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## United States Feed Grain Policy Reform

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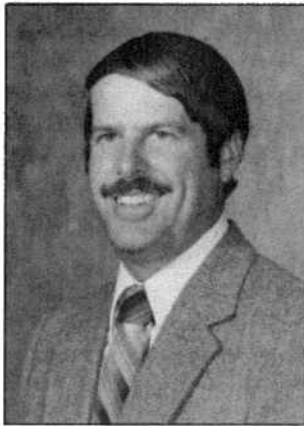
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# United States Feed Grain Policy Reform

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by Ron Vos

**I**n many ways when one describes present day agriculture in the United States, one can begin the way Charles Dickens begins *A Tale of Two Cities*: "It [is] the best of times; it [is] the worst of times." It all depends on your focus.

One can look at the tremendous yields of corn and soybeans whose piles form mountains in the prairie towns of the midwest. Or one can look at how farmers today produce far more with fewer farmers than previous generations. (The latest figure is that one farmer feeds himself and 128 people.) Or a person could look at how much soil

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erosion has been curtailed by good conservation practices and programs since 1985. By looking at these items, one person could conclude that it is indeed the best of times.

However, if one examines the amount of top soil that has been and is still being lost, he could conclude the opposite. If one examines the USDA index of prices received by farmers for November 1994, he would see that these prices are at a six-year low. Hog prices are at their lowest levels in decades and auctioneers expect to be busy soon with farm auctions as more farmers leave the land. Even though synthetic pesticide use has increased several fold since 1945, crop losses to pests have remained relatively the same (Pimental, 1992). Many of the shallow aquifers that people in rural areas use for their drinking water contain traces of certain pesticides that are regularly used for grain production. Accidents cause so many farm deaths and injuries that farming has become one of the most dangerous occupations in the United States today. So these facts and others could lead us to conclude that it is indeed the worst of times. I believe that many of the problems associated with agriculture are inadvertently encouraged if not caused by current agricultural policy.

Indeed, agricultural policy, too, must be reformed in the general area of commodity programs. This paper will focus on the commodities prevalent in the midwest United States, emphasizing the feed grains program, especially the program for corn, since the programs for sorghum, rye, barley, and oats are patterned after it. It will briefly discuss the program for sugar but

will not include the programs for cotton, rice, or milk.

I will summarize present policies and focus on their undesirable effects. By present policies, I am referring to those in place during the late 1980s and early 1990s. I plan to suggest alternatives promoting a more diverse, sustainable agriculture that is more just. I will include an analysis of present tax policies that are part of our current agricultural policy or were part of it in the past. I am also going to suggest changes for these.

Finally, I will develop an agricultural policy for feed grains that can be used as a model for other programs. In fact, the entire United States agricultural policy could be overhauled according to this model. I am taking the position that even though there may be some good things happening because of present agricultural policy, there is vast room for improvement. Unless this improvement occurs soon, the consequences will be dire.

In order for constructive change to occur, one has to take a critical look at the present situation and ask hard questions. If producers and policy makers don't question the status quo, then no purposeful or directional changes will occur. If no one asks the right questions the right answers will be long in coming.

## **History of**

### **U.S. Agricultural Policy**

In the early part of the United States' history, agriculture dominated the economy. Most of the population lived in the vast rural areas of the country. Agriculture was our nation's main business. Until the 1860's, there was no specific, separate agricultural policy. Most of the efforts of the fledgling country involved settling the land and developing an infrastructure of transportation and education. There were some differences of opinion already during the early period of our country as to what the farms of America would look like. Thomas Jefferson favored smaller, dispersed farms owned and operated by independent farmers. Andrew Hamilton favored a large farm concept in which mainly the wealthy were the farm owners employing many non-owner workers. Generally, the Jeffersonian ideal has guided our agricultural policy.

During the first half of the nineteenth century, differences between the North and South about

agricultural policy were often simmering just below the surface. This was in part because the West and North were settled by people who embodied the Jeffersonian ideal, whereas the plantation system of the South was an endorsement of the Hamilton ideal.

