Agriculture

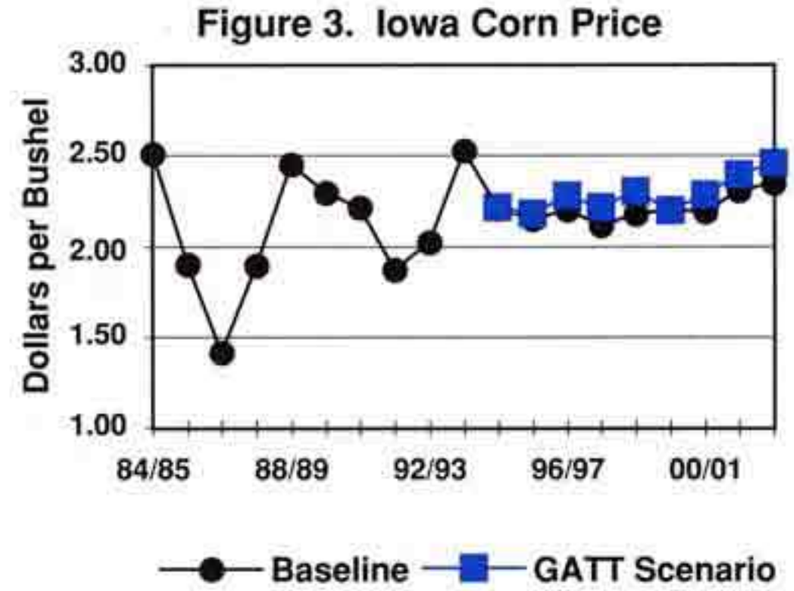
(John R. Kruse 515-294-6183)

The FAPRI analysis indicates that nearly all U.S. agricultural commodities benefit under GATT, although some commodities experience larger impacts than others. CARD extended the FAPRI analysis to commodities important to Iowa, such as corn, soybeans, and pork and found that all are significant winners under the Uruguay Round Agreement.

Beginnning with corn, Iowa producers would realize increases in demand from two sources. The first source is increased exports. Because the European Union (EU) has committed to maintaining corn imports of 98 million bushels, and the United States has a comparative advantage in corn production, corn exports from the United States are expected to grow. In addition, under GATT, increased incomes around the world are expected to increase livestock production, further raising the demand for U.S. corn. In total, with full implementation of GATT, U.S. corn exports are expected to increase an average of 121 million bushels, over the 2000 to 2002 period compared with baseline levels.

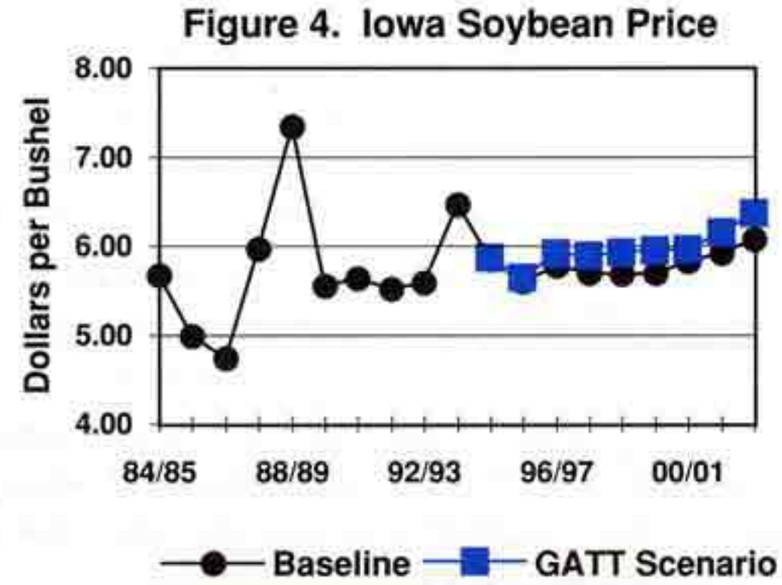
The second source is greater domestic demand for corn through increased livestock production. With higher incomes around the world, more livestock exports are expected, particularly for pork. In total, U.S. domestic consumption is expected to increase by an average of 49 million bushels compared with baseline levels over the 2000 to 2002 period. With the stronger demand for corn, prices are expected to increase. However, as prices increase, the Secretary of Agriculture is expected to reduce the Acreage Reduction Program (ARP) rate from the 7.5 percent figure projected in the baseline. Beginning in 1999, higher corn prices from GATT are expected to motivate the Secretary to reduce the ARP rate to 5.0 percent. Reducing the ARP increases production in 1999 and drops prices back down to baseline levels. However, the momentum in exports and domestic demand increases prices above baseline levels after 1999. In Iowa, stronger prices and a reduction in the ARP rate translated into a significant increase in corn acres planted. When GATT is fully implemented, corn acreage planted in Iowa is expected to average 295 thousand acres (2.5 percent) higher than baseline levels with corn prices averaging $0.09 per bushel higher over the same period (see Figure 3).

Figure 3. Iowa Corn Price



Iowa soybeans are also expected to benefit from GATT, but not as much as corn. Relatively few trade barriers exist for soybeans and consequently, soybean exports are not expected to increase significantly under GATT. However, despite a reduction in EEP subsidies for U.S. soybean oil, increases in income around the world from GATT are expected to offset the reduction in subsidized exports and U.S. soybean oil exports are expected to increase. Soybean prices in Iowa are expected to average 20 cents per bushel higher over the 2000 to 2002 period when GATT is fully implemented (see Figure 4). With competition from corn, soybean planted acres are expected to remain at baseline levels.

