1993 Agricultural Outlook & Nebraska Policy Issues

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1993
Agricultural Outlook & Nebraska Policy Issues

Agricultural Economics Department
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University of Nebraska-Lincoln
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Introduction

by Sam Cordes

Last year was the Department of Agricultural Economic’s first “Outlook Program.” It was viewed as an experiment, and whether or not we would repeat the experiment was an open question. As it turned out, the program far exceeded our expectations. Over 2,500 copies of a publication with all of the outlook articles were distributed; several, well attended one-day meetings were held across the state; and, like this year, the Nebraska Farmer ran the series of articles. Indeed, the support and involvement of the Nebraska Farmer has been extraordinary, and those efforts are appreciated so very much.

What are the major agricultural and rural issues, and what will happen in 1993, and beyond? We do not have the perfect crystal ball, and we do not guarantee that our “predictions” will come true. What we do guarantee is that the outlook information we present will help stimulate thinking and discussion, and will hopefully help the decision-making processes of individuals, families, agricultural and other types of businesses, various groups and organizations, and community leaders. Today’s world is both exciting and complicated, and high quality information and education can lead to a better world. Our outlook information is provided to you with that goal in mind.

As we bring to you our second effort, I want to commend Dr. Lynn Lutgen for his continued excellent leadership of the Department’s “Outlook Program.” As he and I reflect on this current undertaking we will be guided by your input—both your accolades and constructive criticism. Let us hear from you.
National economies exhibit two types of change over time. In the short to medium term, employment, inflation, interest rates and other macro-economic variables follow a cyclical pattern. This "business cycle" includes periods of relative prosperity followed by economic downturns of varying severity. In the United States, the apparent prosperity of the 1980's was followed in the early 1990's by a relatively mild recession and a very sluggish recovery. Business cycles tend to be at least partially self-correcting and there is every reason to expect a return to modest economic growth over the next few years.

Business cycles develop around long-term trends in the growth and development of the national economy. These long-term patterns are the second type of economic change. While it is reasonable to expect economic recovery to follow cyclical down-turns, there is no guarantee the long-term trends underlying the business cycle will be positive. For example, some economists are predicting that the U.S. is entering a period of economic decline that is more or less independent of short-term business cycle fluctuations. This note focuses on the long-term trends.

Following World War II, the U.S. was the strongest nation in the world, both economically and militarily. This strength was, in part, due to the war's devastating effect in Europe and Japan. Other factors included the wealth of human and natural resources found in the U.S. The position of the U.S. has changed since then in several ways. First, economic interdependence between the U.S. and other countries has become more pronounced. In the 1960's, trade accounted for only about 5 percent of the U.S. Gross Domestic Product (GDP). Today, trade accounts for 12 percent of the GDP. This means that the health of the U.S. economy has become increasingly dependent on conditions in other countries. Secondly, Japan and the countries of Western Europe have rebuilt their economies. A major factor in this reconstruction has been high levels of savings and investment. Savings have averaged 20 percent of GDP in the European Community (EC) and 33 percent in Japan. In comparison, the U.S. savings rate, about 13 percent of GDP, has been among the lowest in the world in recent decades. As other countries have developed their economies, the economic superiority of the U.S. has eroded.

During the 1980's, U.S. citizens attempted to raise living standards to unsustainable levels by borrowing to increase consumption, rather than saving and investing. The result has been record levels of personal, corporate and government debt. High debt has kept real interest rates up and is directly related to the sluggish pace of the current recovery. More importantly, future growth is likely to remain slow as resources spent on consumption have been diverted from investment in human and physical capital. These trends are at the base of predictions that the U.S. has entered a period of economic decline. Of course, this decline can be slowed with better government policies and reversed once Americans have paid off the debt accumulated in the 1980's. The most likely prognosis for the general economy over the next five to ten years is that growth will remain sluggish, long-term real interest rates will remain relatively high and perhaps increase and U.S. businesses will face stiff competition from producers in Europe, Japan and the emerging countries of Asia and Latin America. Following this period of sluggish growth and somewhat lower living standards, a return to higher economic growth and greater prosperity can be realized if productivity in the U.S increases. The American people must liquidate the excessive public and private debt accumulated in the 1980's and reduce current consumption so increased savings can be used to make investments in the development of human capital, technology, and physical infrastructure that will lead to increased productivity. Although accomplishing these tasks will require some reduction in living standards over the next few years, the payoff will be a much brighter future for ourselves and our descendants.
The North America Free Trade Agreement (NAFTA) would initiate an era of much closer economic ties between the United States, Canada and Mexico.

The treaty's purpose to reduce both non-tariff, (licensing requirements and quotas), and tariff barriers, presently restricts trade among the three countries. Because of the January 1, 1989 trade agreement with Canada, NAFTA primarily effects our trade relationship with Mexico. In a sense, NAFTA becomes two bilateral agreements; one between the U.S. and Mexico, the other between Mexico and Canada.

Mexico is important to the United States in both an economic and political sense. The Mexican population and economy are growing at about twice the rate of that in the states. This may provide new market opportunities for American products, including livestock and livestock products, feed grains, wheat and soybeans, all agricultural products important to Nebraska.

Because political ties between the two countries have sometimes been shaky, NAFTA may encourage greater mutual understanding and cooperation between these neighbors.

If approved by the U.S. Congress and the governments of Mexico and Canada, NAFTA would become effective on January 1, 1994. While the basic provisions have been agreed to, much of the ultimate impact on individual countries depends on the degree of implementation within them. For example, Nebraska corn and dry bean producers seem likely to encounter high tariffs on their products in the early years of the pact. However, if Mexico chooses not to impose the maximum possible tariff during shortages, the agreement will become much more palatable to those producers. First year tariffs as high as $480 per metric ton have been particularly concerning to dry bean producers.

Like many other economic phenomena, it is important to recognize that the short-term (2 or 3 years) impact of NAFTA could be much different than the treaty's long-run implications (15 years or more). For example, the agreement should be quite helpful to Nebraska corn producers in the long-run, but may result in less corn being shipped to Mexico during the next five years than recorded in the past five years. However, after 15 years under the treaty the Mexican market, having been heavily protected in the past, will be completely open to U.S. corn.

Sugar producers face the opposite situation. For the first six years or so, NAFTA should not have much effect on Nebraska sugar beet producers. But in the long-run, a combination of increased sugar production in Mexico and a greater dependence on other sweeteners by beverage and confectionary processors may provide more competition for U.S. sugar beet producers.

In the long-run, NAFTA should offer an increased export opportunity to Mexico for many of Nebraska's agricultural products, including corn, sorghum, barley, wheat and soybeans. In the livestock sector, beef and beef product exports should increase in response to higher Mexican incomes. (The Mexican market already is relatively open to beef, except for edible offals.) Pork and poultry product exports also should be higher than at present. USDA expects the open Mexican market to increase overall U.S. agricultural exports by 3 to 5 percent totalling $1-2 billion.

Benefits also are likely for the U.S. industrial and service sectors, where transportation, including railroads and trucking services, telecommunications, banking and insurance services will be less restricted following the treaty. However, critics charge Mexico's wage rates, about one-sixth of the United States minimum wage, and somewhat lower environmental standards (caused by the lack of resources needed to enforce existing standards) will offset any gains from trade alone. In short, critics fear the U.S. will fall to Mexican standards instead of Mexico rising to current U.S. standards.
It does not require sophisticated forecasting tools, extrasensory powers or even much insight to predict the proposed U.S./Mexican/Canadian North American Free Agreement (or NAFTA) will remain a subject of considerable controversy over the next several years. It will surely be the centerpiece of numerous Presidential and Congressional debates, as well as trade policy discussions and economists’ forecasts.

Whatever position they adopt on the merits of NAFTA, most advocates and commentators on the subject appear to accept the underlying assumption that it will have a major impact, for better or worse, on the U.S. economy and its trade relations.

Is that assumption correct? The answer seems to be yes and no. Those conclusions will be addressed in reverse order.

In one respect, as average import duty rates have declined over the past 60 years, all Free Trade Agreements (FTAs) have become increasingly irrelevant. The spread between the FTA’s zero duty rate and the normal duty rate was crucial in the 1930’s when the average U.S. duty rate was approximately 60 percent or in 1947 when the General Agreement on Tariffs and Trade (GATT) was established and the amount was 15 percent. It is far less significant today when the average U.S. import duty is only about 5 percent, especially when U.S. law permits the duty-free importation of U.S. origin parts when they are assembled by low-cost labor in Mexican maquiladora plants. Import duty rates will decline even further if an agreement is reached in the Uruguay round of GATT multilateral negotiations.

In other, less obvious ways, however, NAFTA could be very significant:

• FTAs can provide a mechanism for addressing the non-tariff-barriers that governments increasingly utilize to protect domestic industries from import competition in an era of declining duty rates.

• A successful NAFTA agreement might provide the momentum for further integration of national policies in the Americas. Clearly, the parties envision that the agreement may eventually be expanded to cover most of the western hemisphere.

Less obviously, FTAs eventually can lead to greater harmonization of the labor, social and environmental policies that affect economic policy.

• NAFTA could institutionalize the economic liberalization policies of the Salinas Government in Mexico, making it more difficult for his successors to return to previous administration’s policies severely restricting imports and foreign investments.

• NAFTA could provide a counter-weight to the European Economic Community and other regional trading blocks, strengthening the hand of U.S. trade negotiators at the Uruguay Round. If the other contracting parties do not accept the U.S. proposal to strengthen GATT, reducing restrictive trade barriers that hinder the ability of our agribusiness, service and high-tech industries to penetrate foreign markets, NAFTA impliedly presents an alternative to pursue those trade objectives on a regional basis.

In summary, NAFTA is important, but primarily for reasons that will usually not be mentioned in debates among politicians, trade policy analysts and economists. 

The Significance of Free Trade Agreements in an Era of Declining Import Duties

by Robert McGeorge
Helping farmers in less developed countries grow more of their own food may be the surest route to expanded U.S. exports of farm products. This seeming paradox has strong support in both theory and practice.

In the early 1970s, less developed countries purchased 33 percent of U.S. agricultural exports, while 60 percent went to developed nations and 7 percent to centrally planned countries. Exports to less-developed countries grew to 40 percent between 1985 and 1991 during which time sales to industrialized countries declined to 50 percent and centrally planned countries accounted for 10 percent. The value of total U.S. agricultural exports to the less-developed countries increased threefold between the early 1970s and the late 1980s, while exports to the industrialized countries only doubled.

Increasing food requirements in the less developed world are driven by a growing population (77 percent of the Earth's population now live in poorer countries) and by gradually improving incomes and living conditions (gross domestic product in the poorer countries increased 5.9 percent per year on average from 1965 to 1980 and 3.2 percent per year from 1980-1990). Food purchases of the poor are highly responsive to income, and a large proportion of any income increase is spent on food. Food expenditures of the rich are barely influenced by changes in income. Thus, income growth in the U.S. and other developed countries has little benefit for food sales, while it is extremely important in poorer countries.

Improvements in incomes in the less developed world lead initially to large increases in demand for food grains. Further income expansion leads to rapid growth in consumption of livestock products. The potential for greatly expanded long-term sales of feed grains and protein meals is evident, providing the incomes of the world's poor can be increased.

The challenge is in finding ways to increase incomes. There is widespread agreement that providing opportunities for increased and more productive employment for the poor would resolve this problem. The key to improved employment opportunities is in the development of agricultural resources. Agriculture is by far the largest sector in most poorer countries, with the short-term comparative advantage of large supplies of low-cost labor. Increased agricultural productivity brings increased employment opportunities in both agriculture and other economic sectors as more prosperous farmers purchase more farm supplies and more consumer goods.

A wide dispersal of buying power across society is essential for stimulation of food purchases. Agricultural development is perhaps the surest way to achieve income growth among the poorest elements of society. It directly benefits large numbers of farmers and indirectly affects workers in enterprises producing the consumer products farmers tend to buy with their increased incomes.

History has shown that agriculturally led growth in income generates new purchasing power faster than it generates increased local food production. Since a very high proportion of that purchasing power goes for food, these countries must then expand their food imports. Without economic advancement, however, these nations simply cannot afford imports to meet their increasing food needs. The best hope, then, for increased U.S. farm exports is to assist the developing countries in becoming more productive parts of the world economy. The best hope for this lies in the development of their agricultural potential.
The 1993 financial outlook for the Nebraska agricultural sector might be described as either "a mixed bag" or "more of the same."

While aggregate measures of the financial health of the sector look reasonably good, there is a wide dispersion in the financial health of individual operations.