After the South seceded from the Union at the beginning of the Civil War, many pieces of legislation dealing specifically with agriculture were enacted into law. In 1862 three such major pieces enacted were the Homestead Act, the Morrill Act, and the law that created the United States Department of Agriculture (USDA). These were later followed by the Hatch Act, Smith-Lever Act, and Smith-Hughes Act (Knutson, 1990). The point of mentioning these laws is not to single out these acts, but to present these as examples of specific, focused federal government action that gave direction to the agriculture. This focus is often lacking today. Federal legislation too often sends conflicting signals.

After the New Deal policies of 1933-1940, the government was more involved in agriculture than during the period preceding it. This change occurred partly because the nation had just gone through the Great Depression. When Franklin D. Roosevelt became president, he embarked on an ambitious plan to alleviate the effects of the depression. Laws such as the Agricultural Adjustment Acts of 1933, 1936, and 1938 were the predecessors of our present feed-grain policy. Included in the 1938 act were nonrecourse loan, direct payments to farmers, and production controls. The Agricultural Adjustment Act of 1949 codified these items into "permanent" legislation. Much of this legislation is good but resulted in unintended side effects which undercut the main intent of the original legislation. I will highlight some of these examples.

## **The Present Situation:**

### **The Best of Times, The Worst of Times**

Present United States' agricultural policy often confuses the average producer. It encourages the grain producer to plant fence-row to fence-row, as Earl Butz, the Secretary of Agriculture in the early 1970s, so aptly stated. This productivity is seen, among other things, as one way to help balance the United States' trade deficit. On the other hand,

producers are facing stiff fines for draining small wetlands on their farms that would allow them to farm a few more acres. At best, the present agricultural policy signals are confusing; at worst, the present policy is in many ways a failure. The government policy as seen in its programs is in disarray.

The present feed grains program has target prices set for the specific grains. For example, the target price for corn is \$2.75 per bushel. If the national market price for corn averages less than \$2.75 per bushel during the marketing year, the producer receives a deficiency payment to make up the difference. In effect, the producer knows at the beginning of the cropping season the minimum he/she will receive (per bushel) for that year's crop. While this aspect may be good economically for the individual producer, the impact on agriculture in the aggregate is detrimental.

This policy has many side effects. One of these effects is that it encourages separating the growing of grain away from where the grain is fed. Traditionally, farmers kept livestock as a form of insurance against price fluctuations in grain crops. However, under the present system, a grain producer does not need a livestock enterprise to use up the grain or as insurance against price fluctuations. When livestock are raised on the same farm where the grain is grown and fed this grain, they generally add value to the grain crop produced on the farm. But if the grain producer is guaranteed a minimum price for his/her grain, there is less incentive to raise livestock for the added value.

The result is that livestock tends to become concentrated in very large operations. These large livestock operations can purchase feed grains at low market prices, often below the break even price of the grower. The grower in turn receives a deficiency payment to make up for the low grain prices. The United States taxpayer ends up paying for this deficiency under this scenario. This policy also allows these large livestock operations to move to regions that lack the comparative advantage for grain production. Shipping grain into these regions is economically feasible only because the real cost for shipping the grain using non-renewable fossil fuels is not factored in.

The concentration of large numbers of livestock into small areas brings with it a unique set of envi-

ronmental problems. Two of the major ones are odor and waste disposal. If livestock operations are dispersed throughout the countryside on farms that also grow grain, the manure produced is an asset. It is used as fertilizer and applied to the ground on which grain crops will be grown. This is a biologically and economically sound system. In addition, the mature livestock often are used to scavenge the fodder or missed grain from the grain crop. This allows for inexpensive feed costs and wide dispersal of manure back on the crop ground. When livestock production is highly concentrated in a small area, waste disposal and excessive odor become an economic and environmental liability.

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*If no one asks the right questions the right answers will be long in coming.*

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Another negative result of such livestock concentration is the abatement of taxes. The owners of the livestock often move their operations into economically depressed areas with the promise to bring jobs. As a result, states give tax breaks to livestock confinements that are not available to small producers. Livestock production that is separated from grain production ends up with a subsidy.

