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The Future of the Missouri Livestock Industry:  
Summary of the Seminar

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THE FUTURE OF THE MISSOURI LIVESTOCK INDUSTRY:  
SUMMARY OF THE SEMINAR

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The Future of the Missouri Livestock Industry:  
Summary of the Seminar\*

Philip M. Raup\*\*

I have been asked to carry out an impossible task. Ideas presented at this seminar cover a wide range. It is not possible in half an hour to do justice to all the excellent papers. Instead, this summary will reflect some of the highlights that triggered my antenna or that reminded me of problems or of opportunities that I thought significant.

The most pervasive aspect of discussions at this seminar has been the major relocation of the beef cattle feeding industry. Other things have happened that are important, and I would rank the concentration in hog feeding close behind the change in cattle feeding. But it is in second place; it has not carried the feeding enterprise in hogs to the level of concentration that has been reached in cattle. First place in terms of major transformations of the last two decades has to be accorded the move of cattle feeding out of the Corn Belt into a rather circumscribed area of the southern Great Plains.

Why did this happen? We need to look at fundamentals. Some of these have been mentioned at this seminar but others were treated superficially or not at all. Surely the most important explanation is that this move occurred when many would-be farmers who wanted to get started in farming

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\*Summary of the Harold F. Breimyer Agricultural Policy Seminar, University of Missouri, Columbia, Missouri, Nov. 13-14, 1986.

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were enamored of the potentials of mechanization in crop farming and did not want to be tied down with the care of animals. We were having a generational change in the life styles of farmers and especially of those who could be identified as family farmers. It was the farm family that was changing, and with it the family farm. We now have many young people and middle aged people on farms who do not intend to be tied down by the care of cattle or hogs or dairy cows.

A majority of the people in agriculture today very much like the idea of part-time farming, even though many might be called full time commercial farmers. By any definition many cash crop farmers are seasonally unemployed a good portion of the year. In some places employment is seven months and in some other places such as northern Minnesota it is closer to six. As a consequence, we have had underemployment consciously selected as a life style in agriculture. For a few short years the sudden expansion in export demand for American grains made it possible to shift from livestock agriculture to cash grain agriculture to advantage. There was a market for the cash grain.

That occurred piggyback with another development that no one planned but was serendipitous in that the two augmented each other. Water and irrigation technology were made available and artificially cheap in the Great Plains atop the Ogallala aquifer. Center pivot irrigation was perfected in the late 1950s and the 1960s; well-drilling techniques were improved; and the effect of the control of the price of natural gas was to make natural gas an artificially underpriced energy source. All these came to fruit at the same time. We had an artificially underpriced source of energy, and an artificially underpriced source of water, with no charge

for withdrawal, and even at that time no permit system to limit withdrawal. There wasn't even any systematic monitoring of the water table.

This created a sudden opportunity for enormous capital gains to be made by buying up cheap dust-bowl quality scrub land, brush land and sand land, putting down wells, and making the desert blossom like a rose. Capital value could easily be increased five times and, without much trouble, ten times. That's the way the Sandhills of Nebraska were opened up. That's the way the high plains of western Kansas, above 2500 feet, were placed under irrigation. The same was true in the Texas and Oklahoma panhandles and in parts of Wyoming and northeastern Colorado.

This was a capital-gains-driven application of new technology that was artificially underpriced, and that was making use of a fund resource in the sense that the water being pumped out of the Ogallala is geologic in origin. There is some recharge in the northern Ogallala and more in the Platte River valley, but in the Ogallala as accurately defined, if there is recharge we do not know how to measure it. At best it is very slow. The presumption is that the Ogallala is geologic water, and when once pumped out it is gone.

That recognition was slow in coming. I am not sure anything would have been done about it if the depletion had been recognized earlier but the fact is that it was not. So we encouraged the tapping of this geologic water source by providing cheap credit, and a well developed technology propelled with underpriced fuel.