**Balance Sheet**

One measure of the financial health of the ag sector is the balance sheet. On December 31, 1991, the total value of farm assets in Nebraska was $34.7 billion, while the total farm debt was $6.3 billion, about the same as the year earlier. Debt as a percent of assets was 18.2 percent, the same as the previous year. This figure peaked in 1985 at 31 percent, declined to 17 percent as of December 31, 1989, and rose slightly to 18.2 percent for the last two years. The balance sheet appears sound by historic standards.

**Credit Situation**

The supply of loanable funds continues to be adequate and interest rates will most likely continue at relatively low levels. Loan-deposit ratios, a measure of the loanable funds at commercial banks, moved up to 53.3 percent during the second quarter of this year for agricultural banks in the Kansas City Federal Reserve District. However, three-fourths of the bankers surveyed were actively seeking new farm loans to push loan-deposit ratios higher.

**Income**

Net farm income in Nebraska in 1993 will likely be below the 1992 level. Of course, much depends on 1993 weather and world events. Cash receipts from cattle, which account for about 50 percent of gross receipts, will probably be down. Receipts from hogs, which account for about 8 percent, will likely remain near the 1992 level. Lower grain prices will provide some benefit to livestock feeders, but will, of course, reduce crop producers' income.

Net farm income in Nebraska, which has hovered around the $2 billion mark since 1988, is high by historic standards, but does not appear to be increasing enough to outpace the rising cost of living for both farm and ranch families.

There is no current data on the distribution of net farm income among the state's 56,000 farm and ranch operators. A wide variation exists, as some operators are experiencing a very good year in 1992, while others are not. Increased requests for farm debt mediation, assistance in calculating liquidation work-outs, and assistance in evaluating bankruptcy alternatives are indicators of financial problems.

**Strategies for Farmers and Ranchers**

The challenges Nebraska ag producers face in 1993 are representative of the forecasts for this decade. In general, the 1990's are a competitive time for agricultural producers. Both the cost of living and purchased farm inputs continue to inflate. Commodity prices, although fluctuating, tend to keep profit margins narrow. Environmentally-related regulations affecting producers are increasing.

In the past, there have been periodic bonanzas allowing families to make up for past losses while accumulating reserves for a bad year or two in the future. There is no bonanza on the horizon. Producers need to make adjustments based on accurate appraisals of the size, productivity and efficiency of their operation. While the economic environment is not what most would like, it is reality. Positioning oneself and one's operation to succeed in this environment is necessary for survival.
Forecasting the price of farm inputs for planning purposes can be an elusive exercise. This article presents guidelines to measure the impact of economic events on farm production costs during 1993 and beyond.

Energy Complex: The annual index of prices for farm fuel and energy has been stable for the past three years. (See chart). On a seasonal basis, diesel fuel prices tend to decline in the summer months because it is an alternate output in the production of home heating fuel. Future international energy prices will depend on events in the Middle East, particularly Iraq, as well as on developments in Russia. As Russia attempts to privatize its economy, joint ventures with global oil companies to tap the vast Russian oil reserves may occur. If this happens, the fundamentals of the world oil market will change and the control OPEC has exerted over prices will be reduced. In addition, the demand for energy is soft in many industrialized countries due to slow economic growth.

Fertilizer: Nitrogen prices are dependent on energy costs, particularly natural gas. With a 10 percent 1993 APR for feedgrains, crop acreage in 1993 should not exert upward pressure on fertilizer prices. Watch for seasonal opportunities to price fertilizer needs, as prices respond to inventory build-ups and lower energy prices.

Chemicals: Although the oil component of pesticides is relatively low, major jolts in energy prices do have an impact on chemical prices.

Interest Rates: Interest rates, as measured by bank prime rates, have hit 20 year lows and inflation has been running at 3 to 4 percent per year. If inflation should start to creep higher, watch for interest rates to start edging back upward. If economic conditions in Europe stabilize, there will be an incentive for investors to move money there at very attractive interest rates.

Machinery: Over the past few years, the cost of machinery has increased at a faster rate than any other farm input. Machinery technology has changed as tillage practices have changed. The increased costs in developing precision of machinery operations that more effectively use fertilizer and chemicals have also resulted in higher machinery prices.

Other Inputs: Closer monitoring of the use of farm chemicals may increase costs. The use of crop scouts may become almost mandatory, and the cost per acre will probably increase slightly over the next few years due to general inflation and the use of more detailed consulting services. Increased monitoring may also increase the record keeping costs. As the level of government payments decreases, crop producers should also consider their risk management plans which may involve increased use of formal insurance instruments.
Custom farm work performs an important function in an efficient farm economy.

Custom farming allows smaller farmers to operate without a full complement of equipment. Custom field work also eases the transition individual producers face when they increase the size of their operation. These producers may find they need additional help, but are not quite ready to purchase additional equipment. Alternately, it allows farmers to own a larger than currently necessary set of equipment and partially offset its cost by performing custom work. Custom work also serves as a risk absorber, allowing producers a backup in case their equipment fails and they need additional help in a short time.

A 1992 study on the costs of performing various farm field activities revealed that, on the average, fuel and lube accounted for 14 percent of the rate charged by custom operators. Labor was responsible for 17 percent and repairs and maintenance, 18 percent. This means about 50 percent of the custom charge is due to variable costs which must be recaptured regardless of the profit objective of the operator. The remaining 50 percent of the custom rates charge is used to cover the overhead of operating the business, pay the ownership costs of the machinery and finance the equipment used.

These percentages, coupled with the 1992 Nebraska custom rates survey results, can be used to estimate what custom rates might be expected to be in 1993. Any increase in fuel, wages or repair costs should be captured in next year's rates. Given the current world situation, I do not see any appreciable change in 1993 fuel costs over 1992 prices, unless fuel taxes increase. I expect wages to increase at about 3 to 4 percent, approximately that of inflation. A 4 percent increase in wages translates into a .68 percent increase in custom rate costs. I also expect repair and maintenance costs to increase only modestly. The total increase in wages and repairs might be responsible for a full 1 percent increase in custom rates cost to the custom operator.

Given this information, custom rates in 1993 may be expected to increase at least 1 percent over the custom rates reported in a 1992 NebGuide available at your local extension office. On the high end, the custom rate increases from 1992 to 1993 might be 4 percent. This 4 percent increase would capture all of the costs of performing work.

These estimated averages are for the agricultural sector, not for an individual producer. An individual is unlikely to experience only a 1 to 4 percent increase. Rather, individual producers can expect either no increase or a greater than 4 percent increase. The greater than 4 percent increase would be incremental with rates they have previously charged or paid.

For example, if a producer paid $6 per acre for disking in 1992, they will probably pay either $6 or $6.50 in 1993; but not $6.00 plus 1 to 4 percent. This is due to the stickiness of prices. Prices are established so that they don't have to be frequently renegotiated. People will wait until a price increase has to be initiated before doing so, and will then raise the price enough to avoid another increase in the near future.

For cash flow planning purposes, the 1992 custom rates will be the best approximation of 1993 rates. Individual farmers might want to budget for a worst case scenario by increasing the 1992 custom rates by $.25, $.50, or $1.00, dependent on the next logical increment for price increases.
During the last twenty years, the U.S. farm machinery industry has experienced a 1970's boom, followed by the bust in the early 1980's and a slow recovery starting in 1987.

Farm tractor sales, a major component of the farm machinery shipments, reached a record high of 156,741 units in 1973 but declined to 138,990 units by 1979 and dropped to 47,312 units in 1986. Casual observation of the boom to bust period leads to the hypothesis that the rapid rise in prices and farm incomes during 1972-73 led to the higher level of purchases over the 1973-79 time period. Then, the high rates of inflation and resulting record-high interest rates caused a sharp decline during 1979-82. Payment-In-Kind income reversed the trend in 1983, but the subsequent recession in the farm economy brought further declines in units sold. Only when agriculture began to recover in 1987 did tractor sales increase.

A study done at UNL systematically explains purchases of new farm tractor horsepower, and thereby unit sales, in the U.S. from 1953-90. Prior to the early 1960's, tractor numbers were increasing while horsepower per unit was fairly stable. Since then, tractor numbers have declined, but there has been a substantial increase in horsepower per unit. The unit of measure used in the study was total horsepower because it was a more uniform measure than were tractor numbers over the 1953-90 period of this study. Key economic variables identified reflected changes in the agricultural economy that effected farm tractor sales over the 38 year period.

This study's relevance for Nebraskans comes from a notion that what happens at the U.S. level in the agricultural economy may provide insights towards what could happen in Nebraska.

A number of traditional economic variables found explain farm tractor sales, even with the major shifts that occurred over the 38 years studied. These variables included the price of tractors, prices received by farmers for all commodities, interest rates, farm employment and total farm equity. The results showed tractor sales were sensitive to prices. When the price for an average size tractor rose by 1 percent, sales dropped by 2.3 percent.

Farm employment in the U.S. has continually declined over the past ten years by approximately 47,000 people per year. Tractor sales increased by 1.7 percent per year to offset the decline in farm employment. The greatest long-term influence on tractor sales, aside from the price, was the level of total farm equity. Tractor sales, in fact, paralleled the level of farm equity over the studied time frame. A 1 percent increase in equity caused sales to grow by 1.7 percent. The influence of total farm equity, as an indicator of wealth, shows farmers perceptions of their long-term financial position significantly affects demand. This leads to a conclusion that those variables exhibiting more frequent changes in the short-run, such as tractor prices, interest rates and prices received, can affect tractor sales at the margin. The long-term financial position as reflected by farm equity, however, has a very significant effect on new tractor sales.
Outlook for wheat pricing must be divided into two parts, pricing the 1992 crop and prospects for the 1993 crop. These two parts are somewhat inter-related in that 1993 expectations will impact the price of the 1992 crop.

Despite tight wheat stocks in the U.S. in 1992, wheat had a dismal showing. Some analysts are wondering if wheat is a supply and demand situation or a political football. As conflicts arise between the U.S. and other countries, wheat enters into the negotiating picture. Examples of this include the trade wars with China and Europe, whether or not most favored nation status is granted to certain countries, how wheat movements will be affected by the EEP program and the impact, if any, of CIS credits to the countries of the former Soviet Union.

There are a number of bullish and bearish factors in considering wheat. Some of those factors are as follows:

**Bullish Factor:**

1. Last September Grain Stock (1992) reported wheat stock at 2,090 million bushels, only slightly higher than the 1991 stocks of 2,041 million bushels. These limited stocks contributed to $4 wheat in the spring of 1991.
2. The tight supply/usage balance in the wheat market cannot handle much additional wheat feed usage; any increase in wheat fed to livestock would be bullish.
3. The USDA announced the EEP allocation all up-front rather than in small amounts at irregular intervals. This has led to higher purchases by qualifying countries.
4. With the world supply/usage balance remaining tight, any production problems in Argentina or Australia would be supportive of higher prices.

**Bearish Factor:**

1. The large corn crop put downward pressure on wheat prices during last fall's harvest. This still remains a factor to the wheat market.
2. The results of the presidential election may potentially reduce exports to the People's Republic of China.
3. A surplus of wheat continues to grow in Europe, especially in France. These surpluses are becoming burdensome to the market and can cause downward pressure on prices.
4. Winter wheat is expected to increase at least 6 percent over 1992, with good growing conditions.

With the U.S. carryover increasing only 200 million bushels from 472 in 1991 to 573 in 1992, early 1993 prices look promising. From January to March in 1993, we can expect cash prices to farmers to increase from October's price of $3.05 - $3.15 to a range of $3.55 - $3.85. Prices after that point will hinge on the 1993 crop. At this time, the prospects for the 1993 crop are extremely good and ending stocks could increase to 900 million bushels in 1993/94. If this happens, we can expect wheat prices later in 1993 to fall at least to the $3 level, or roughly 15-20 cents below 1992's lowest prices.

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### Wheat Outlook in 1993
**by Lynn H. Lutgen**

#### U.S. Wheat Supply and Demand

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<tbody>
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<tr>
<td>Beginning Stocks</td>
<td>536</td>
<td>866</td>
<td>472</td>
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<tr>
<td>Production</td>
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<td>1,981</td>
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<td>Supply, total</td>
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<td>Food</td>
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<td>259</td>
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<td>Seed</td>
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<td>Feed and Residual</td>
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<td>Domestic, total</td>
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<td>1,068</td>
<td>1,275</td>
<td>1,225</td>
</tr>
<tr>
<td>Use, total</td>
<td>2,444</td>
<td>2,412</td>
<td>2,408</td>
</tr>
<tr>
<td>Ending Stocks, total</td>
<td>866</td>
<td>472</td>
<td>573</td>
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</tbody>
</table>
During the summer and fall of 1992 we saw the typical price movement that can be expected with a large crop. This typical pattern includes low prices during harvest, but sets the stage for a “post harvest rally.” The large, over 2.1 billion bushel soybean crop pushed soybean prices to challenge five-year lows. The question is, can we expect a price improvement following harvest? The answer is yes and again, this is part of the typical pattern of price movements.