The divorce of livestock production from the grain-producing farm also leads to under-employment of the grain producer during noncrop growing periods. One of the ways that grain producers try to compensate for this problem is by farming more acres. This is done in an attempt to spread the fixed costs of machinery over more acres. The result is that during the cropping season, producers are extremely busy, often at the expense of social contacts, including family, and are more prone to accidents. The producers also may be forced to use more chemicals to farm since they don't have the time to use other forms of weed control. No-till, for example, does not use tillage to prepare a seed bed for the grain crop, thus allowing the producer more time to cover more acres and reducing soil erosion. Associated with this relatively new method is more intensive use of chemicals and their resulting negative environmental consequences.

Another result of the present feed-grains program is the need to use large equipment to get the

grain crop planted and harvested in a timely manner. These machines cost an enormous amount of money. In 1960 each tractor horsepower cost about 33 bushels of corn. By 1990 it was estimated that each tractor horsepower cost about 130 bushels of corn (Miller, 1990). A new combine to harvest corn may cost the equivalent of 75,000 bushels of corn. The annual operating costs of this machine may require the equivalent of 15,000 bushels of corn. These high costs must be spread over more acres to lower the fixed cost per acre. The result of this pressure is that fewer farmers are needed and only those that farm a large number of acres will succeed. This pattern results because profit margins per acre are very small or negative for grain producers. However, efficiency usually increases, plateaus, and sometimes decreases at these higher numbers of acres.

The economic costs of the previously mentioned scenario are well known by producers. What is not well known presently are the negative effects these large machines are having on the soil structure and, ultimately, future crop yields. Surface compaction is quite easy to detect. Subsurface compaction caused by axle weights exceeding five tons, which exists below the plow layer, is only beginning to be recognized as a major problem. Surface compaction can be remedied by using dual wheels or other devices. The large combines and grain carts, when filled with grain, will weigh up to fifteen tons per axle, thus destroying the soil structure. The bulk density of the soil is increased and the soil pores are crushed. This density hinders root development, reduces the water holding capacity of the soil, and reduces the aeration of the soil, which is needed for microbial action to release nutrients into the soil.

These harmful effects occur most often when soil conditions are too wet. In order to get a large number of acres of the grain crop planted and harvested in a timely manner, these wet conditions are often encountered. Presently subsoil damage can not be reversed. The phenomenon is too new to assess how it can be solved, if it indeed can be solved. Short term studies over several years indicate compacted soil yields less, but the long term effect on crop yields is unknown. Most of these reductions are now masked by the use of more purchased fertilizers.

This compaction is becoming such an important issue that Volume 29/2-3, 1994 of *Soil and Tillage Research* was devoted to the subject of subsoil compaction caused by high axle load traffic. Nineteen articles by scientists from nine different countries dealt with the topic. In summary, these articles indicate that subsoil compaction is caused by riding heavy vehicles on wet soil and this compaction persists for decades and may be permanent (Hakansson, 1994).

Generally, growing grain in row crops causes more soil erosion than growing a sod-forming grass or legume. But the present feed grain program rewards those producers who plant the most program crop acres. A monocropping pattern like continuous corn will offer the producer the most return in the form of deficiency payments. The more program acres a producer has and the higher the producer's yield, the higher the deficiency payments will be when markets are low. However, rotations including small grains and legumes make good agronomic, biological, and economic sense. This is due to the benefits of pest control and biological nitrogen fixation. The present feed grain program with its own set of economic incentives obliterates these benefits.

Farmers often overlook the biodiversity effect offered by these rotations. Monocultures can be maintained over relatively long periods of time. However, this practice is questionable when centuries are the time frame of reference. Growing monocultures is a recent invention of our modern agriculture. We have no previous similar models to look to for answers. If one looks at the prairie as a model for what succeeds over centuries of time, then the conclusion that can be drawn is that diversity adds stability and thus sustainability. We recognize this principle today when it is recommended that an investment portfolio should include diversity. The adage that is often quoted for this principle comes from a farm setting: "Don't put all your eggs in one basket." This principle is apparently ignored when we think about farming today. In fact, the present United States agricultural policy works against this principle.