The result was a gold mine, a windfall of cheap feed, in an area that had formerly been beyond the margin of crop farming. If anyone wanted to

buy cheap and sell dear, this was the biggest opportunity in the history of American agriculture since the opening of the West with the construction of the railroads.

At about the same time, institutional credit sources changed their rules. The Federal Land Banks were most prominent but some other institutional credit sectors -- insurance companies, for example -- did so too. Likewise some of the commercial banks that were lending nominally on chattels were looking at possible appreciation in value of real estate and bent their rules in making chattel loans. The loans were non-collateralized by real estate collateral, but the banks might not have made the chattel loans if real estate had not been appreciating in value as back-up. Credit was suddenly made available on a scale and with a degree of leveraging that had not previously been possible.

Another event was a change in life style on the part of urban residents that affected tremendously their expanded use of space for purposes of conspicuous consumption. As income goes up, the income elasticity of demand for space rises. At some point a person becomes satiated with material things and even vacations in the Swiss Alps. Buying space around oneself is the most conspicuous form of using a scarce resource. Anyone who wants to live lavishly in this culture buys a remote vacation home or a remote ranch or goes into horse farming or does some other things that involve the use of space. At the middle income level this means moving to the suburbs and putting a rambler on a half-acre lot. But if a person has a really high income he buys a ranch and flies into Amarillo, or Laramie or Billings for a weekend in order to go out and look at his spread. These aspects of demand for space associated with rising income are most

dramatically exhibited in the way in which we have converted much of the West to a support system for pleasure horses. Many of the irrigation projects that were funded initially by the Bureau of Reclamation in order to produce food crops are now producing feed for the horses that give people an excuse to go to ranches in the West and that support a surprising portion of the farm population of the mountain states.

In the 1950s Harold Breimyer reported the number of acres that were gained as food producing land when we shifted to tractors from horses. It is now time that he, or someone, repeat this study in reverse, because we are rapidly losing large numbers of acres of food producing land to provide feed for horses. I estimate, roughly, that the city horse takes two times as many acres for his support as did a farm horse, in the days when we used farm horses. Adding pet food demand to horse support demand accounts for a significant element of demand for agricultural products, for what our veterinarian friends insist we call companion animals.

This "companion animal" support system has also affected areas around our cities and the kind of livestock people are willing to care for. A branch of the University of Minnesota at Waseca has a major program in light horse management. The program is supported well; class size is limited, with many waiting to enroll, and the majority of students are female.

This aspect of demand for land is a part of the syndrome that is associated with nurturing behavior that in an earlier generation was devoted to the care of economic animals but that in this generation is devoted to care for horses and other recreational animals. The life style change has altered the willingness of farm couples, especially of the



younger generation, to be tied down to the endless chores of always being available to be sure farm animals are fed, watered, or milked. More could have been said about these aspects of the livestock economy, in this seminar.

One other long term trend came to fruition in the 1970s. It was a consequence of rapid population growth in the Caribbean and especially in Mexico. It had been underway for some years but did not reach massive proportions until about the same time the other things happened that I have described -- access to the Ogallala, availability of cheap credit, and a shift to cash grain and out of livestock. Suddenly there was an influx of cheap labor. The result was predictable. Labor intensive forms of livestock production would go where labor was cheap, energy was cheap, the feed supply was suddenly expanded, and there was no previous record of committed capital so that it was not necessary to destroy an existing system. One could build from the ground up on a greenfield site. As a result, perhaps half of all beef cattle are now fed in a very restricted, sharply defined area of southwestern Kansas, northern Texas, western Oklahoma, eastern Colorado and western Nebraska. That area is now feed deficient, according to the estimate of a feed dealer in Dodge City, Kansas. Also, the large slaughter plants that have been constructed in the area are feed-cattle deficient. Cattle for slaughter are trucked in from outside the area. Not enough fed cattle are available in the area to permit the slaughter plants to operate at a scale of highest efficiency. Carcasses also are trucked in, from other parts of the Middle West, so that their breakers and trimmers -- an intensive and expensive part of the slaughter operation -- can be kept fully occupied.