One important factor to note is that soybean usage during the summer and fall months of 1992 was at its fastest pace in 20 years. This fact supports the theory that price recovery in early 1993 will come from a “demand pull” rather than from a shortage of supply.

It should also be noted that the combined stocks from the U.S., Argentina and Brazil have reached a five-year low, indicating a tightening in the world supply. During the fall of 1992, Brazil was buying U.S. soybeans in order to keep its crushing facilities in operation. While world soybean production rose in 1992, there was a substantial decline in other oilseed production. The combined world oilseed production will decline in 1992/93 due to the freeze in Canada, the drought in the European rapeseed areas and crop damage in Pakistan.

The price of U.S. soybeans is relatively low from a historical standpoint. This, coupled with the weakness of the dollar relative to other currencies, should add to the demand pull for soybeans over the next few months. Generally, a cheaper dollar will enhance exports, but other countries may not start to take advantage of the situation until they believe the dollar has bottomed and is starting to gain. Additional factors putting downward pressures on price include a record high U.S. crop and whether or not South America has crop problems. World soybean supplies could increase a significant 5-6 million tons in 1993, or over 5 percent.

With the large U.S. crop of over 2.1 million bushels, ending stocks are projected to remain at a comfortable level, around 278 - 300 million bushels. It should be noted that even with the large U.S. crop projected, ending stocks did not increase much, from 278 million bushels in 1992 to 305 million bushels in 1993. This was because of the increase in world usage.

We can expect a price pattern in 1993 similar to that of 1992, low prices at harvest and increasing prices during January to March. Somewhere after the first of the year, we can expect soybean cash prices to approach $6. Any further change would require a substantial decline in the South American crop.

### U.S. Soybean Supply and Demand

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<tr>
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</thead>
<tbody>
<tr>
<td>Beginning Stocks</td>
<td>239</td>
<td>329</td>
<td>278</td>
</tr>
<tr>
<td>Production</td>
<td>1,926</td>
<td>1,986</td>
<td>2,108</td>
</tr>
<tr>
<td>Imports</td>
<td>2</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Supply, total</td>
<td>2,167</td>
<td>2,318</td>
<td>2,388</td>
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<tr>
<td>Crushings</td>
<td>1,180</td>
<td>1,254</td>
<td>1,265</td>
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<tr>
<td>Exports</td>
<td>560</td>
<td>685</td>
<td>720</td>
</tr>
<tr>
<td>Seed and Feed</td>
<td>98</td>
<td>101</td>
<td>98</td>
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<tr>
<td>Use, total</td>
<td>1,838</td>
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<tr>
<td>Ending Stocks</td>
<td>329</td>
<td>278</td>
<td>305</td>
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</table>
With cash prices returning to the historical lows of the mid-1980s, the supply and demand fundamentals are quite bearish. More than likely, there will be some kind of post harvest rally. This is especially true during years of large production.

Seasonal lows normally occur during harvest, and 1992 production is expected to approach 9 billion bushels. Additionally, Congress is not expected to authorize immediate entry into a farmer owned reserve which leaves free stocks at historically high levels.

Domestic usage is expected to increase approximately 270 million bushels over last year, largely due to increased poultry and pork production coupled with low corn prices that encourage heavy usage.

The total usage, or disappearance, including exports of corn will surpass 8 billion bushels this year. Such heavy usage would, at other times, be considered bullish. This year, the heavy usage is offset by a large harvest and declining export demand from the former Soviet Union, both major factors that lead to declining prices for corn.

Given no change in demand during 1993, it would take a substantial decline in 1993 production to trigger any substantial price increase for the 1993 crop. The 10 percent set aside program will presumably lead to some decrease in production, but not of the magnitude needed to boost prices substantially.

While there will be a post-harvest rally in January through March, we cannot expect the rally to return us to the spring, 1992 price levels. The best we can expect is probably a 30 to 35 cent rise in corn prices from the harvest lows of 1992. We can expect the average yearly corn price for the 1993 crop to average between $2.05 and $2.10 versus $2.40 for the 1991 crop.

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U.S. Corn Supply and Demand

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Million Bushels</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Beginning Stocks</td>
<td>1,344</td>
<td>1,521</td>
<td>1,100</td>
</tr>
<tr>
<td>Production</td>
<td>7,525</td>
<td>7,474</td>
<td>8,938</td>
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<tr>
<td>Supply, total</td>
<td>9,485</td>
<td>9,016</td>
<td>10,049</td>
</tr>
<tr>
<td>Food</td>
<td>1,290</td>
<td>1,445</td>
<td>1,485</td>
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<tr>
<td>Feed and Residual</td>
<td>4,455</td>
<td>4,880</td>
<td>5,150</td>
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<tr>
<td>Domestic, total</td>
<td>5,745</td>
<td>6,325</td>
<td>6635</td>
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<tr>
<td>Exports</td>
<td>2,369</td>
<td>1,590</td>
<td>1,550</td>
</tr>
<tr>
<td>Use, total</td>
<td>8,113</td>
<td>7,915</td>
<td>8,185</td>
</tr>
<tr>
<td>Ending Stocks, total</td>
<td>1,344</td>
<td>1,100</td>
<td>1,864</td>
</tr>
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</table>
The decline in U.S. grain exports in the early 1980s brought a new meaning to the question of grain quality. Foreign buyers reduced purchases of U.S. grain and redirected their buying interest to other exporting nations. A by-product of these changes was increasing criticism of U.S. grain quality.

The focus of the attention was directed at the commercial grain trade. The grain trade, on the other hand, insisted that foreign buyers get what they pay for. The buyer has the option of specifying their requirements and the grain trade will deliver that quality at a price. Price, then becomes the point of contention. Sellers will supply quality, but buyers may not be willing to pay a price premium.

This scenario applies to bulk commodities like grain, which originates from multiple sources and flow to a limited number of export locations.

Co-mingling of the commodity is a reality of bulk handling and transportation economics. In that process, grain loses any unique characteristics it may have had at its origin and preserving those characteristics has been considered cost prohibitive.

End of story? Not necessarily! A 1989 Federal Grain Inspection Service (FGIS) publication reported varied results in grain grades with the western corn belt states of Minnesota, Iowa and Nebraska having a progressively higher proportion of samples grading U.S. No. 1.

This information resulted in a project evaluating the potential for Nebraska corn exports to Mexico. The necessary ingredients for success included the following:

- Direct trainload shipments from originating country elevators in Nebraska to a processor and/or livestock production unit in Mexico while preserving identity of the grain.
- A single through rail rate from origin to destination, including U.S. and Mexican railroads which are competitive with shipments by water from gulf ports.
- Trade relationships between the U.S. and Mexico which permit U.S. export sales.
- Infrastructure, such as Mexican rail and receiving facilities, which are capable of handling U.S. train shipments of grain.
- Ability to serve needs of Mexican buyers, including grain quality.
- Potential for this market to compete effectively for Nebraska grain.

After a year of evaluating 1991 Nebraska corn crop samples, a fact finding mission to Mexico and exchanges of trade teams between the two countries, some conclusions are possible. Mexican processors and livestock producers, aware of quality advantages, are beginning to buy Nebraska corn. The Union Pacific, Burlington Northern and Santa Fe Railroads are actively involved in developing through rates in cooperation with the Mexican Railroad Company (FNM). While additional improvements in FNM rail capacity and grain receiving facilities of Mexican buyers is needed, progress is being made.

Mexican buyers, who are well informed about NAFTA trade negotiations, are anxious to see this treaty ratified. The Mexican government is making good progress in privatizing their grain industry and reducing regulation of their national railroad.

What are the prospects for Nebraska grain producers and the elevator industry? Continued improvements in the Mexican economy will make Mexico a major market for U.S. grain exports. With competitive transportation rates and trainload shipments, Nebraska can be a major supplier of grain to the Mexican market, including identity preserved shipments. While NAFTA may not be essential, it will speed the rate at which the Mexican market develops for the Nebraska grain industry.

Does this mean an opportunity for Nebraska producers to receive premiums for high quality grain? Not immediately. These Nebraska elevators need to develop market contacts in Mexico, gain experience in exporting, and establish reputations as reliable suppliers. This is no small undertaking. Grain quality can be the carrot on the end of the stick to gain entry into this market. Price premiums for superior grain quality will be the second step in developing a market presence in Mexico.
Sunflower acreage in the Central Great Plains region is anticipated to increase to 600,000 acres by 1995 due to a recent acquisition by National Sun Industries.

National Sun purchased an idle sugar factory plant in Goodland Kansas in 1991 and is converting it to an oilseed processing plant. The converted oilseed processing plant is crushing 1992’s crop.

National Sun Industries operates the single largest sunflower processing plant in the United States, located in Enderlin, North Dakota. During the 1991 oilseed processing period, National Sun Industries accounted for 53 percent of the total U.S. minor oilseed production. In addition to sunflower seeds, the company anticipates processing safflower and crambe. Recently National Sun Industries purchased a sunflower seed development firm, further committing their investment in the minor oil seed industry.

The “flex” provisions in the 1990 Farm Bill and the rotational requirements allows producers to incorporate sunflowers into their current cropping pattern. Under the current law, producers are eligible to harvest any minor oil seed crop from 25 percent of their enrolled program acreage while protecting program base acres. In addition, under the 0/92 program, minor oilseed crops are allowed on 100 percent of their permitted wheat or feed grain base, while maintaining 92 percent of their support payments.

The Farm Bill initiated a marketing loan program establishing price support while maintaining competitiveness by keeping oil seeds in the marketing channel. The provisions of the program allows farmers to repay loans at the lesser of the loan rate or local repayment rate. The average national loan rate, by legislative mandate, cannot be below $8.90 per cwt, however the 2 percent origination fee reduces the effective loan rate to $8.72 per cwt.

Loan rates for 1992 have not changed from the 1991 loan levels. The loan rate in Red Wing, MN and West Fargo, ND has been established at $9.80 and $9.23 per cwt, respectively. Nebraska sunflower loan rates range from $8.67 per cwt in Northeast Nebraska to $7.96 per cwt in Southwest and Western Nebraska. The differential between the major market loan rates and Nebraska loan rates are due to marketing and transportation costs to the major marketing centers. Unfortunately, the predominate sunflower growing regions in Nebraska have the lowest marketing loan rates.

Because of the new processing plant, the Central Great Plains region is expected to become a major sunflower production area. The possibility of adjusting local loan rates against a major market closer to Nebraska will affect local loan rates positively, assuming Goodland bids are competitive with the Red Wing and West Fargo marketing regions. However, a policy change within the ASCS must be initiated to reflect the Central Great Plains as a major market.

Sunflower oilseed acreage during the late 70’s and through the early 80’s ranged from 3.5 to 5 million acres. However, oil-type sunflower acreage decreased to 2 million acres during the mid to late 1980s. This decrease was due to loss of European markets.

Oil-type sunflowers constitute 66 percent of 92/93 sunflower plantings. The current decline in acreage can be attributed to a shift from sunflowers to spring wheat, due to increasing wheat but decreasing sunflower prices during the first six months of 1992.

Two products are processed from oil-type sunflower oil and meal. Sunflower oil is low in non-saturated fats and is used in low cholesterol diets.

Since 1988, the United States has exported an average of 72 percent of sunflower seed oil produced. Sunflower seed meal is primarily used as a protein livestock supplement. Over 90 percent of sunflower seed meal is used for domestic purposes.
Slaughter cattle prices during 1992 ranged between $70 and $79 per cwt. The difference between the highs and lows in 1991 was slightly more than $16 per cwt. Cattle feeders were excellent marketers during 1992, keeping lots current and moving cattle at weights that did not add excessive pounds to total beef production. Cow slaughter picked up in 1992, and total beef production for the year ended up about 1 percent above 1991.

Returns to cattle feeders in 1992 were modest during the better price periods. The periods of losses were moderate compared to the late summer of 1991.

Supply Forecasts

Placement of cattle into feedlots and resulting feedlot inventories in the first half of 1993 are likely to run larger than the same period in 1992. Some increase in cow slaughter, continuing a trend that started in 1992, could result in beef production the first half of 1992 running 2-3 percent above the same period a year earlier. Cattle feeders should guard against increasing marketing weights, or hold cattle to insure beef production slowly increases, avoiding periodic price pressures.

Cattle placements in the first half of 1993 will reflect market conditions at decision time. Low feed grain prices, declining feeder cattle prices, and some optimism for the U.S. and world economies will likely generate increased placements. If cattle closeouts are poor or negative, then placements will likely be reduced.

The slow expansion in total cattle numbers that started in 1991-92 and the large number of beef replacement heifers available to the cow herd suggests continued increases in cow slaughter. Cattle feeders can no longer expect to increase fed cattle numbers and have these increases offset by reduced cow slaughter.