When livestock production is separated from feed grain production and concentrated into a small area, a management structure is usually

adopted that is different than that used on owner-operated farms. The new management structure separates labor from management. This is far different from the Jeffersonian ideal of entrepreneurial, independent, owner-operated farms. The workers in the large livestock enterprises are just that. They are only workers. This role is similar to a production worker's on a manufacturing line. The skills required to do the job are limited and the pay usually reflects this. Managerial decisions are made at another level by other people. The ideal of the independent farmer making his/her own decisions about running his/her own farm business is gone.

A final example of the negative impact of present agricultural policy deals with income taxes. Prior to the Tax Reform Act of 1986, investment credit of single purpose facilities (such as hog confinement buildings) and accelerated depreciation brought substantial nonfarm money into agriculture. While some positive things may be associated with this development, it also encourages the separation of grain production from animal production. Even after the Tax Reform Act of 1986, cash accounting and accelerated depreciation methods allow input expenses incurred in current years to be carried forward into later years and to be more rapidly amortized. This allowance creates incentives to purchase more than is needed. For example, fertilizer and lime applications to grain crops can be taken as ordinary business deductions in the current year. However, the benefits may actually extend over many years. Corporate farms also receive favorable federal income tax treatment—as much as a 30 per cent advantage over sole proprietorships. This tax break goes a long way to hide any inefficiencies that may exist in large operations.

### **Sugar:**

#### **A Good Example of a Bad Policy**

One of the best examples of a bad agricultural policy is the sugar program. Sugar is not a feed grain, but the sugar program affects the feed grain program because corn is also a source of sweeteners.

First, the sugar program benefits only the sugar producers. The price of sugar in the United States is far above the world market. The small amount

of sugar that is imported into the United States is assessed a high tariff. This tariff has a negative effect on the people in developing countries such as Haiti and the Dominican Republic whose livelihood depends on sugar cane. These countries basically cannot sell their product to the United States, even though they are relatively close geographically.

The price of sugar is usually set just below the price of sweeteners made from corn. This price regulation indirectly helps grain producers because it establishes a floor price for the product. However, the number of people who can grow sugar in the United States is very limited. Some of

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the bad effects of the sugar program can be seen in the state of Minnesota. In Minnesota, producers raising sugar beets are outbidding other producers for land purchase and rent. This bidding war has resulted because the returns generated by sugar beets far exceed those generated by feed grains. The growing of sugar beets is much "harder" on the land than the growing of other grains or rotations. The farmers who are selling and renting land to the sugar producers are usually grain producers who can not raise sugar beets because they cannot get contracts with sugar processors. The sugar producers have a monopolistic control over who can and cannot grow sugar beets and get them processed. They can make a good living doing this while grain producers are having a tough time making a living. This situation has divided communities in several areas of the state. This battle has caused hard feelings and occasional violent acts to occur (Schwab, 1990).

### **Future Policy Reform**

As I have stated previously, present agricultural policy has many problems. What is the best way to solve these problems? I am not suggesting that we should do away with all government programs and let a totally free market system drive prices. My

reason for not suggesting this approach is that the free market is amoral and is guided only by money. Instead, I am suggesting that the best way to solve the problems is to reform the present system. The problems in agriculture are complex and solving them will take time and coordinated efforts. What also is needed is people with a vision for what agriculture should be.

What are some of the parameters for an ideal agriculture? Agriculture ought to work in harmony with the biological cycles. This agriculture would encourage feeding livestock near where feed is grown. In other words, this agriculture would get livestock back on many farms throughout the countryside and would reward the owner-operator with a viable livelihood. It would help more people enter the profession and stop the exodus from the farm. It would inform the farmer so that the individual farmer can decide wisely rather than relying on off-farm "experts." This agriculture would sustain the natural resource base rather than deplete it.

Western culture over the centuries has aimed to dominate nature, to control it. Advertisements for agriculture products claim to conquer the land, the elements, and weeds. But humans have been called not only to till the earth, but also to care for it, to be responsible caretakers of natural resources. While humans indeed have the power to control nature and therefore are set apart from it, in another sense they are part of it and subject to the very rules that govern nature. The idea of dominating nature must be modified if a sustainable agriculture is going to exist.