Figure 4. Iowa Soybean Price



The Iowa pork sector benefits most from the GATT agreement. U.S. producers are expected to fill the gap created by the EU export reductions and increased market access, particularly to non-EU Western Europe, Japan, and Hong Kong. The U.S. net pork trade position improves by nearly 1 billion pounds, 6 percent of production by 2002, supporting breeding herd increases of almost 7 percent (see Figure 5). Barrow and gilt prices average 2.7 percent higher than baseline levels over the 1995 to 1999 phase in period and 1.6 percent higher than baseline levels over 2000 to 2002 period.

Figure 5. Iowa Hog Price

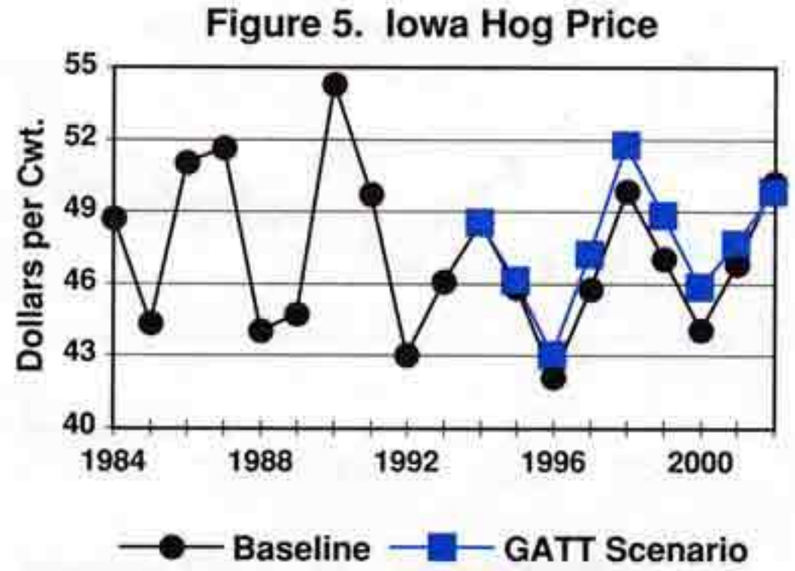
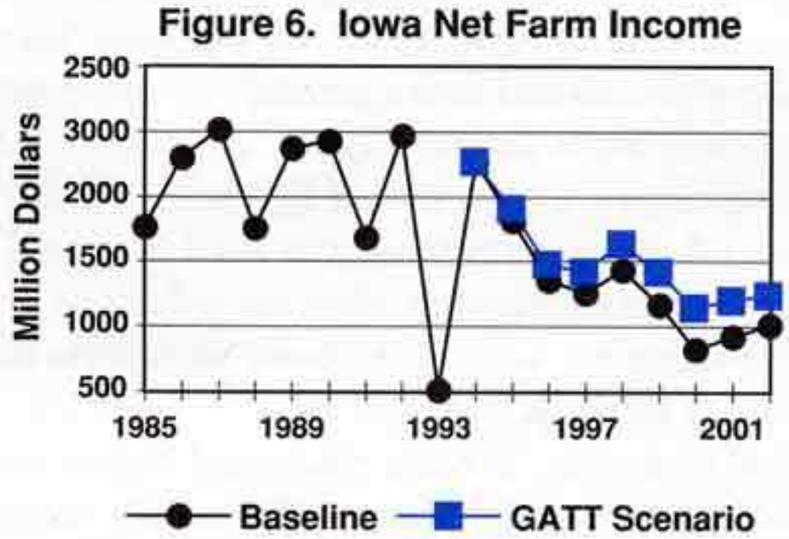


Figure 6. Iowa Net Farm Income



Corn and hog cash receipts account for most of the increase in Iowa cash receipts. By 2002, corn receipts are $184.1 million higher than the baseline and hog cash receipts are $110.8 million higher. Soybean and cattle cash receipts also benefit from GATT with an $83.1 million increase in soybean receipts by 2002 and an expected increase of $92.6 million in cattle cash receipts by 2002. Of course with higher corn and hog production, Iowa farm production expenses are also expected rise. Total production expenses are expected to be $221.1 million higher by 2002, an increase of 2.0 percent. The bottom line for Iowa net farm income shows an increase of $225.5 million by 2002, averaging $205.2 million higher each year over the 1995 to 2002 period (see Figure 6).

The Conservation Reserve Program

(John R. Kruse 515-294-6183)

The Conservation Reserve Program (CRP) was originally created in the 1985 Food Security Act to "assist owners and operators of highly erodible cropland in conserving and improving the soil and water resources of their farms or ranches." In exchange for a ten-year contract removing land from agricultural production and devoting it to a conserving use, farmers were to be paid a per acre payment each year for ten years. In addition, a cost share program was set up to assist producers with the cost of converting the land from agricultural production to conserving uses. The program was legislated in the 1985 Farm Bill to begin in 1986 with 40 to 45 million acres bid into the program by 1990. In addition, yearly goals were set up for the amount of acreage bid into the program. By the end of the 1986 crop year, 5 million acres were to be bid into the program. Before the end of the 1987 crop year, 15 million acres were to be enrolled. A total of 25, 35, and 40 million acres were to be enrolled by the end of the 1988, 1989, and 1990 crop years, respectively.