Demand Prospects

Consumer demand for beef continues to stabilize. In 1992, it appeared consumers slightly reduced their consumption of durable goods while consuming more beef and other meats.

Availability of educational programs about the nutritional value and wholesomeness of beef should continue. In the 1990's, beef promotion will play an important role in shaping consumer preferences. The competition from other red meats and poultry will continue to increase.

Marketing Plan

Cattle feeders should continue to update their marketing plan in 1993. Price risk management strategies should be formulated to handle a wide range of market outcomes.

Price Forecasts

Prices for the first quarter of 1993 are expected to average slightly below last year's levels. Prices averaged $75-76 per cwt. in the January-March period in 1992.

Second quarter 1993 prices are also expected to average slightly below the mid-$70 April-June, 1992 prices.

Prices the second half of 1993 will likely continue averaging near to slightly below 1992 levels. Top managers should always be on the look out for forward pricing opportunities or chances to reduce costs. Cattle cycle theory suggests that gradual feeder and fed cattle price declines can be expected during 1993 and beyond.
The United States total cattle inventory, as of July 1, 1992, was estimated to be 109.2 million head, about the same counted one year earlier.

It appears the inventory expansion is going slower than most analysts predicted.

The number of heifers being held as beef cow replacements on July 1 was reported at 8 percent larger than last year, the largest amount since 1983. Most of these heifers are likely to enter the cow herd during the first half of 1993. This could lead to a larger 1993 calf crop, growing feeder cattle supplies and increased beef production in the next few years.

Feeder cattle and calf prices are likely to be in a slight downtrend in 1993. Still, returns to cow-calf operations will probably be sufficient to support further expansion in the beef cow herd and the overall cattle inventory.

Feeder Cattle Supplies

Although the current total feeder cattle inventory is slightly larger than last year, it is historically small. Supply estimates of feeder cattle over 500 pounds were slightly under 1 percent larger than last year’s count. Supplies of calves under 500 pounds were about equal to a year ago.

Imports during the year will increase feeder supplies. Shipments of feeder cattle from Mexico and Canada will add 1-2 million head to feeder cattle numbers.

Range, Forage and Feed Conditions

Feed grain prices continue to be important to feeder cattle and calf price levels. Last autumn’s falling corn prices supported feeder cattle prices. For example, for 700-800 pound feeder steers, each 10 cents per bushel decrease in corn prices lowers the projected breakeven selling price by about 40 cents per cwt. Or, to keep breakeven unchanged, feedlot operators could increase the amount paid for feeder steers by about 60 cents per cwt.

Should 1993 turn out to be a dry year, rising feed grain prices by mid-year will push feeder cattle and calf prices into a steeper downtrend.

Prices

Prices for yearling steers in late 1992 were trading at about the 1987-1991 average. As long as feed grain prices stay near the bottom end of their trading range, early 1993 yearling steer prices may trade near $80 per cwt., slightly below year ago price levels. If my prediction about downtrending fed cattle prices is correct, yearling feeder cattle prices are likely to be under pressure as 1993 progresses. During the last half of 1993, heavy feeder steers may trade $3-5 under the low-$80’s prices recorded in late 1992.

Prices for 500-600 pound steer calves will have the same potential ups and downs as the yearling steers. Prices on heavy calves late in 1992 were averaging near $93 per cwt., slightly above the 1987-1991 average, but below 1991 prices. Early 1993 seasonal strength may hold prices in the low-$90’s but steer calves are likely to be under modest downward pressure if fed cattle prices weaken in the late winter. Prices for 500-600 pound steer calves during the last half of 1993 may average $4-8 per cwt. below 1992 levels.

Uptrending feed grain prices or falling fed cattle prices by mid-1993 will change the feeder cattle and calf outlook from okay to negative.

Feeder cattle and calf marketing plans should be continually updated in 1993. Marketing strategies, including retained ownership, should be evaluated as market prices and production costs change.
Hog inventory reports have confirmed the hog expansion started in 1990. Hog and pig numbers increased rapidly in early 1992, but by late in the year the expansion pace had moderated. Cash Omaha slaughter hog prices ranged from the upper $30's to the upper $40's in 1992. Hog prices averaged about $42 per cwt., 14 percent under 1991 and the lowest price since 1980.

Supply Forecasts

Recent hog and pig reports suggest inventories will continue to increase. Estimates show hog numbers may increase 1 to 2 percent during the first two quarters of 1993. It appears likely the last two quarters of 1993 may equal the second half of 1992.

Hog producers will closely watch corn prices in 1993. Lower feed costs early in the year may encourage producers to increase farrowings, or feed market hogs to heavier than normal weights.

The structure of the hog industry continues to undergo noticeable changes. Generally there are fewer, larger firms and in many cases construction of new, very large hog operations is in non-traditional hog producing areas. Most recently, operations were built in Texas and Oklahoma, and there are plans are to build additional large scale operations in California, Mississippi and North Carolina.

How these structural changes impact hog supplies during the expansion and liquidation phases of the industry are yet to be determined. It seems reasonable to suggest the management of these large hog facilities is less likely to adjust hog numbers to changes in market prices. This is especially true if the facility is owned and operated by a corporation that is vertically integrated into the packing and retail side of the industry.

Demand Prospects

Pork demand has remained remarkably strong during the last few years. Total, per-capita meat supplies are record large, but pork demand remains steady to slightly improving. Pork promoters are suggesting opportunities exist for expanding the market for pork. Some of this expansion may take place in the U.S., but countries in South and Central America hold the most promise.

Marketing Plan

Steady to increasing market hog prices often pull some producers into inaction. Producers must watch forward pricing opportunities to achieve price goals and reduce price risk. The objective of your marketing plan strategy is to attain selling prices $3-5 per cwt. higher than average cash prices reported at your local market.

Price Forecasts

Cash hog prices in 1993 are expected to trade near or slightly above 1992 levels. Prices in the first half of the year should average in the low-$40's. It is possible the lowest cash prices of this current hog cycle may occur in the second quarter of 1993. Prices for the second half of the year may average in the mid-$40's. Producers' production decisions for the second half of 1993 will depend on production cost and market hog price trends in the first half of the year. At mid-year crop prospects, supplies of competing meats and pork export levels also will be influencing the market.
Although each producer will fare differently, profit margins are generally forecast to remain narrow for pork producers in 1993. Average producers will probably do a little better than break even, high cost producers will lose money, and low cost producers will make significant profits.

Recent data from the Nebraska Swine Enterprise Records and Analysis program indicate that total production costs for farrow to finish producers average about $42 per cwt. One-third of the producers who achieved the highest profit had production costs averaging $37.87 per cwt. In contrast, the one-third of the producers with lowest profits realized total costs of $47.25 per cwt. This $10 per cwt. spread in production costs is typical between the high profit and low profit producers. For a 100 sow farrow to finish enterprise, this amounts to a difference in profits of over $30,000 per year.

The high profit producers not only make profits during periods of low hog prices, but also have a much better chance of long-run survival in pork production.

Structure changes in the swine industry are forcing producers to be more competitive. Producers interested in increasing their net income from swine production often think of expansion and construction. An alternative method of increasing net income is to increase the efficiency of the operation. Once a producer has reached near-maximum levels of efficiency, expansion through additional facilities and animals may be the most feasible way to achieve further increases in net income.

Increased efficiency can have a dramatic effect on a swine enterprise. Let's look at a Nebraska swine enterprise with the following characteristics; average yearly sow inventory of 95, corn valued at $2.30 / bu. and the operator’s labor valued at $7.50 / hour. If these variables would remain constant throughout the production cycle, what would the effects of implementing management practices which result in increased production be on the enterprise?

In this example, diet costs were held constant, but feed efficiency was increased by reducing total feed consump-

<table>
<thead>
<tr>
<th>Current Level of Efficiency</th>
<th>Increased Efficiency</th>
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<tbody>
<tr>
<td>Profit / cwt pork produced</td>
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<tr>
<td>Total cost / cwt</td>
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<tr>
<td>Variable cost / cwt</td>
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<tr>
<td>Fixed costs / cwt pork produced</td>
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<tr>
<td>Feed expense / cwt pork produced</td>
<td>$26.86</td>
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<tr>
<td>Average diet cost</td>
<td>$6.58</td>
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<td>Feed / cwt pork produced</td>
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<td>Litters / sow / year</td>
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<tr>
<td>Pigs weaned / female / year</td>
<td>13.79</td>
</tr>
</tbody>
</table>

| Profit / cwt pork produced  | $6.03 |
| Total cost / cwt            | $37.56|
| Variable cost / cwt         | $32.85|
| Fixed costs / cwt pork produced | $4.71  |
| Feed expense / cwt pork produced | $23.44 |
| Average diet cost           | $6.59 |
| Feed / cwt pork produced   | 3.55  |
| Litters / sow / year        | 2.11  |
| Pigs weaned / female / year | 20.00 |
Is All-In, All-Out Pork Production in Your Future?

by Timothy A. Powell

What Is All-In, All-Out?

In all-in, all-out (AIAO) pork production, pigs are kept together in groups throughout a phase of production. The most important ingredient to AIAO production is all-out. There is some leeway on putting pigs into the barn, but little in taking them out. Most of the benefits of AIAO can be realized if the animals are moved into the facility within two weeks. It is essential, however, that the facility (room, barn, farm) be emptied after each group.

Why AIAO Works

As pigs are moved from one phase of production to another, they are given a "fresh start" in thoroughly cleaned facilities. AIAO can work because of:

- better sanitation
- less transmission of disease
- easier to use phase feeding
- more accurate production records
- tailoring medication to age and size of pigs

Benefits of AIAO

The benefits of AIAO production are well documented by research. Purdue research has shown performance, as well as health improvements, for AIAO production. Table 1 shows some results for the finishing phase of production.

Economic Value of AIAO Production

AIAO can be utilized in all phases of production. The magnitude of the response decreases with pig age. Accordingly, implementation should begin with farrowing rooms, progress to nursery rooms and end up with finishing facilities. In general, high health operations see less improvement than farms with typical health status. Tim Loula, a veterinarian from the Swine Vet Center in St. Peter, Minnesota developed the following guides for producers to use when deciding on the economic value of AIAO.

For the farrowing phase of production, an economic gain is possible if your herd's performance attains these goals:

- less than 10-12 percent preweaning mortality
- 125 lbs. or greater litter weight
- less than 8 percent stillbirths

Goals for the nursery (weaning to 50 pounds) include:

- less than 1.5 percent mortality
- .75 lbs./day average gain
- 1.8 lb. of feed/lb. of gain

Goals for finishing include:

- 3.0 lb. of feed/lb. of gain or better
- less than 1.5 percent death loss (weaning to market)
- 1.3 lbs./day average gain (birth to market)
- 1.7 lbs./day average gain (weaning to market)

The Down Side Of AIAO Production

There are a few things to think about before you consider AIAO production.

1. To maintain the group system, the sow herd must be managed aggressively so sows farrow when scheduled.
2. There are extra costs associated with AIAO production. If your facilities are not designed for AIAO now, it will require remodeling of existing buildings or construction.
3. AIAO systems require more labor and management. Extra labor is needed for washing and disinfecting of facilities between groups. Smooth pig flow takes coordination, and failure to move pigs when needed has a ripple effect that can lead to failure of the system.
4. Utilization of space may not be as efficient in an AIAO operation as compared to a continuous flow operation. Pens may become empty if pig flow is not matched to facilities.
5. AIAO is of little benefit to the smaller producer, as it is inefficient to have much fewer than 100 pigs in an AIAO facility. It is estimated that it takes about 250 to 300 sows to make good use of facilities from all phases of production. Generally, herds with fewer than 200 females will not be able to farrow sufficient pigs to effectively make AIAO work in finishing facilities.
6. Herds with excellent health and management will not benefit as much from AIAO production as average herds.

<table>
<thead>
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<th>Item</th>
<th>AIAO</th>
<th>Continuous</th>
<th>Change</th>
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<tbody>
<tr>
<td>Performance</td>
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<td></td>
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<tr>
<td>Average Daily Gain, lb</td>
<td>1.72</td>
<td>1.52</td>
<td>+13%</td>
</tr>
<tr>
<td>Average Daily Feed, lb</td>
<td>5.21</td>
<td>4.88</td>
<td>+7%</td>
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<tr>
<td>Feed/Gain</td>
<td>3.03</td>
<td>3.22</td>
<td>6%</td>
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<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent with Lung Lesions</td>
<td>42%</td>
<td>94%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Table 1. Pig Performance in AIAO vs Continuous Systems
The passage of Amendment 1 to Article VII of the Nebraska Constitution last May substantially altered the way in which property taxes will be assessed on business personal property.