We have seen cattle feeding shifting to the southern Great Plains where it is dependent on fragile resources, especially water, and is highly suspect in terms of its permanence. The industry has now grown so large that it cannot be supported from its local, that is, its most economically located, resources. In Nebraska the same phenomenon of cheap feed and irrigated exploitation of the Platte River valley and the Ogallala aquifer provide a partial explanation for the expansion of hog feeding there. As we have been told at this seminar, hogs tend to gravitate to cheap feed. Feed was made cheap by the sudden expansion of irrigated agriculture in the Sandhills and the dry western counties of Nebraska. Something similar to what happened in the Southern Great Plains for cattle happened in Nebraska for hogs, but it did not lead to the seem degree of concentration, primarily because of disease control problems. Disease control is much more expensive in hogs than cattle, requires higher levels of technical skills, and can wipe out an operation quicker. The risk factor in concentrated hogs is very high. I do not believe that risk factor was adequately stressed at this seminar.

A lot was said about the weather determinants of location for beef feeding. Questions raised during open discussion, though, imply some doubt about the emphasis placed on weather. I am sure weather led some feeders to go into the Southern Great Plains, but I am impressed by some other considerations that were not mentioned and need to be brought into the equation. For example, when Cargill decided to enter the beef feeding and meat packing business, the president of the company was a native of Kansas, and was well acquainted with the cattle feeding operations in his home state. I think the geographic origin of the Chief Executive Officer

of Cargill at the time Cargill's decision was made had as much to do with that decision as any hard-nosed, cold-blooded analysis based on weather factors or market orientation. Much the same applied to the development of the beef slaughter industry. Armand Hammer of Occidental Petroleum bought into cattle slaughter in the Southwestern Great Plains. Hammer is an immigrant from Russia who came to this country contemporarily with a Mr. Chelowitz, who became one of the largest exporters of cattle hides to the Soviet Union. Chelowitz used his knowledge of Russian to develop that part of our export market. It was mentioned at this seminar that sale of hides is a major part of our agricultural exports. A good portion of the hide export to the Soviet Union has been organized by Mr. Chelowitz's firm. Mr. Chelowitz bought into Colorado Dressed Beef and into Ceres Land Company that once had large holdings north of Wray. I have no doubt that Mr. Hammer and Mr. Chelowitz crossed paths someplace. The fact that Armand Hammer and Occidental Petroleum are now owners of Iowa Beef Processors and therefore have operating responsibility for one of the largest beef slaughtering plants in the world may well be a consequence of personal relationships as much as of cost-benefit analysis. We should not neglect the non-quantifiable dimensions of these decisions that were made.

But the decisions were made. As a consequence, we now have a livestock industry, particularly a cattle feeding industry, in the United States that faces a new ball game. Land prices have collapsed. The prospects of making a fast buck from capital gains in land are very poor right now. Not many location decisions with respect to cattle will be made in the hope of getting rich from land value appreciation. When the decisions were made to locate cattle feeding where it is now located, those were

realistic prospects, and they were influential in the decisions. The situation is different now.

The export market for feed grain is weak and feed grain stocks are piling up. Although that may make temporarily for cheap feed grain it also holds the prospect that a lot of people in the grain production business are going to have to find something to do with their grain. Even though the use of surplus labor time on grain farms to feed livestock may not seem economic when costed out in a commercial setting, a grain farmer who has wet corn that will be lost if it is not fed -- and there are many such grain farmers just now -- may make a loss-minimizing calculation. He may be back in the feeding business. Whether that occurs, and whether there are enough farmers who decide they would like to employ themselves more months of the year than cash grain will offer could influence some relocation of cattle feeding activities. Some grain farmers may decide any added income is better than getting nothing for the months of underemployment and for them this may be a rational decision. There is unlikely to be a major move of cattle feeding back into the Corn Belt but there could be a weakening of the dominant position currently exercised by the feed-importing sector of the Southern Great Plains.