From 1985 to 1990 the program was administered at the county ASCS level. Counties within a state were grouped together and a multicounty maximum acceptable rental rate was assigned to each group. As long as the bid submitted by the producer was lower than the multicounty maximum acceptable rental rate and the land was "highly erodible", the bid was accepted. With the enrollment goals legislated in the 1985 Farm Bill, ASCS found itself looking for acres to enroll. To comply with the law, some acreage with only marginal erodibility was accepted into the program. In addition, the multicounty maximum acceptable rental rates were more competitive with wheat returns in the western United States than with corn and soybean returns in the Midwest. Subsequently, a large proportion of the acreage bid into the CRP program was wheat acreage. Over the 1985 to 1990 period, 30 percent of the acreage bid into the program was wheat base compared with only 11 percent of the acreage being corn.

Enrollment in the CRP program never reached 40 million acres. Concerns over the federal deficit reduced appropriations for the CRP program and only 33.9 million acres were bid into the program over the 1985 to 1990 period. With passage of the 1990 Food, Agriculture, Conservation, and Trade Act (FACTA),

expectations for the CRP program enrollment were scaled back to 38 million acres by 1995. In addition, the program was redefined to target not only highly erodible cropland but also to achieve other social benefits. Administration of the program was changed from local ASCS offices to the national ASCS office in Washington, D.C. Bids were no longer to be evaluated on the basis of multicounty maximum acceptable rental rates. Instead, a formula for calculating the societal and environmental benefits per dollar of federal cost was used to evaluate bids. In addition to erosion, this formula included other factors such as proximity to a densely populated area, leaching potential of the land, surface runoff potential, and location. While all of these factors were important in the formula, the inclusion of location allowed higher, more competitive bids with respect to corn and soybean acreage to be accepted in the Midwest. In the tenth sign-up, the proportion of corn acres enrolled jumped to 18 percent while the proportion of wheat acres enrolled dropped to 20 percent.

Three more sign-ups have been held since the 1990 FACTA bringing the total CRP sign-ups to twelve. Current enrollment stands at 36.5 million acres, 1.5 million acres short of the 38 million acre goal. With continuing concern over the federal budget deficit, it appears unlikely that the additional enrollment of 1.5 million acres will be funded. The contracts for 1986 are due to expire in 1995. With the future of the CRP program likely to be decided in 1995 legislation, USDA has announced a one-year extension option for contracts expiring in September 1995. Beyond 1996, no funding has been appropriated to continue CRP contracts. There has been considerable discussion over the possibility of extending CRP contacts. Among the possibilities is a reduced program that targets only certain types of land and seeks permanent easements on agricultural production. If CRP contracts are extended or rebid, it appears that at least some portion of the required funding may come from deficiency payments through lower target prices or higher normal flex rates.

Implications of Extending the Conservation Reserve Program for Iowa

(John R. Kruse 515-294-6183)

A variety of alternatives have recently been proposed for the future of the Conservation Reserve Program (CRP) program. Among the proposals are: elimination of the program, targeting specific land types for reentry into the program, allowing renewal of all contracts, and redefining the program to bid land in for a one time permanent easement payment. CARD evaluated five possible alternatives for extending the CRP program. The results of these scenarios are discussed below and presented in the corresponding graphs. Note that the results for Iowa should not be extrapolated to the whole United States. Results for the United States are different because other relevant crops, particularly wheat, are included.

Critical to the analysis are the assumptions about how CRP acreage returns to production after the contracts expire. The assumptions used in the CARD CRP analysis are based on a 1991 survey of farmers conducted by the Soil Conservation Service (SCS) to determine farmers' intentions after their CRP contracts expire. The survey indicates that only about 65 to 70 percent of all CRP acres would reenter field crop or hay production. However, the percentage reentering production varies by crop, with a higher proportion of corn base acres reentering production than wheat base acres. This result is incorporated in the assumptions made for each of the CRP scenarios. In addition, each of the scenarios assumes that land returns to production in the crop base from which it was bid out. In other words, if corn base was enrolled into the CRP program, it is assumed that when the contract expires, about 70 percent of the initial acreage will reenter corn production with the remaining 30 percent distributed among pasture, hay, trees, or wildlife areas. A more detailed discussion of assumptions will be included in the forthcoming CARD Staff Report entitled "Implications of Extending the Conservation Reserve Program."

CARD evaluated five possible alternatives for extending the CRP program: elimination of the program, renewal of contracts on land with greater than 30 tons of erosion per acre (14 percent of all acres contracted in Iowa), renewal of contracts on land with greater than 20 tons of erosion per acre (42 percent of all acres contracted in Iowa), renewal of 50 percent of all acres contracted without targeting acreage, and 100 percent renewal of contracts.

The first scenario, zero percent extension of CRP contracts, was actually the CARD baseline for 1994. Under this scenario, all CRP contracts are expected to expire and not be renewed. The second scenario, extension of 14 percent of the CRP contracts, targets specific acres. In this scenario, acres in Iowa with greater than 30 tons per acre of erosion are reenrolled in the CRP program (about 14 percent of currently enrolled acres.) In the third scenario, extension of 42 percent of the CRP contracts, acres with greater than 20 tons per acre of erosion are reenrolled in the CRP program. In the fourth scenario, extension of 50 percent of the CRP contracts, no acreage targeting is done. Instead, 50 percent of current CRP contracts are reenrolled with erosion varying from 1 ton per acre to over 100 tons per acre. Finally, the fifth scenario, 100 percent extension of current CRP contracts, reenrolls all of the CRP acres.