Beginning in 1992, all depreciable, income-producing personal property; including machinery, equipment and breeding livestock, will be subject to property tax. Prior to the passage of the amendment, property owned for the purposes of farming and ranching was exempt from property taxation. Depreciable, income-producing personal property owned by non-farm businesses on the other hand, has in general been subject to taxation based on the fair market value.

Passage of Amendment 1 eliminated the exemption of farm depreciable income producing personal property from property taxation. Instead, the amendment substituted a uniform system of valuation of all farm and non-farm depreciable, income-producing personal property based on acquisition cost, minus a depreciation allowance rather than fair market value as a means of assessment. Most depreciable, income-producing personal property will be depreciated to zero and removed from the tax roles at the end of seven or fewer years. In addition, farm depreciable, income-producing personal property will have the sales tax collected by the selling merchant but rebated to the farmer upon application to the State Department of Revenue. This was designed as a means of easing the burden on agriculture and encouraging the self-reporting of property ownership. No such rebate of sales tax is available for non-farm business property.

Reporting on the ownership of personal property, however, has been less than perfect by non-farm businesses. Estimates are that less than 50 percent of all depreciable, income-producing personal property subject to personal property tax was actually reported under the old system. Enforcement of the property tax is difficult and time consuming. County assessors, in general, have not had the time or resources to do this in a comprehensive manner and have instead relied on businesses self-reporting. Nothing in Amendment 1 changes the process of self-reporting asset ownership. Farms and ranches, however, have the sales tax rebate for assets on which sales tax is charged (most capital assets except livestock) as an incentive for compliance. Thus, it is likely that non-farm business reporting of asset ownership will continue to be incomplete at best, while the ownership of nearly all farm assets will be reported to assessors.

The provisions of Amendment 1 have resulted in an odd paradox in the way draft, breeding and dairy livestock are subject to property tax. The Internal Revenue Service permits the expensing of the costs of raising such animals, rather than the capitalization of raising costs. Thus, raised animals have no basis in cost and no depreciation is allowed. The same animals, having been purchased would have a basis in cost and would consequently be depreciable. The result from a property tax standpoint is that raised draft, breeding, or dairy animals will not be subject to personal property taxation, while identical purchased animals will be subject to tax based on their purchase cost less depreciation. Therefore, at least some incentive exists to raise replacement livestock rather than purchase animals, and to report purchased animals as having been raised. The legislature flirted with the idea of taking all livestock off the tax roles in the special session in 1992, but failed to do so.

A final, perhaps unintended, effect of the passage of Amendment 1 is to serve as a de facto tax on the creation of new businesses, both farm and non-farm. Most existing businesses own personal property items having a spectrum of ages. Inasmuch as the depreciation periods for almost all assets is much shorter than their useful lives, most existing businesses will have many assets which have significant worth but which are no longer on the tax roles because the have been depreciated to zero value. New business, however, must purchase assets, either new or used, and such purchases result in personal property taxation. The new business owner will almost inevitably pay more in property tax than an existing business during the seven year period before the first complement of purchases has been depreciated. The degree to which this significantly disadvantages or deters new businesses is yet to be seen.
In this article, we will examine how real (constant dollar) Nebraska land values have fluctuated over a long period of time (1913-1991).

At times, it is useful to examine economic variables when inflation is eliminated to gain a fuller perspective of change. By doing this, we can put the 1981-1987 “crash” into perspective, as well as relate current land values to long-term average land values.

In Figure 1 we have graphed actual (nominal) Nebraska land values for the period 1913-1991. Also, we placed these values on a constant dollar basis (1913 as the base) using the Consumer Price Index to represent the value of the dollar. These values, termed real land values, are also graphed. Nominal land values increased from 1913 to 1921, then declined through 1941, increased until 1982, decreased to 1987 and finally moved upward. Real land values had nearly identical high and low years in these cycles.

Real land values increase less than nominal values when land values are rising. However, when nominal land values fall, real land values fall even faster. Thus, for the period 1981-1987, the decline in real land values in Nebraska was even greater than the nominal “crash.”

From Figure 1, changes in real land values do not appear as dramatic as they truly were because of the scale of the graph. Thus, in Figure 2 we have graphed real land values as a percent of the average real land value for the 1913-1991 time period. The average of the real land value for this period was $31.73 per acre (1913 dollar base). It should be noted that this average depends upon the period studied, but generally the longer the period studied, the greater the confidence we can have in estimating a long term average. Had, for example, we used 1920 as a starting point the long term average would have been lower than that using 1913 as the starting point. Note that from 1939-1945, real land values fell below 50 percent of the 1913-1991 average, while 1979-1983 real land values, in contrast, exceeded 200 percent of this long term average. Currently, we are slightly above the long term average.

The relative decline in real land values from 1913-1942 was greater than the decline from 1981-87, but happened over a longer time period. Furthermore, other factors must be taken into account before concluding one period outranked the other in terms of financial severity.

Given these trends it is, of course, easy to look at the past and see both opportunity and danger points. For long-term investors, opportunities for gain appear to exist whenever real land values fall below 50-75 percent of average. Similarly, dangers exist to investors when real land values are purchased above 125-150 percent of average. These limits are not foolproof, but given a long enough period, a greater chance exists to maintain the value of the investment compared to a shorter time horizon.

For shorter-term investors, these “limits” still involve large potential gains or losses. For example, in 1921, land could be purchased at about 125 percent of average. However by 1942, the same land’s real value was less than 30 percent of the 1921 value. Only by 1974 had its real value regained that level reached in 1921. On the other hand, land purchased in 1974, a similar “danger point”, yielded large gains provided the investor sold by 1981.

It might be asked why land values ever depart from a long-run average, and if so, are they in error. The answer is that land earnings expectations change and these expectations directly affect land values. As mentioned before, the estimation of a long-run average depends upon a long-run history of values of which we only have a partial picture. Hence, the perspectives of real land values we have examined in a historical context, while useful, is only one perspective. The land market is indeed volatile and requires careful investment planning.
Nebraska's agricultural real estate values have generally been in a "holding pattern" throughout 1992. Where value increases have occurred, the changes have often been less than overall rate of inflation. Such price stability is likely to continue into 1993. A variety of forces are impacting agricultural real estate markets as we enter 1993. Some forces are encouraging spirited bidding, only to be countered by other forces dampening demand.

Let's examine some of those forces, looking first at those which tend to boost real estate investment activity and hence values:

- Lower interest rate. Mortgage interest rates are currently at the lowest levels in 30 years. With a modest downpayment, investors can, in some cases, see mortgage interest changes lower than cash rents. Also, being able to lock in lower rates on long-term commitments further enhances buyers interest.
- Reduced returns on alternative investments. Annual returns to agricultural real estate of 5 to 8 percent have looked increasingly more attractive relative to 4 percent on CD's and a very volatile stock market.
- A relatively healthy agricultural sector. Compared with its debt-gorged and over-leveraged position of a decade ago, today's ag sector is in a much stronger financial position. Cases of extreme financial distress are not nearly as pervasive as they once were and most agricultural real estate is in strong financial hands.
- Record or near-record crop yields in the fall of 1992 and a replenishment of sub-soil moisture going into 1993. In spite of low market prices, the bountiful fall harvest is a great morale booster. It is a positive, short-run influence on the agricultural real estate market which has moods just as people do.

While these factors are contributing to buoyancy in the current agricultural land market, there are a number of counter forces working as well, including:

- Low crop prices. Late year 1992 commodity prices were lower than those 20 years ago. Low crop prices convert to lower earnings, particularly for cash grain producers. Since returns to land are the foundation of value, the market for farm real estate sooner or later adjusts to these income shortfalls.
- Increased income uncertainty. Commodity programs are essentially being dismantled, while at the same time major grain export prospects are more uncertain. For cash-grain areas particularly, the economic rules-of-the-game are changing and land values may need to be discounted for greater uncertainty.
- Reduced fear of inflation. Recent years of moderate inflation have dampened general expectations of high inflation. Since agricultural real estate is considered a good hedge during inflationary times, the speculative interest in holding land currently is very mild.
- Concern over environmental compliance and other perceived regulations on the horizon. Certain property perceived as having an environmental liability is being discounted in value by potential buyers in the market.
- Declining number of aggressive expansion buyers. While exceptions exist in many local markets, the major buying binge of key expansion buyers appears to have run its course. As these buyers back away, the market becomes much more subdued.
- General concern over the U.S. economy. Today's market participants remain fearful of our near-term economic climate. If the slide into a deepening "Economic Winter" continues, the agricultural sector would certainly not be exempt from the negative effects. For many, this is seen as a time to be very cautious in any long term investment decisions.

To sum up, anyone can use these positive and negative effects to design a unique assessment of the net effect on short term land value trends. That's what makes this market so intriguing. A case could be made for nominal dollar value declines of 5 to 10 percent just as easily as forecasting increases of 5 to 10 percent in the coming 12 months. I would peg the most likely scenario to be one of continuing price stability through 1993, as we wait to see how these powerful forces play out.
Legislation affecting agriculture in Nebraska may originate in a number of committees in the state Legislature, including the Agriculture, Natural Resources, Revenue and Education committees. This overview focuses on issues expected to originate in the Agriculture Committee in 1993.

Most observers expect the Federal Insecticide, Pesticide and Rodenticide Act (FIFRA) to receive much of the attention. Because FIFRA is being discussed elsewhere in this series, the overview here is cursory. The Environmental Protection Agency (EPA) requires states to monitor the pesticide applicator safety program. Nebraska, however, has refused to do so, and is the only state where the EPA must administer its user certification and compliance programs.

Recently, the EPA said states refusing to monitor the pesticide application safety program would not be eligible for an EPA-approved state pesticide management plan (SMP). This could result in the EPA banning certain pesticides for the entire state. The question for the Legislature to revisit during upcoming sessions is whether the state should assume responsibility for the applicator safety program under FIFRA.

A bill to regulate kennels and other facilities where dogs and cats reproduce at a rate beyond which they can be given proper care will likely be considered by the Agriculture Committee. Standards presumably would be established for such facilities.

An interim study has been conducted on the desirability of electing the Director of the Nebraska Department of Agriculture. At present this person is appointed by, and serves at the pleasure of, the governor. Two other midwestern states, Iowa and North Dakota, presently elect the top official of their agriculture departments.

Some citizens have expressed concern about scattered attempts to raise wild game, such as deer or elk, or exotic animals, such as lions, in a confined area. A number of issues have been raised, including whether the Department of Agriculture or the Game and Parks Commission should have primary responsibility for monitoring such animals. Another concern focuses on health issues. Producers of domesticated animals have worked diligently to eradicate such diseases as pseudorabies and brucellosis. Could wild and exotic animals bring these and other diseases back into the state? Some also worry about potential cross-breeding between confined and free animals. Would this be at the detriment of the state’s wildlife population?

It has been proposed that an arrangement be developed among relevant state agencies to locate farmers’ markets at Interstate 80 rest stops. Perhaps such a program will be attempted on a pilot basis at a few locations across the state.

In a similar vein, some have suggested that agri-tourism has some potential in the state. This could be a joint venture of the Departments of Agriculture and Economic Development, officially sanctioned by the Legislature. The idea would be to promote the diversity of Nebraska agriculture to those who travel to or through Nebraska.

Finally, those in agriculture continue to be keenly interested in property taxes, particularly personal property taxes. While no particular legislation is anticipated in 1993, sooner or later agriculture will want to return to the tax issue, as few other states presently tax personal property used in agriculture.
Does Nebraska need a state dairy stabilization program? A public hearing to discuss a price stabilization proposal was held at the State Capital in August. As a result, the Agriculture Committee of the Legislature was designated to study the proposal. Specifically, the committee is to investigate:

2. A method of stabilizing retail milk prices so the consumer is not hurt by expected price increases.
3. Dairy price stabilization in surrounding states.
4. Any related current or proposed federal regulations.

What has precipitated this action? There has been a concerted effort by the federal government over the past few years to reduce the cost of agricultural support programs. The dairy sector has responded by pushing a number of states to use their legislative process to help stabilize or increase dairy farm incomes. Low or negative net incomes for many Nebraska producers has resulted in a steady decline in milk production in the state. Is state legislation necessary? Proponents argue legislation is needed to guarantee a dependable flow of milk into state processing plants. For example, the four fluid bottling plants in Nebraska purchase over 200 million pounds of Grade A milk yearly from surrounding states, in addition to the Nebraska milk they buy. Nebraska also has eight cheese plants that purchase a portion of their raw product needs from outside the state. Opponents of state legislation claim states do not have the legal right to implement their own versions of milk orders. There are also questions about disrupting the movement of milk across state lines and hindering the economic forces from establishing the milk marketing system.