Having animals and plants together is normative. If we look to nature as a model, we see that flora and fauna co-exist in prairie, forest, or any other ecosystem. In fact, they are both needed for mutual survival. Nutrients are cycled very efficiently in this system. It is only the human idea of dominating nature that attempts to short-circuit this cycling. Humans have been somewhat successful at doing this, but they always pay a price for this short-circuiting, either directly or indirectly.

We need a different accounting system to measure profits in agriculture. The true cost of our food is often not reflected in the price paid or received for commodities. The true costs are often

externalized and passed on to our children and grandchildren or to society as a whole in depreciated value of soil and water. Accounting systems used for business have included a capital consumption allowance that is subtracted from net revenue to calculate income. This allowance represents the depreciation of capital during the current year. Historically, this depreciation has applied only to humanly made capital and not to changes in the productive capacity of the natural resource base. We need to develop natural resource accounting that will quantify the economic, fiscal, and environmental costs and benefits of agricultural policy options. This accounting system would shed a different light on present policy options (Faeth, 1991).

We need to move away from thinking that American agriculture is industry like the steel or automobile industry, because agriculture is a biologically based system. It is also an economic system, but it has to play by the biological rules. Agricultural production according to an ecological model must be maintained and sustained if society is to prosper.

Some very successful groups of farmers presently follow the new model to some degree. One such group is Practical Farmers of Iowa (PFI). This organization of innovative and progressive farmers has a membership of over 450. Many have added new animal enterprises to their operations and are trying many new innovations that include rotational grazing, no use of chemicals in ridge tillage, and a host of other techniques. What is different is that about 35 of these farmers do statistically valid on-farm research along with scientists and researchers and share the results with neighbors at field days.

Another group that has been quietly practicing this new model is the Amish located in the eastern corn belt. Although often misunderstood and not taken seriously by many people in agriculture, this is one group that is prospering while other farms are struggling or have failed. This group is increasing the number of people involved in farming instead of following the national trend of fewer farmers. In my opinion, one reason these farmers are successful is that they work with nature instead of seeking to dominate it. One example is their use of solar powered electric fences to increase the

productivity of their pastures and dairy herds. They do this by practicing rotational grazing, instead of just planting feed grains to participate in the government program (Davis, 1994).

To reform agricultural policy, the government must offer incentives. I prefer education and incentives rather than laws forbidding what should not be done. What follows is a list of concrete examples of change. I have made no attempt to judge the practicality of them because things that often seem impractical now may not be so in the future. I have also tried to be succinct.

1. Give incentives to people who raise a medium amount of grain and livestock on the same farm. The number of livestock allowed for incentive could depend on the number of acres farmed. Now only grain producers receive government subsidies, with the exception of dairy.

2. Eliminate the feed grain program and substitute some sort of a safety net for farmers to protect them from catastrophic income loss. Plans similar to this are presently being discussed by various groups in anticipation of the 1995 farm bill.

3. Give incentives for growing nongrain crops. These could be grasses or legumes. The effect would be to lower surpluses of grains, which will raise their market price, reduce soil erosion, and decrease the amount of off-farm purchases for fertilizers and chemicals. This incentive would allow the market place to set the price for the products and allow farmers to respond accordingly.

4. Encourage systems analysis research into problems in agriculture by giving larger monetary rewards for this type of research.

5. Design and implement a natural resource accounting system that quantifies the full costs (economic and environmental) of present farming systems and agricultural policy.

### **Sustainability**

The issue that faces all of agriculture is that of sustainability. Sustainable agriculture is a system

that is economically profitable, environmentally sound, and socially just. If our present system is not sustainable, then the future is dim. However, there are many hopeful signs. Farmers' attitudes are changing. Many are saying that they no longer want the feed grain program. They talk openly about sustainable agriculture and a shift in that direction. Research at the Land Institute in Kansas and at the Leopold Center for Sustainable Agriculture in Iowa are just two examples of institutions that are working towards a new model.

The real question that faces us is this: when world population increases and our resources have been depreciated, how will the world be fed? This problem is like a time bomb waiting to go off. By protecting our resource base and promoting agriculture that is sustainable, in one way by modifying the feed grain program, we will be more ready to meet the future.

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