Each of these scenarios were first run at the U.S. level to determine the effects of program extension on total acres in production by crop. The scenarios which considered some extension of the CRP program naturally showed less production initially which led to higher prices. Less production and higher prices reduced stocks to use ratios for many of the program crops. This resulted in set aside rate (ARP rate) reductions from the no-CRP contract extension scenario. In effect, this allows CRP acres to trade for ARP acres. Thus, the more acres reenrolled in the CRP program, the lower the ARP rate can be set. This has proved very effective in wheat, considering that nearly 30 percent of the acreage enrolled in the CRP program is wheat base and the ARP rate has been set at 0 percent since 1993. Without nearly 11 million of acres of wheat base enrolled in the CRP program, ARP rates for wheat would certainly have been much higher.

Once each of the five scenarios were run at the U.S. level, changes in farm program parameters such as ARP rates were then extended to the Iowa level. Because policy changes are made at the U.S. level, the effects of extending the CRP program are not always what one would expect. Figure 7 presents the impacts of four of the five different scenarios on corn acreage planted in Iowa. (The 50 percent scenario is omitted because it is very similar to the 42 percent scenario.)

Note that as many corn acres are planted when 100 percent of the CRP contracts are extended as when none of the CRP contracts are extended! The reason this happens is quite interesting. In Iowa, about 1.2 million acres of corn base are enrolled in the CRP

Figure 7. Iowa Corn Planted Acres

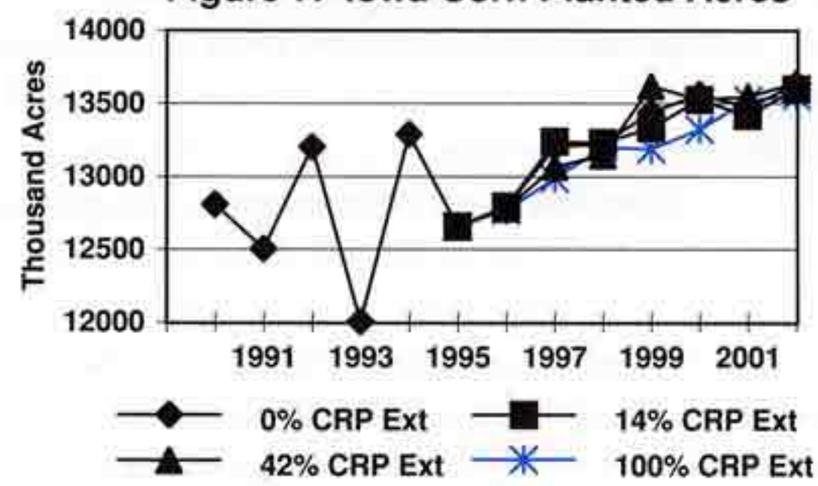
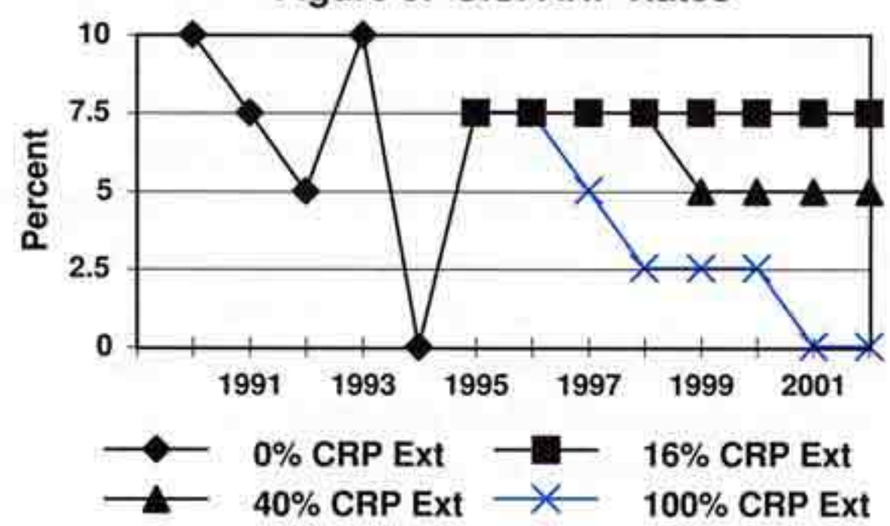


Figure 8. U.S. ARP Rates



program. Note that the ARP rate drops from 7.5 percent under the 0 percent extension alternative to 0 percent under the 100 percent extension alternative. Figure 8 displays the ARP rates under the four scenarios. This allows about 900 thousand acres that were formerly set-aside to be planted. Recall that under the 0 percent extension scenario, 20 percent of the corn base is assumed to go to hay, pasture, trees, and wildlife areas and 80 percent of the corn base returns to production. Thus about 240 thousand acres do not return to corn production. (Note that this assumption is critical to determining whether corn acres increase or decrease under the scenarios.) The combination of ARP reductions and acreage not returning to production keep corn acreage planted virtually the same under all five scenarios.

Iowa corn prices are closely tied to U.S. corn prices and not much difference in corn prices is expected. Because slightly less corn acreage is planted on the U.S. level under the 100 percent scenario, corn prices are higher (see Figure 9).

The impacts of extending the CRP program under the different scenarios for soybeans are what one would anticipate. With higher levels of acreage bid back into the CRP program, soybean acres planted decline with no corresponding ARP adjustment. Thus the highest level of acreage planted to soybeans in Iowa occurs in the 0 percent CRP extension scenario (see Figure 10).