How would it work? A fund, not involving tax dollars, would be set up to pay producers a supplement if the price dropped below an established cost of production level. Currently, Missouri and Kansas are attempting to assess a sales tax on all dairy products sold within state boundaries. The tax would be up to 4 percent of the wholesale value when the producer price drops below 85 percent of the average cost of production for the previous year. The wholesalers would likely pass the assessment on to the consumers. Under the Kansas proposal, producers would pay into the fund when the milk price is greater than 115 percent of the production cost. Their assessment would be 5 percent of the amount above the 115 percent price.

The value of dairy production in Nebraska accounts for only about 3 percent of the cash receipts for all agricultural commodities produced in the state. There is, however, another point to consider. The farm value of the raw milk is currently about $150 to $160 million per year. In-state processing adds another $550 to $600 million to the value of that milk.

Legislators will be addressing the questions of net economic benefits of a state stabilization plan and the tradeoffs between net benefits/costs to consumers and producers. The broader economic questions, however, remain. Can further market control be justified? Can a particular region or state be isolated? Will the marketplace provide the best long-run answer on where milk should be produced and processed?
The Institute of Agriculture and Natural Resources (IANR), University of Nebraska-Lincoln (UNL), is currently using satellites to deliver a variety of educational programs, including workshops, symposia and formal classroom instruction.

The intended audience for these programs includes traditional students, active producers, landlords, bankers and managers of agribusiness firms. At IANR, the delivery of live and taped educational programs via satellite seems to be effective, and holds the promise of expanded in-depth educational offerings in spite of reduced budgets.

Several assumptions, including the following, need to be made when considering an expanded use of television in the simultaneous delivery of educational programs to extension and classroom clientele. For example:

- Profitable agricultural production and marketing requires producers to continually update their managerial skills.
- Updating of managerial skills requires more than an occasional class or workshop.
- Only limited funds are available for extensive travel by specialists to conduct educational programs at multiple sites.
- Public and private sites equipped to receive television programs from satellites are rapidly expanding.

Recently, IANR used satellite delivery to nationally broadcast an agricultural marketing course. For the past 30 years, only students who attended UNL and non-traditional students who found the time and interest to fit an agricultural marketing class into their busy schedules participated in the class. With satellite delivery, students of Nebraska's version of agricultural marketing are scattered across 30 states, in addition to those in the traditional classroom. A few of these off-campus students take the course for university, community college, or high school credit. However, the vast majority are participating for a continuing educational experience, and could be considered an audience that identifies with traditional extension programming.

While experience is admittedly limited, national broadcasting of an IANR course for three semesters suggests the following:

- There is a small, but growing, clientele group of non-traditional students who are anxious to participate in semester-long classes on subjects that will enhance their agricultural entrepreneurial skills.
- This group often finds traditional extension methods, including workshops and evening meetings, provide only surface exposure to the complex analyses needed to succeed in an increasingly competitive environment.
- Off-campus students will actively participate in a televised course, ask questions and evaluate their progress by taking examinations.
- Non-traditional students who participate in IANR televised educational programs seem to be opinion leaders in their communities. These individuals are not hesitant in expressing their support for expanded educational offerings via satellite delivery nor hesitant in expressing their frustration with traditional programs.
- The classroom experience of traditional students is enhanced as non-traditional students add their real-world insights to class discussions.

Continued exploration of the educational needs of non-traditional students will help identify additional courses appropriate for widespread distribution. Continued separation of extension and academic educational programs, based on the assumption that these students have different learning objectives, motivations or abilities seems warranted at best and condescending at worst. Finally, future budgets may not permit the maintenance of separately staffed and distinctly different educational programs within the university system.

Will televised university courses replace all extension educational efforts? Of course not. Can additional selected university courses serve a dual teaching/extension roll? Yes. How soon? When rising client demand for in-depth training interacts with decreasing budgets for off-campus educational activities.
The 1992 Fall Semester marks the 10th anniversary of the Agribusiness major at the University of Nebraska-Lincoln. By the end of the first academic year, 1983-84, 34 students had declared an Agribusiness major. The number of students majoring in Agribusiness has grown steadily each year (see Figure 1). Currently, 284 students are Agribusiness majors at UNL. Of this total, 255 students are Agribusiness majors through the Department of Agricultural Economics. These students represent the largest single major within the College of Agricultural Sciences and Natural Resources.

A total of 129 individuals have graduated from UNL with bachelors degrees in Agribusiness. Figure 2 illustrates the employment areas of these graduates. The largest number of graduates have taken employment in the areas of Sales/Sales Management (19 percent) and Management (18 percent). Career positions in these two areas would include sales representative for various farm supplies (chemicals, feed, seed), elevator and/or co-op manager, plant operations analyst and production quality control. Thirteen percent of UNL Agribusiness majors have returned home to pursue a career in a family farming/ranching operation. Grain merchandising/trading (11 percent) and Banking/Ag Lending (11 percent) also account for a large share of employment opportunities for Agribusiness majors.

The most surprising statistic may be that 72 percent of the UNL Agribusiness graduates, while employed in a wide range of firms, stayed in Nebraska. Employment opportunities for Agribusiness graduates in the Department of Agricultural Economics continues to appear quite promising. 

**Areas of Employment Graduated Agribusiness Majors**

- Management (18%)
- Sales/Sales Management (19%)
- Farming/Ranching (13%)
- Merchandising/Trading (11%)
- Banking/Lending (11%)
- Financial Planning/Insurance (9%)
- 28% Work outside Nebraska
- 72% Work inside Nebraska
- 9% Unknown
- Accounting/Tax Preparation (1%)
- Prof. Farm Mgt./Real Estate Appr. (1%)
- Government (1%)
- Public relations (2%)
- Graduate, Law, Medical School (5%)

**1985-1992 Agribusiness Enrollment**

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*Fall Semester Each Year*
Nebraska producers successfully entered over 1.4 million acres of land into the Conservation Reserve Program (CRP) between 1986 and 1993.

Most land was entered with 10-year contracts, the first of which will expire for crop year 1996. The largest acreage, 622,000 acres, will become available for use in 1997. Since contracts expire on October 1 of the 10th year, those wishing to plant winter wheat may need to wait until the following fall.

During contract years and except in weather related emergencies, the CRP land is not available to producers for consumptive uses such as haying, grazing or crop production. In addition, any Crop Acreage Base (CAB) associated with a farm entering land into the CRP was reduced by the proportion of total cropland entered into the program. Producers can use CRP land and collect fees for non-consumptive uses such as fee hunting or recreation that does not destroy the permanent cover.

The major question surrounding the CRP land is its status when the contracts expire. Some would like to see much of it remain in permanent cover. Others are concerned that the additional forage will result in increased numbers of cattle and depressed prices.

What We Know

Implementation rules associated with the 1985 Food Security Act (FSA) make it clear that the CAB will be returned. Highly erodible CRP land, by far the majority, will need a fully implemented conservation plan prior to annual crop planting. Producers can begin implementing the conservation plan structural requirements, such as terraces, by paying all costs and re-establishing any destroyed cover prior to contract expiration.

The 1990 FACTA, Food Agriculture Conservation and Trade Act addressed the future use issue on several points. The Secretary of Agriculture is required to extend CAB, quota and allotment protection on CRP land after contract expiration for as long as determined appropriate if the producer agrees to leave the land in the conservation use. No additional rental payments or cost share would be paid. Haying or grazing could be permitted, but possibly restricted as to time of year.

Basic characteristics of the enrolled land are known. The following table shows the acres and percent of CRP land for SCS land capability class. Capability groups generally show the soil suitability for cropping. The higher the number, the more limitations on the soil. Land in the V-VIII classes is usually not recommended for cropping. Classes III and IV may be severely limited, but are frequently cropped.

Another farm and conservation bill will be debated prior to contract expiration. That law will most likely have the greatest legislated impact on the issue.

Alternative future actions

1. Contracts permitted to expire at end of 10 years with no additional laws. Market prices for wheat, feed grains, forage and cattle could be major determinants in landowner decisions.

2. Extend CRP contracts at current rental rates, an option authorized by FACTA. Many producers would like this, but it is not very likely, given current and projected federal budgets.

3. Extend CRP contracts with reduced rental rates but give producers some haying and grazing privileges. Again, an alternative that could strip the federal budget.

4. Purchase of land or permanent easement (authorized by FACTA) on lands deemed environmentally sensitive. Total acres would be limited due to budget constraints, but a possible option.

5. Target CRP contract extension to land with pre-defined problems. One possibly would be to open contract extension to bidding by those with land meeting criteria.

Other ideas could, and probably will, be considered. If producers or others have options they would like considered in the political process leading up to the next farm bill, they should make their interests known.

### The Future of Conservation Reserve Program Lands After the Contracts Expire

by Richard T. Clark and Steven Elmore

<table>
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An assessment of the Conservation Reserve Program (CRP) by the Soil and Water Conservation Society (SWCS) suggests the program has produced substantial wildlife benefits even though wildlife played a minor role in development of CRP plans.

The non-economic wildlife benefits of the program may be overlooked, but are a significant factor in Nebraska. The Northern Plains region, including Nebraska, was the only region which showed a real incidence toward the establishment of wildlife habitat on enrolled CRP acreage. Most enrolled acreage was planted to permanent vegetative cover with native and introduced grasses as the dominant practices.

The habitat benefits of the CRP are apparent in the sharp increases in the Nebraska pheasant population in recent years. Pheasant populations in the northeast and Panhandle portion of the state showed the largest increases while the central and southeast part report moderate improvements. Conversion of cropland to permanent cover provides secure nesting and winter cover and pheasant populations are now responding to large enrollments of acreage from the 1987 through 1989 period. The rural mail carrier survey conducted by the Nebraska Game and Parks Commission indicates that pheasant numbers have increased by 33 percent from 1990 to 1991. Nongame bird populations have also benefited from CRP enrollments.

Studies of wildlife populations confirm enrollment in CRP has assisted a variety of game and nongame bird species by providing nesting and broad-rearing habitat. These studies also suggest that continued management of CRP land will be required to maintain wildlife habitat and insure biodiversity. The benefits of improved wildlife habitats are achieved at relatively low cost. Wildlife biologists believe that maintaining only 4-5 percent of the land base in permanent, non-disturbed cover results in significant improvements in wildlife habitats.

The direct benefits from improvements in fish and wildlife conditions can be substantial to farmers, but are often overlooked. Almost half of the U.S. population participates in fish or wildlife activities such as birdwatching, fishing or hunting. Farmers also value these activities and would participate more if opportunities were available. The USDA has estimated wildlife hunting benefits alone associated with CRP acreage would yield a net present value ranging between $1.9 and $3.9 billion.

Farmers may generate an additional income by charging access fees for wildlife activities on these lands. Currently, this source is largely untapped by farmers. Although up to one-third of farmers nationwide allow access for hunting, fishing and other uses, less than 3 percent charge an access fee.

Extending existing CRP contracts appears unlikely, due to constraints in the federal budget. The SWCS study of farmer and landowner intentions after expiration of the CRP suggested most acreage will be returned to annual crop production under an approved conservation plan or the acreage will be kept in grass for livestock forage. Any extension of the CRP program which develops will initially select enrolled acreage based on contributions to soil and water quality with the wildlife benefits placed on a lower priority.

The increase in pheasant and nongame bird populations due to the CRP program reveals a pattern that was also apparent during the Soil Bank program of the 1950's and 1960's. Populations continued a long term decline when the land set-aside program expired. A similar downward trend may result with the expiration of the CRP. As a result, the benefits of improved wildlife habitats due to the CRP may be short lived.
Participants in the 1993 wheat and feedgrains programs will again be eligible for deficiency payments based upon target prices, basic support rates and national loan (price support) rates, all announced prior to sign-up.

A 5-month deficiency payment is calculated based upon the difference between the target price and the 5-month national average price. There will be no 5-month deficiency payment if the 5-month national average price exceeds the target price. The maximum 5-month deficiency payment is the difference between the target price and the basic support rate. A 12-month deficiency payment is calculated based upon the difference between the basic support rate and the 12-month national average price. There will be no 12-month deficiency payment if the 12-month national average price exceeds the basic support rate. The maximum 12-month deficiency payment is the difference between the basic support rate and the national loan (price support) rate. Target price, basic support rate and national loan rate are administratively determined each year within Legislative guidelines.

The announced target prices and national loan (price support) rates for feed grains are unchanged for 1993. The target price for wheat remains at $4.00 for 1993, but the national loan rate has been increased 24 cents per bushel. The county loan rates will be adjusted accordingly.

As indicated, national loan rates are also used to determine maximum 12-month deficiency payments. If national average market prices are near the national loan rate and the loan rate is increased, 12-month deficiency payments would be reduced. The net price received by the farmer may not be increased, however, since the county loan rate may be below the national loan rate. To realize the county loan rate, the farmer may have to incur nine months storage costs. If national average market prices are well above the national loan rate, increasing the national loan rate has no direct effect on farmer income.