Another thing that has happened is that tax policy has changed. Not much was said about this at the seminar. Perhaps the issue is so apparent that there was no need to say much about it, but I should like to have seen more emphasis on tax policy. I think the issue is misunderstood and underestimated. With regard to the livestock industry the feature that is important is the attraction the previous policy gave to people with large incomes to put their incomes in tax shelters that involved some aspects of

cattle feeding, or other kinds of livestock. It might have been breeding horses. The tax shelter that has been possible in breeding horses has been enormous. It's one reason we have had an explosion in horse numbers. Breeding cow herds, of course, have been notorious for their tax shelter advantages. The President of the United States, when he was Governor of California, had breeding cow herds registered in his name in several different states. They were managed for him by Oppenheimer and Company in Kansas City, Missouri. This is well documented. This use of tax shelters is authorized from on high!

Not all those shelters have been wiped out but the tax reform act of 1986 certainly changes them. We aren't yet quite sure just how. The change in tax law is coupled with another development that was not anticipated. The oil price collapse has suddenly reduced the population of Texas, Oklahoma and other oil millionaires hunting for tax shelters in cattle feedlot operations.

On the demand side for tax shelters we have had a big decline, and on the supply side we have had a tax policy change. When the two are put together, I predict that a lot of the cattle that have been carried in feedlots by the taxpayers of the United States through the deductibility features of tax shelters will no longer be carried by taxpayers. That source of tax shelters will not be available, and the income to be sheltered has suddenly diminished.

The cost of carrying cattle to finished weight is principally a capital carrying cost. Feed is important. The labor is not very important. But the interest on the capital tied up is very important. This is why, when interest rates are high, it is not profitable to hold cattle on grass. As

interest rates fall, grass feeding of cattle increases in attractiveness. Holding cattle on grass as long as possible and putting a fine finish on them at the last minute becomes more attractive. If the availability of investment funds for putting cattle in feedlots suddenly declines, if the interest rate falls, if incomes to be sheltered from the oil patch disappear, then cattle feeding in the Great Plains will be different in the next decade than the last. It will be different in measurable and significant proportions.

As a question I posed to Mr. Haw suggested, another dimension that could perhaps be most important is that we are overdue for our periodic drouth in the Great Plains. We have not had a severe drouth in the Great Plains since 1954-55. Drouths are periodic; they do recur. It's just a question of time. What will it mean when it turns out, as will be discovered, that we have half the fed beef capacity in the United States squarely in the middle of what was once defined as the dust bowl, and will again be a dust bowl when we get that kind of drouth?

My question was answered as though it dealt with the adequacy of the feed supply. That is not my concern. Anyone who lived through the dust storms of the 1930s knows that feed can be brought in. What I am concerned about is animal health. It is impossible to raise animals in dust storm conditions. They get dust pneumonia. I believe the risk of exposure of big cattle feedlots in the Southern Great Plains is very high. If I were involved in that business I would be hedging some of my risk. I suspect that some of the people who have their money in those big cattle feedlots might be questioning seriously whether they want to keep it there.

I now come to another feature that may be more significant than the physical and geographic dimensions that I have commented on thus far. Much of the capital invested in the corporations that have recently bought into the livestock sector is private capital in corporations not publicly traded. There are exceptions; some of the corporations are publicly traded. But Mr. Haw made it clear that the freedom of movement he enjoys in managing a non-publicly-traded source of corporate capital is a major part of the advantage of this system. It may be that private corporate capital is the only kind of corporate capital that can survive in the livestock business. Publicly traded corporate capital might not survive a seven year cattle cycle. A dividend would be demanded by the stockholders; the stock market would downprice the stock; management would be relieved of responsibility; and a new managerial team would be brought in. It seems quite likely that publicly traded corporations are unsuited to the livestock producing business. If we do have large scale corporate capital in livestock it will almost certainly be of the corporate type represented by a Cargill, or by another privately-held and -dominated source of capital in which a few wealthy investors call the tune. All this suggests that the character of corporate agriculture will be a rather strange form of corporate structure. We can ask -- I am asking -- how impermanent, how transient, is that capital source? How long will those sources hold still during the tough times? Is that capital likely to be migratory? We have lost many farmers in the last several years. But the great strength of a small farm system is that individual farms can go broke at low social cost. I commented on this point at previous seminars. The danger of the kind of system we are now developing, especially in beef

cattle feeding, is that we now have firms so big that they approach the kind of social problem that is created when we contemplated bankruptcy for Chrysler or for Lockheed. In that sense, I think there is no doubt that we have lost flexibility and resilience in our cattle feeding industry. It is now more fragile because it is more rigid. It could do more damage if it breaks, or fails.