Figure 9. Iowa Corn Farm Price

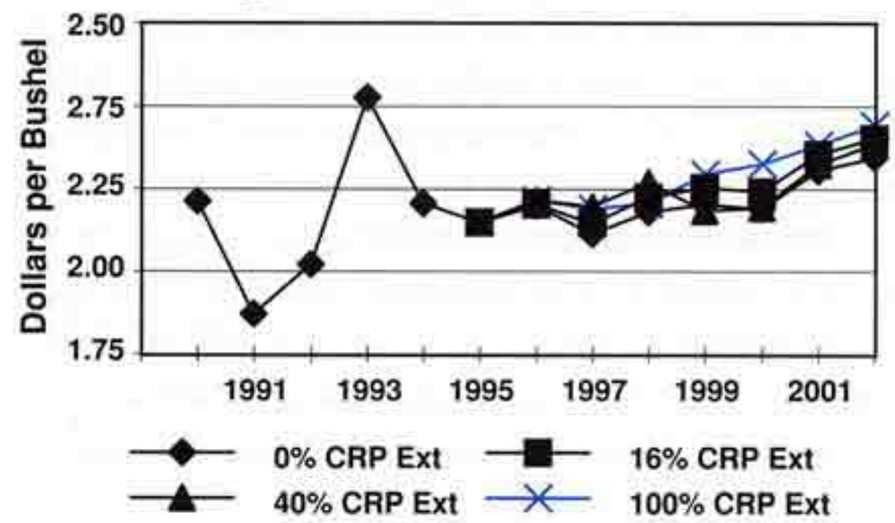


Figure 10. Iowa Soybean Planted Acres

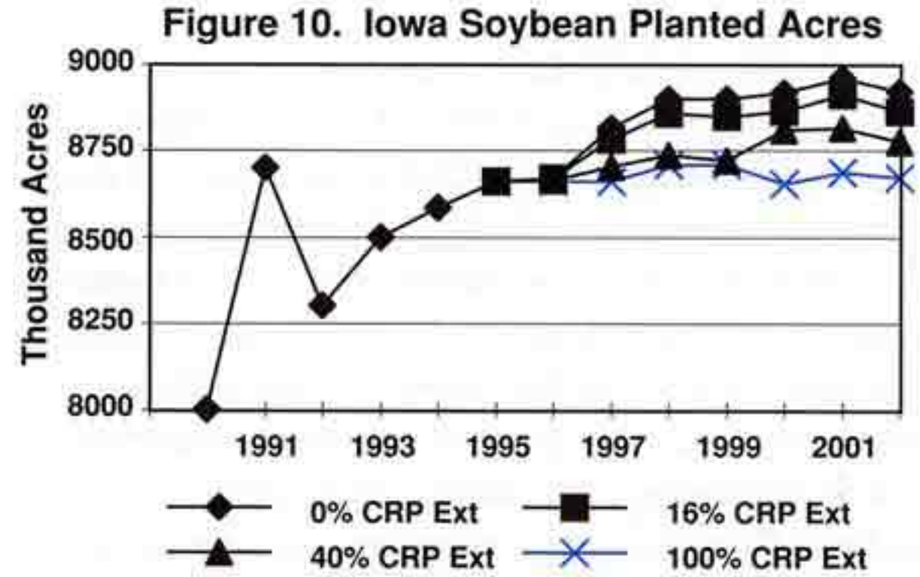
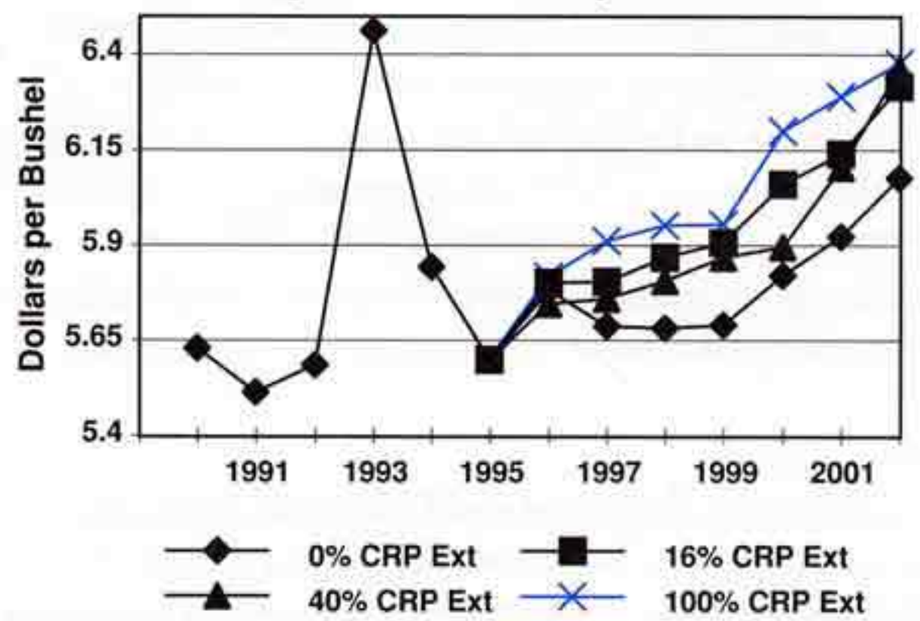


Figure 11. Iowa Soybean Price



Iowa soybean prices are also closely tied to U.S. soybean prices but unlike corn there is some price difference between the scenarios. With higher soybean production under the 0 percent CRP extension scenario, soybean prices are the lowest, ranging from $5.65 to $6.10 per bushel. Soybean prices are the highest under the 100 percent CRP extension scenario ranging from $5.75 to $6.40 per bushel (see Figure 11). Note that more price movement occurs in soybeans than corn because there is no ARP adjustment to offset soybean planted acreage.