The basic support rates had not been announced at this writing. As noted previously, the basic support rates are used to determine the maximum 5-month deficiency payment. An advance on the 5-month deficiency payment will be available that will equal 50 percent of the USDA projected 5-month deficiency payment. The projected deficiency payments were also unavailable at this writing. Any advance exceeding the 5-month deficiency payment will have to be refunded.

The set-aside or ARP (Acreage Reduction Program) rates were increased from 5 to 10 percent for corn and decreased from 5 to 0 percent for barley and wheat. Grain sorghum and oats ARP rates remain unchanged for 1993.

Although increasing the wheat loan rate may decrease the net per planted acre for the participant, the zero set-aside may make wheat program participation more attractive to some. Increasing the corn set-aside tends to make corn program participation less attractive, but the set-aside level must be weighted against the likelihood of low prices. Corn and grain sorghum bases are expected to be combined, as in 1992, and most other provisions are expected to be unchanged. An exception, however, is the likely requirement of restricted use pesticide records in 1993.

### Target Price/BU  |  Price Support Rate/BU  |  ARP
---|---|---
Corn | $2.75 | $1.72 | 10%
Grain Sorghum | 2.61 | 1.63 | 5
Barley | 2.31 | 1.40 | 0
Oats | 1.45 | .88 | 0
Wheat | 4.00 | 2.45 | 0
Near record crop production in 1992 sets the stage for the 1993 outlook. Given strong yield expectations, USDA has forecast corn prices for 1992-93 in the $1.85 to $2.25 per bushel range.

Prospects for future exports are mixed. Compared with 1991-1992, the USDA expects a possible decline in corn and wheat exports and a gain in soybean exports. The export picture for all of these commodities, however, is subject to fluctuations in the the U.S. dollar, as well as progress in the GATT negotiations. With carryovers expected to be relatively high, USDA has established the 1993 corn set-aside rate at 10 percent. The grain sorghum rate has been set at 5 percent. What do current conditions and expectations mean for 1993 corn production in Nebraska?

Researchers in the Agricultural Economics Department, along with researchers at the Universities of Arkansas and Missouri, have recently become co-participants in the Rural Policy Research Institute (RUPRI). Part of RUPRI’s mission is to develop an understanding of rural economies to improve agriculturally-related policy debate. The Nebraska RUPRI researchers have developed an econometric model to answer questions about changing federal agricultural policy provisions such as the corn set-aside rate. This model is based on reactions to federal policy and price shifts experienced in the 1980’s.

Most of Nebraska’s corn production occurs in the east, south, and central portions of the state. Relatively little corn is produced in the state’s north and northwest sectors. Given this diversity, the model has been designed to project corn acreage response to changing set-aside rates on a regional basis. Specifically, crop acreage is modeled for each of Nebraska’s eight crop reporting districts (CRDs).

The 1993 corn set-aside rate of 10 percent is double the 1992 rate. Simulations with the RUPRI econometric model indicate increasing the corn set-aside rate from 5 percent to 10 percent leads to a nearly 4.5 percent decrease in Nebraska’s corn acreage. Analysis by CRD shows that variations in the set-aside rate do not lead to significant changes in corn acreage in the Nebraska panhandle, but a 4 to 4.5 percent decline is likely in the central, east and south CRD’s. The southwest CRD shows an intermediate response roughly a 3 percent decline in corn acres. Because most of Nebraska’s corn is produced in the eastern and southern regions these areas tend to dominate the state’s overall response.

One possible exception to these results is in the southeast, where sorghum production dominates. Corn acres may not decline as much in the southeast if the sorghum base removed from production is used for corn production.

Reductions in expected corn acres arise mainly from corn program participation. Nearly 72 percent of Nebraska’s farms and 87 percent of Nebraska’s base acres are participating in the 1992 corn program. Given projections of carryover stocks, and resulting 1993 corn prices, participation in the program is likely to remain strong next year.

Corn producers not enrolled in the farm program are more likely to respond to market price shifts. These producers are expected to adjust their corn acreage downward from 1992 levels. Because projections for corn prices in 1992-93 are considerably lower than 1991-92’s average price of $2.37 per bushel, corn producers not enrolled in the program will likely adjust their corn acreage downward. The econometric model also indicates that the 1993 price will be about 15 cents per bushel lower than the 1992 price. These price shifts may also affect the flex acre provisions faced by program participants.

In summary, increasing the corn set-aside rate from 5 percent to 10 percent leads to a decline in Nebraska’s corn acreage by about 4.5 percent. This decline, coupled with projections for lower prices in 1992-93, will likely lead to a 5 percent or more decline in Nebraska’s corn acreage in 1993.
Implementing the Nebraska Integrated Solid Waste Management Act

by Wanda Leonard

The 1992 Nebraska State Legislature enacted legislation providing Nebraska the opportunity to develop rules and regulations to meet federal guidelines and to govern itself in the management of solid waste.

The Federal Environmental Protection Agency, acting in response to citizens, elected officials and federal administrators promulgated rules for the management of solid waste. These rules provide national guidelines, allowing each state the opportunity to develop a plan to reach compliance. Failure to develop a state plan will cause the Federal Regional Environmental Protection Agencies to administer the states. By enacting The Integrated Solid Waste Management Act (LB 1257) Nebraska's Legislature created the means by which the Nebraska Environmental Quality Council can develop a state plan.

The integrated act required each county and municipality to file a Letter of Intent with the State Department of Environmental Quality by October 1, 1992. By October 1993, these political subdivisions must submit their written plan, and by October 1994 the approved plan must be operational. Landfills not meeting new regulations must be closed prior to October, 1993. The new plans are to be for integrated systems. The term "integrated" means source reduction, recycling and composting are to be incorporated with landfilling. Bans of yard wastes, batteries, household appliances and other materials are required by various dates as beginning as early as 1994.

While the new regulations will be costly, it is anticipated current, increasing expenditures will save money in the long run. In addition to source reduction and recycling, the new regulations will require improved methods of lining landfills, new leachate collection systems to trap contaminated leakage and water monitoring wells to provide early pollution detection when clean up is expected to be less costly and early enough to protect ground water from pollution.

Cooperative Extension Service personnel continue to work with local governmental sub-divisions to examine waste management options. Many communities and counties are not able economically to operate solid waste management systems independently. Because of this, cooperative efforts are formulating. Some units are considering interlocal agreements, allowing the flexibility to develop a new publicly owned system. Others are considering interlocal agreements to collectively ship their waste to recycling facilities and licensed landfills outside the geographic area. Still others are opting to place the responsibility of waste management with private firms, operating either in the immediate geographic area of the sub-division or located some distance away. Dollars to comply with the new rules are not readily available. Some units will require a special bond issue, others will combine governmental budgeted dollars with user fees.

The integrated system will most assuredly change the ways Nebraskans manage solid waste. Many changes will take place in the next several months, including an increase in expenditures. The desired and anticipated results are a cleaner environment and ground water protection.
The use of water for environmental purposes rather than irrigation or power production has a controversial history in Nebraska. The latest chapter involves federal instream flow requirements as a part of hydropower relicensing of Nebraska’s largest surface water project.

Platte River water stored behind Kingsley Reservoir in Lake McConaughy is used by the Central Nebraska Public Power & Irrigation District (Central) and the Nebraska Public Power District (NPPD) for irrigation and hydropower generation. Central’s irrigation operations constitute Nebraska’s largest surface water irrigation project.

Under the Federal Power Act, 50-year power licenses are required from the Federal Energy Regulatory Commission (FERC) for all hydropower projects. The original federal hydropower licenses for Kingsley expired in 1987. Central and NPPD have applied for new FERC licenses, which have yet to be granted.

The Federal Power Act, amended by Congress in 1986 to require fish, wildlife and recreation be given equal consideration in all FERC relicensing proceedings. The amendments were sought by environmental interests hoping to use the Kingsley FERC relicensing to obtain water from Lake McConaughy for Platte River endangered species critical habitat maintenance. Thus a major issue in Kingsley relicensing proceedings has been whether and how much water from Lake McConaughy should be allocated to protecting downstream Platte Valley endangered wildlife species.

In January, 1992, the FERC staff recommended significant instream flow requirements for Central and NPPD to protect downstream habitat as operating conditions for the new Kingsley hydropower licenses. The amount of proposed habitat flows would differ throughout the year, depending upon the varying habitat requirements of the different endangered species to be protected. Bald eagles, for example, require winter flows, while cranes require spring and fall flows, and terns and plovers require summer flows. Flow requirements would be higher when McConaughy was full and lower when McConaughy storage was low.

The State of Nebraska has proposed an alternative to the FERC staff’s instream flow recommendations. The State proposes that a percentage of streamflow into McConaughy would be credited to an “environmental account.” Water from the environmental account would then be released to meet downstream habitat objectives when requested by the account manager, the Nebraska Game & Parks Commission (GPC). This would be more flexible than the FERC approach. GPC could store water for drought periods, and could favor species needing spring and fall flows over other species needing summer flows depending on each species’ recovery pattern. FERC has yet to respond to the State’s alternative instream flows proposal. While it differs from the FERC recommendations, the State alternative does acknowledge some habitat instream flows are required.

Changes in Nebraska water law have been made in anticipation of the FERC Kingsley relicensing. Using stored water for wildlife habitat maintenance is now clearly legal under Nebraska water appropriation statutes. However, surface water irrigators purchasing water from Central and/or NPPD may go to court to challenge FERC’s legal authority to require Central and NPPD to provide instream flows for wildlife protection if those instream flows conflict with irrigation water rights. The outcome of such a legal challenge is not clear. In any event, accommodating the habitat flow license conditions will require improved on-farm irrigation water use efficiency and improved irrigation project water conveyance systems to reduce irrigation water demands. The proposed Kingsley instream flow requirements are yet another example of the significant influence of federal environmental law on irrigation and state water rights. This should remind us that state water law and policy must continue to deal with and accommodate environmental concerns as well as traditional irrigation and power production uses.
Increasing nitrates in groundwater result in more domestic and municipal wells having levels above the 10 parts per million (ppm) acceptable under health standards. Research and educational efforts have increased significantly in recent years, however, there has been no reduction in the rate of groundwater nitrate build-up. Individuals and municipalities have several alternatives to adjust to these unacceptable nitrate levels.

One common approach used where water quality is below the acceptable levels is to seek alternative locations for wells. These new wells are either used as replacements, or water from them is blended with water from the existing well to reach acceptable quality. This may be a temporary solution in either case, in light of the continued increase in the nitrate levels in a great portion of the state. The costs of this alternative can be significant. One community, population 1,200, spent $120,000 to drill new wells and incurred the additional costs of mains to bring the water to the distribution system. This community continues to examine alternative water sources which are likely to have acceptable nitrate levels in the future. This means there will be additional costs for developing still another source of water.

Other communities have elected to use central treatment plants to remove nitrates. There are several technically acceptable ways for removing nitrates, but the most economical appears to be an ion exchange unit. Only two Nebraska communities, both with 500 residents or less, have installed central treatment plants. The costs of these installations will vary with the initial water quality. Of the two existing treatment plants, one community's initial investment of $400,000 provides approximately 250,000 gallon per day. In addition, they estimate the operating costs are approximately $57 per 1,000 gallon treated.

Research indicates a significant number of families have installed point of use treatment units to remove not only nitrates, but also other impurities they fear may be present. These are either ion exchange or reverse osmosis units and are usually install under the sink or in the basement with a separate faucet.

To remain effective, filters in reverse osmosis units must be changed frequently. These are low capacity units producing 7-10 gallons per minute. The filters must be changed every 3 - 6 months. The frequency of change is dictated by the initial water quality. Earlier studies estimated cost of treatment may be as high as $32 - $33 per 1,000 gallons. Since this water is usually used only for cooking and consumption, the total costs are rather minor over the year.

Ion exchange units tend to be less costly than the reverse osmosis units but the initial costs can be from $1,500 to $2,700, depending upon the components used. These units will treat approximately 7 gallons per minute. The treatment tanks must be regenerated periodically with the frequency depending upon the quality characteristics of the water. Estimates of costs of these systems range from $16 - $17 per 1,000 gallons.

Another alternative is the installation of units with sufficient capacity to treat all water entering the building at each home or business. This means much greater capacity than is necessary for the point of use units. Initial costs for these units may run as high as $8,000 -$10,000; however, the cost per 1,000 gallons is only about one-third as high as the point of use units. The total annual costs, however, are likely to be more than three times higher than the point of use units, as they treat all water used in the household.