One other thought drilled into me by this seminar is that in addition to the numerous ways we have subsidized and directed the kind of livestock industry we now have, there is a dimension that has not been discussed but would be appropriate. It is the fact that without plan, without design, and in the absence of any illegal or diabolical intent, agricultural research in the agricultural universities is increasingly focused on the kind of research product that will be of greatest use to large firms. Every Experiment Station Director in the Association of Land Grant Colleges and Universities will deny this statement. But I think I can defend my allegation.

An ambitious young graduate student or a faculty member bucking for tenured promotion will be aware of the fact that rewards flowing from a grant of money to supplement the regularly scheduled source of support coming from the state or the federal government will be greatest if the research supplies something that is of interest to a large corporation. The student or faculty member will almost inevitably direct research to something that is most salable in a market that would be of interest to a large firm -- to a large corporate source of employment for the graduate student and of support funding for the faculty member. Again, this will not be planned, it will not be diabolic, but it will be very pervasive.



We must add to that the increased drive for funding from non-traditional sources in our universities. This amounts to an instruction, "Go out and get yourself a grant, and then we'll give you a job, or if you have a job and want to be promoted, get yourself a grant and then we'll promote you." Where does one go to look for grant funds? The answer shows that we are adrift toward research that is not scale-neutral. We do not now have scale neutral research in the agricultural universities, and the pattern will get worse.

This is an aspect of the kind of slanting or biasing or direction-setting that determines the size of firm and the structure of farms in agriculture that is within our control -- within the realm of policy decisions that would be made within the agricultural universities.

Another dimension of the economic forces that will shape our future will probably soon be taken out of our control. This has to do with the economics as well as the politics of using public subsidies and diminishing agricultural resources to produce grains for storage that are unsalable. It must be acknowledged that in a world in which we now face the prospects of cutting back on grain production, little is to be said for subsidizing the withdrawal of water from the Ogallala aquifer to produce grains that are already in surplus. If one is sensible and takes a rational course, the first thing that should be cut back is grain produced with subsidized irrigation water. This advice, of course, will not fly in the Southern Great Plains. The fact remains that we have a livestock industry for fed beef production that is dependent for its feed supply on the politically least defensible exhaustion of an exhaustible

resource that one can imagine. Land irrigated with geologic water should be the first candidate for retirement.

Missouri is in reasonably good shape. The state has land that has limited uses but can produce grass for a cow-calf unit. There is a lot of it, and some of it has been in grain crops that probably should come out. I am not talking about the Ozark ridge; I am looking north from Columbia, not south. If we do withdraw land sensibly in order to cut back on grain production, quite a lot of Missouri's land should go into a support base for the cow-calf industry.

The big ranches and the support system that put the cattle out in the Great Plains are not fully effective within the present structure of the beef cattle industry. I suspect that a return of cattle to the Corn Belt, even if only to the Nebraska part of the Corn Belt, would further emphasize the skewed nature of the system that now supplies the frames to the feedlots in the Southern Great Plains on which they put meat. They last time I looked at the data, the major source of supply of feeder cattle for feedlots in western Kansas was, not surprisingly, Texas; but an important secondary supplier was Mississippi. If one drives southern interstates he passes tractor-trailer after tractor-trailer loaded with thin cattle coming out of the South and going into those feedlots. That is uneconomic transport of livestock. More of the thin feeders ought to come out of areas that have good grass and are closer to the slaughter plants. Missouri is one of those places.