Naturally, CRP payments to Iowa farmers increase as a larger proportion of the CRP contracts are extended. However, the effects on total government payments are less clear. Government payments are actually the lowest under the 14 percent CRP extension. This occurs because the increase in CRP payments from the 0 percent CRP extension scenario is offset by the reduced deficiency payments resulting from higher corn prices with no change in the ARP levels. Government payments are the highest under the 100 percent CRP extension scenario as larger CRP payments and lower ARP rates for corn offset lower deficiency payment rates from higher prices. Note, however, the relatively small difference in government payments to producers between scenarios (see Figure 12).

The bottom line is that Iowa farmers receive the most income under the 100 percent CRP extension scenario. In addition to the continuation of CRP payments, Iowa farmers would see an increase in corn cash receipts under the 100 percent CRP extension scenario. Surprisingly, the other scenarios where some portion of CRP contracts are extended are not far behind. Clearly the 0 percent CRP extension represents the least attractive option for farmers in terms of net farm income (see Figure 13) With no contract extension, producers lose not only CRP payments, but also face lower corn and soybean prices.

Figure 12. Government Payments

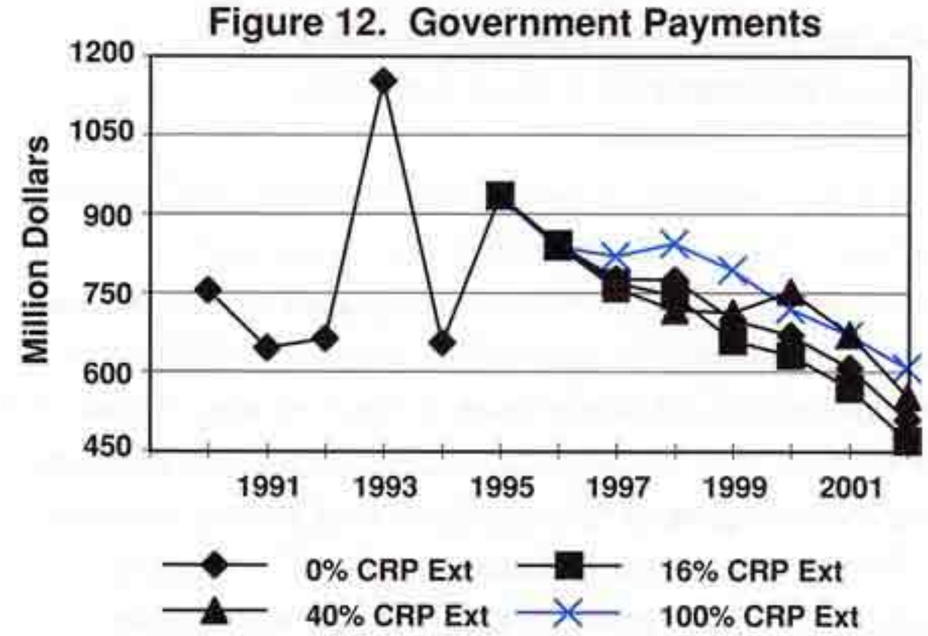
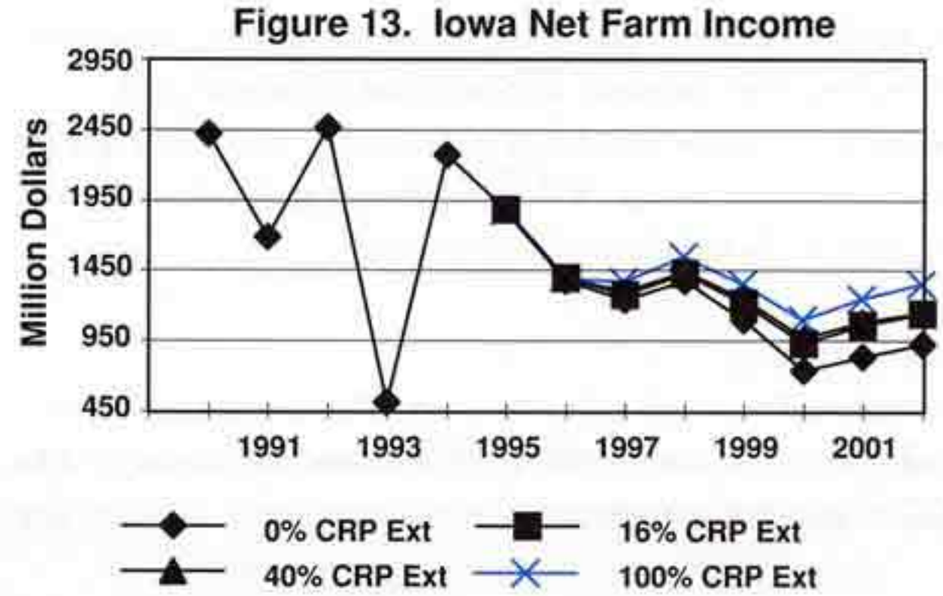


Figure 13. Iowa Net Farm Income



Special Articles

Environmental Issues in the 1995 Farm Bill

(P. G. Lakshminarayan and Bruce Babcock 515-294-6234)

Background

The perception is growing that U.S. agricultural policy has reached a major turning point. Increased trade opportunities with GATT, a continued decline in rural population, increased budgetary (fiscal) pressure, and growing environmental concerns are among the primary reasons. Because of these trends, nontraditional interest groups representing urban and environmental interests will play an increasingly important role in shaping future farm legislation. Urban interests see farm program payments as a source of scarce funding for their programs. Environmental groups are increasing their demands as recognition grows that policies for price stabilization and income maintenance affect the environmental performance of agriculture. The involvement of environmental groups in shaping agricultural policy is not new. It began in earnest with the new conservation title in the Food Security Act (FSA) of 1985, and continued with the Food, Agriculture, Conservation, and Trade Act (FACTA) of 1990. Concurrent with the growing environmental orientation of agricultural policies were attempts to make the farming sector more efficient by reducing the influence of farm programs on farmer decisions.