All of this suggests the bill for removing nitrates will be an ever increasing one and the solutions used will vary with the specific situations.
Groundwater pollution from nitrogen fertilizers has emerged in the 1990's as one of Nebraska's most important environmental problems. Nitrites in excess of the public health standard have been found in 20 percent of all Nebraska wells and in 81 of Nebraska's 93 counties. The problem is most severe, however, in the Platte Valley and other areas where irrigation from relatively shallow wells has been a long-time practice. Policies for dealing with this problem may potentially have substantially impact Nebraska agriculture.

The problem of nitrate pollution is being addressed in many ways at the federal, state and local levels. The 1990 Farm Bill authorized several incentive programs for encouraging environmentally sensitive production practices. The USDA, in cooperation with land grant universities, has embarked on an aggressive research and demonstration program to develop and encourage the adoption of more environmentally sensitive production practices. The State of Nebraska is engaged in several of these water quality research and education programs, but has also implemented planning and control measures, called Special Protection Areas (SPA's), in two different regions (Nuckolls County and the Middle Republican). Finally, at the local level, three Natural Resources Districts, The Central Platte, Tri-Basin and South Platte have established groundwater quality management plans. These programs will significantly impact agricultural profitability, as well as water quality, in both the short and the long run.

The next five years appear to present a win-win situation. In many cases, nitrate leaching can be substantially reduced and net returns increased by adopting available practices reducing the use of excessive nitrogen and irrigation water. More extensive and careful soil testing, closer adherence to recommended fertilizer applications and a more conscientious job of irrigation scheduling are all win-win alternatives which have not been fully explored by some producers. Data from the Central Platte Valley indicate a significant number of poorer managers could increase their net returns by over $25.00 per acre and reduce nitrate leached by as much as 50 pounds per acre by adopting these presently available win-win practices. The long-term impacts of groundwater quality programs on Nebraska agriculture are more difficult to assess. They largely depend on the willingness of producers to rapidly adopt new technology and new management practices. Research underway in Nebraska and elsewhere offers the potential for reducing nitrate leaching through:

A. Improved methods of monitoring crop nitrogen requirements.
B. Improved timeliness of nitrogen application.
C. Improved methods of adjusting nitrogen applications to reflect field variability.
D. New procedures for improving the uniformity of water application.

In general, Nebraska farmers will be positively impacted in both the long and short run by water quality programs if on-going programs result in the successful development and adoption of win-win production practices. On the other hand, they will be negatively impacted if science fails to find cost effective means of meeting water quality goals, if new technology is adopted too slowly or if inappropriate regulatory policies are implemented.

Finding cost-effective ways to reduce nitrate pollution is a major challenge facing government, the educational community and the private agricultural sector. Extensive efforts to meet this challenge are underway, and the preliminary results are quite positive, but much remains to be done. Producers must accelerate the adoption of best management practices and new technology. The research and education community must continue an aggressive effort to discover and demonstrate practices which meet both the economic and environmental needs of society. Finally, the environmental community must continue to pursue water quality objectives in ways which accurately reflect field conditions and strike an appropriate balance between economic and environmental needs.

Implications for Nebraska Agriculture of Programs to Reduce Groundwater Pollution from Nitrogen Fertilizers

by Raymond J. Supalla
State Pesticide Regulations

by J. David Aiken

Environmental issues continue to challenge Nebraska policy makers. One important issue is whether Nebraska will assume administration of the federal pesticide user certification and enforcement program in order to qualify for administering new federal pesticide regulations protecting ground water quality.

Under the Federal Insecticide, Fungicide & Rodenticide Act (FIFRA), "restricted use" pesticides are considered toxic and users must be trained in proper pesticide handling and application. Users of restricted use pesticides, including farmers, must be certified before they can legally purchase or apply such pesticides. Pesticides must be applied according to label directions.

Nebraska is the only state that has assumed administration of the FIFRA user certification and enforcement program from the U.S. Environmental Protection Agency (EPA). In Nebraska, EPA contracts with UNL Cooperative Extension to provide user certification training. The EPA also enforces pesticide use regulations in Nebraska. Both programs are administered in Nebraska at EPA expense.

In states administering FIFRA, program funding is provided in part from EPA, with state matching funds coming from state general funds and/or taxes on fertilizer and pesticides. States typically charge registration fees to pesticide manufacturers, and registration and certification fees for dealers and commercial applicators. Some states also tax pesticides and fertilizers directly. Similar fees, as well as increased enforcement of pesticide regulations, are likely to be part of FIFRA assumption in Nebraska.

Legislation for Nebraska to administer FIFRA has been proposed for several years but never enacted, due in part to Nebraska agrichemical industry opposition. Much of the opposition to state administration of the EPA pesticide program relates to state program costs and the likelihood of funding all or part those costs through increased pesticide fees. Nebraska’s continued refusal to administer the FIFRA user certification and enforcement programs could result in the discontinued use of pesticides that contaminate Nebraska groundwater. Under EPA’s 1991 Pesticides in Ground Water Strategy, states will be required to prepare management plans restricting pesticide use to prevent and control groundwater contamination. Stricter regulations will be required when pesticides are detected in groundwater, and use bans may be required to prevent drinking water contamination limits from being exceeded.

If a state does not prepare and implement an acceptable management plan, EPA will ban the pesticides contaminating groundwater in that state. Ciba-Geigy, the manufacturer of atrazine, has publicly indicated it would prevent atrazine from being sold in Nebraska if Nebraska does not meet the EPA state pesticide management plan requirements for atrazine. Nebraska will not be eligible to prepare a state pesticide management plan until it assumes administration of the FIFRA user certification and enforcement program.

Legislation to assume the FIFRA program, LB349, advanced from the Agriculture Committee to the full Legislature in 1992, the first time a FIFRA assumption bill had ever been reported from committee. However, LB349 was not considered by the full Legislature, in part because of the lengthy property tax debate. It is likely similar FIFRA assumption legislation will be proposed in 1993. The bill may also deal with state pesticide management plan preparation.

The state pesticide regulation issue is another example of the continuing influence of federal environmental laws on agriculture. For the last 20 years, pollution from motor vehicles, power plants, industries and municipal water treatment plants has dominated the national pollution control agenda. Agriculture has increasingly been identified as the major, largely unregulated, source of water pollution. State pesticide regulations are only one of many environmental issues facing the agricultural community in the years ahead.
Reports of the 1990 population census confirmed a population decline in all predominately rural Nebraska counties. Many counties lost population despite viable trade centers with stable or growing economies in previous decades.

Job loss caused by population declines is an important concern throughout the state. Of the more than 70 Nebraska communities that have completed community or economic development planning, virtually all have identified increasing local employment as a high priority goal.

For many communities, increases in the local employment base are most likely to occur through the entrepreneurial activities of individuals with small businesses. Typically, these businesses have few employees, and many have only one or two workers. While some proprietors and employees work part-time in the small-scale business for personal fulfillment, most consider they have few (or no) employment alternatives.

Interest in the contributions these businesses make to economic viability has increased as entrepreneurs have been successful and alternative employment sources have not materialized. This is a marked contrast to past years when small-scale entrepreneurs were viewed as insignificant sources of local economic viability. The reality of the 1990's includes an awareness of small-scale entrepreneurs and the importance of their businesses as the principal sources of new employment in many job-deficient rural areas.

How do small business entrepreneurs generate employment? Many, perhaps most, generate self-employment through direct sales to consumers by providing services such as sewing, lawn care, house cleaning and personal care. Other services include bed and breakfast facilities, catering in small towns and rural areas, shopping for those unable or unwilling to shop for themselves, transporting persons who are without independent means of travel and conducting surveys or selling goods and services by telephone.

Goods produced or supplied by small-scale entrepreneurs also range from the traditional, such as garden produce, craft items, and gadgets to cutting edge or trend items including electronic components, specially packaged perishable food products (usually shipped frozen in insulated containers) and sophisticated electronic and mechanical devices used in agriculture or production processes.

Increasingly, sophisticated marketing approaches are the driving forces of growth. These methods aid in the transition from small-scale entrepreneurial activity to growing business with increasing job opportunities. This happens when a small-scale firm with success in local markets finds non-local markets also eager for its products or services. When that happens, when local supply faces global demand, a small local employment source may become a major employer, as well as a continuing source of community viability. For most small-scale entrepreneurs, the market will remain much smaller. Regardless, the rural community's small-scale businesses have become a source of job creation and economic benefits and hold the potential to be the principal employment sources of the future.

As means of personal fulfillment for their proprietors, as emerging sources of economic growth and as present and future sources of employment, small-scale entrepreneurs merit strong local support.
On-Farm Businesses: What's in the Future?

by John C. Allen

In recent years, there has been a great deal of discussion in regard to the changes in farming, including everything from the loss of the family farm to international competition for agricultural product markets. One little discussed aspect of the changes occurring on midwestern farms is the increasing number of on-farm businesses, especially those businesses which do not have a direct traditional tie to agricultural production. The activities of these businesses include:

1) Providing services (such as scouting).
2) Manufacturing or modification of farm equipment.
3) Adding value to products produced on the farm.
4) Wholesale businesses.
5) Recycling.
6) Tourism.

Changes in both agricultural practices and rural Nebraska's demographics have provided much of the impetus for this increased movement toward on-farm businesses. Changes in agricultural practices include the example of a movement toward less tillage to reduce expensive inputs. To meet the demand of this market of producers desiring converted machinery to work in heavy residue, on-farm businesses developed.

Changing demographics and increased participation of women in the labor force has also impacted the growing number of on-farm businesses. As women become more active in outside-the-home employment, on-farm businesses have increased, a result of the decrease in available employment in rural areas.

In a recent study conducted in Iowa, Nebraska and South Dakota by the University of Nebraska, Iowa State University and the Center for Rural Affairs, 59 percent of home-based businesses were found on farms. The percentage of household income generated by these on-farm businesses varied. Of the individuals studied, 34 made less than 10 percent of their household income from their on-farm business, 19 who made 10-30 percent of their income, 12 who made 30-50 percent of their income and 31 who made 50-99 percent of their income. Only 3.8 percent indicated they generate all of their farm income from non-agricultural production activities.

These findings illustrate a shift in on-farm activities from solely producing agricultural products to an environment where economic endeavors include entrepreneurial activities aimed at increasing household income. This structural change provides for some interesting decisions to be made by policy makers. As recently as the 1990 Farm Bill, new mandates for those working with agricultural producers, including programs supporting value adding activities and rural revitalization efforts, were identified. These new areas of emphasis were seen as important to maintain a strong rural economy.

In the future, we can expect to see increased diversity on Nebraska farms. These changes will undoubtedly influence how rural Nebraskans generate income, as well as the skills needed to participate in agriculture and the rural economy.
Rural community development policies and programs generally focus upon the places we "come from."

Community development programs reflect efforts to save the school, the church, post office and main street businesses. Special emphasis has been placed upon activities designed to produce local jobs, investments and improvements in the quality of life. However, there is another "community" dimension to be considered. Rural residents increasingly rely upon networks of people who are not neighbors living just down the road. Examples range from state and national livestock and commodity organizations to distance learning networks and patient tests examined by distant health specialists. Telecommunication services and overnight parcel delivery have changed trade areas and consumer purchasing patterns.

Recently, Department of Agricultural Economics researchers asked rural Nebraska residents about their use of information age tools. Nineteen percent reported they used computers at home, while 29 percent said they used them at work. Other information age tools, including digital phones, cable TV, cordless phones and answering machines were found in more than one in four Nebraska households.

Telecommunications changes have been described as a shift from POTS to PANS - from Plain Old Telephone Services to Pretty Amazing New Stuff. Competition, deregulation and privatization have been factors encouraging the adoption of these new technologies. Private communication networks, providing communication services to financial institutions, for suppliers, dealers, insurers and others have developed. A substantial share of telecommunications investments and international communications has been associated with these private networks.

As the PANS grow beyond the traditional voice services most ordinary residences and small businesses use, the universal service goal, to serve remote areas at a reasonable price, must be re-examined.

Competition, deregulation and privatization will influence progress toward universal service goals. Business and industry leaders respond to these factors, however as one author has suggested - universal service cannot be matter for a laissez-faire revolution.

The importance of adequate telecommunications to rural development has been compared to the effects of highways and power lines on previous generations of rural Americans. Rural development "demand aggregation" strategies have been proposed to address challenges associated with equipment, charges and access to competitive carriers. Rural Area Networks (RAN's) could help education, health, business and government leaders pool talents and resources to avoid duplication and aggregate demand.

I was not among the first to learn or use bank cards or other innovations that seem to place more emphasis upon my number than my name. Many students learned to use computers, software packages and modems before me. However, I'm also reluctant to be left behind. To capture the advantages of these telecommunications tools for rural development, programs may be needed to help build the awareness and change the attitudes and behaviors among people reluctant to change.
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