Potential conflicts between the producer and consumer welfare effects of commodity programs and the environmental performance of agriculture, as well as conflicts among the individual attributes (indicators) of environmental performance, such as soil, water, and air quality, and biodiversity, make integrated economic and environmental management and policy assessment difficult. Piecemeal policies that focus on a single indicator, while ignoring the fact that ecosystems are highly interrelated, are inadequate. Total environmental performance is best judged by a vector of indicators including soil erosion, agricultural chemical and nutrient concentrations in water, CO_2 and other greenhouse gas emissions, wildlife habitat and other ecological factors, and biodiversity.

Key Issues

To maintain a leadership role in this evolutionary era and retain the competitive edge in the increasingly free global market, consideration of innovative policies that improve economic efficiency, environmental performance, and reduce budget costs becomes increasingly important. Key issues in the upcoming policy debate will include 1) the formulation of a new CRP policy; 2) the formulation of how to more directly link farm payments to desired environmental outcomes; 3) the perennial problem of integrating crop insurance and disaster relief programs; and 4) consideration of the impacts of agriculture on global environmental issues such as ozone depletion and global climate change (GCC). The GCC initiative addresses climate modification through agricultural and forest production changes.

The two main farm policy instruments that yield environmental benefits, CRP and Conservation Compliance, will be scrutinized to determine if they are the best tools available for delivering environmental protection. The basic question of how to target payments to obtain desired environmental benefits more directly than under current Conservation Compliance and CRP policies will be an important issue in upcoming discussions. The federal disaster relief and flood assistance programs have become practically an entitlement rather than a source of temporary relief for stricken farmers. The feasibility of replacing ad hoc disaster assistance with a more revitalized crop insurance and/or revenue assurance program will be an important issue to consider. Alternatives to a policy of complete levee rebuilding should be assessed for environmental and economic impacts. Already many farmers in the Midwest are finding the Wetlands Reserve Program a viable alternative to recultivation of land susceptible to flooding.

Policy Options

1. Commodity Programs and Deficiency Payments

Current programs are criticized on many levels. An efficiency drawback is that the link between consumer demand and production decisions is weakened by subsidizing only program crops. An equity issue arises because the primary beneficiaries of the programs are large farmers. Current programs can also discourage the adoption of environmentally-friendly agricultural practices, such as certain crop rotations. In addition, commodity programs are a major fiscal burden. Future commodity programs seem poised to address these concerns by featuring lower government costs, more farmer control over planting and marketing decisions, and increased emphasis on environmental outcomes. New commodity programs will likely aim at "commodity decoupling" and "green recoupling".

Selected policy alternatives to accomplish this reorientation are:

- Introduce a revitalized crop insurance or revenue assurance\insurance program in lieu of commodity programs and deficiency payments.
- Add a "Green Flex" option that provides an additional 10 percent "paid" flex acres tied to the adoption of cropping practices that decrease environmental impacts. Examples include crop rotations with hay and small grains, strip intercropping, and integrated pest management.
- Allow participating farmers to use acreage set-asides for environmentally beneficial activities without losing their program base.

2. CRP Policy Options

CRP contracts begin expiring in the fall of 1995. Upon expiration, annual rental payments will cease and farmers holding these contracts will no longer be under obligation to maintain conservation practices on their CRP acres. In addition to the environmental consequences of the end of CRP are the budgetary impacts. Furthermore, because of its limited environmental objective, CRP has had less impact on other important environmental performance indicators, such as water quality, air quality, preservation of biodiversity, and wildlife habitat protection. Therefore, the options for extending CRP are based on different means of selective renewal of contracts. Options for addressing CRP are:

- The government could purchase easements to cropping rights from farmers on environmentally sensitive lands. The optimal policy tool may include several types of agreements, including both long and short term purchases depending on the costs and benefits obtained. The government could allow some productive use of the CRP land which would lower the easement purchase cost. By ranking land in terms of environmental benefits, the public should receive the maximum environmental benefit for the funding Congress is able to provide.
- Renew a fixed percentage (e.g., 50 percent) of the contracts. The contracts that would be renewed would be those that offer the largest environmental benefits as judged by the vector of environmental indicators.
- Combine CRP, Wetlands Reserve Program, and Water Quality Incentive Program to develop a comprehensive soil, water, air, and ecosystem protection program targeted to the most environmentally sensitive croplands.

3. Green Payments

Green payments programs in lieu of current commodity program payments have aroused increasing attention. It is important, however, to point out that most green payment schemes fundamentally change the program relationship between the government and farmers. The fundamental difference is that green payment programs would be directed to only those producers who adopt environmentally-friendly practices. Revenue-neutral green payment schemes would also tax those producers who do not adopt such practices. Such revenue-neutral schemes would be grounded with the "polluter pays" principle rather than having taxpayers pay for environmental cleanup. A potential side benefit of eliminating deficiency payments would be additional production flexibility in agriculture caused by increasing the role that market forces play in farmers' production decisions. Of course, inflexible green payment schemes could be devised that were even more restrictive than current deficiency payment programs, in which case production flexibility could actually decrease. There are several green payment program options, including:

- Super Compliance that extends current compliance provisions to include water quality and ecological indicators.
- Mandatory controls favoring crop rotations and management practices that are economically and environmentally sustainable.
- Mandated total farm plans requiring farmers to limit soil losses, and nutrients and chemicals contamination of various media (groundwater, surface water, and air). Such a program would be an evolution of current Conservation Compliance plans.
- Taxes on selected chemical and nutrient inputs to encourage adoption of input-saving technologies.
- Subsidization of systems to organize cooperation among producers in watersheds. Such systems could target stream quality and could include educational programs, incentive payments, and taxes.

Emerging Issues

The 1995 Farm Bill

(Darnell Smith 515-294-1184)

As the 1995 Farm Bill debate draws near, issues related to economic stabilization, trade and market development, federal budget pressures, and the environment have risen as primary areas of policy debate. Luther Tweeten, in a 1993 paper, wrote

> "... agriculture continues to be troubled by problems of international competitiveness and efficiency, environment, family farm loss, farm succession, cash flow, poverty, instability, and farm community decline. Commodity programs either are not helpful in addressing these problems or need extensive restructuring to address these problems in a cost-effective manner."

Although Tweeten argues that economic instability in agriculture provides the strongest justification for commodity programs, his calls for reform may go unaddressed as the nagging question of the day remains, "Will we have significant change in policy emphasis and direction in 1995 or will we, as in the past, simply tinker with the policy program edges?"

Only in time will this question be answered. However, policy pundits have delineated issues that facilitate some prognostication about potential changes in policy direction that may emerge during the 1995 Farm Bill debate. Pundits have argued that programs based on the 1933 Agricultural Adjustment Act, enacted at a time of small farms and high farm population, are simply out of step with today's food production, processing, and global distribution systems. Truly, we no longer think about the impending industrialization of world agriculture— it has already happened. The Jeffersonian ideals associated with small farms and slow paced rural life are indeed important, but the major portion of production agriculture's commodities no longer comes from small farms. Concurrent with the change in the structure of U.S. production agriculture over the past half century has been an increased reliance on trade with ongoing globalization of world food markets. More recently, strength in world food markets and in U.S. export growth has come in the area of value added goods (processed food products and meats) with somewhat lackluster performance in bulk commodity export markets.

In light of these changes in the world agricultural and food production system, one might list the following areas of alternative policy consideration:

i) Increased volatility in commodity supply and prices implying a greater need for economic stabilization policies.

ii) Higher importance of trade, in consumer food products —GATT, NAFTA, and other trade agreements have heightened the need for agricultural and trade policy reevaluation.

iii) Enhanced visibility for environment and conservation. Ground and surface water quality concerns illustrate importance of policy integration.

Thus, one can say that more efficient risk management will be emphasized in the policy debate as well as more specific targeting of environmental benefits and a reevaluation of the wisdom of Export Enhancement Program (EEP) subsidies. Tangible policy alternatives would be: enactment of a type of revenue insurance and better use of the Farmer Owned Reserve for economic stabilization, shifting of direct EEP subsidies to more product or market development oriented programs, new CRP contracts only for highly erodible or fragile areas, and livestock producer incentives for best waste management practices.

Meet The Staff

As editor and principal author of *Iowa Ag Review*, let me welcome you and introduce you to our new publication and what we hope to accomplish. *Iowa Ag Review* is a quarterly publication for farmers, agribusinesses, legislators, and other persons interested in Iowa agriculture. We will communicate proposed farm policy changes and analyses completed or underway. It is CARD's intent in this report to provide objective and unbiased discussion of the issues and analytical results where applicable. Many of the analyses discussed will refer to more detailed reports that can be ordered from CARD. In addition, we would like to hear from you about issues you are interested in or comments on our analyses. We may not be able to answer all your concerns, but your input would be extremely valuable. Finally, we would like to provide a synopsis of the current situation for Iowa agriculture and the potential impacts of international developments.

John R. Kruse

I am the U.S. crops and livestock analyst at CARD/FAPRI. My primary responsibilities include U.S. agricultural policy analysis, econometric development of modeling systems for crops, livestock, and farm income at the state and national level, publishing *Iowa Ag Review*, and database development. Currently, I am wrapping up an analysis of extending the CRP program, beginning an analysis of a proposed regulation on use of antibiotics in livestock feed, compiling background data on Revenue Assurance as proposed by the Iowa Farm Bill Study Team, preparing for our new baseline analysis in November, and addressing policy concerns as they arise.

I grew up on a small Missouri livestock and crop farm specializing in feeder pig production. I have a M.S. in Agricultural Economics from the University of Missouri-Columbia with emphasis in econometrics and statistics. While attending college, I worked for FAPRI at Missouri for four years. In June 1991, I joined The WEFA Group in Philadelphia, PA working as Forecast Manager for U.S. Agricultural Services. In July 1993, I joined FAPRI at Iowa State University.

Upcoming CARD Conferences:

February 27-28, 1995 National Forum For Agriculture, Marriott Hotel in Des Moines, Iowa
Contact Betty Hempe at 515-294-7519 for details.

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