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## INDUSTRIALIZATION OF AGRICULTURE

### ROUNDTABLE DISCUSSION

*Question and Comment from a Member of the Audience.* I think the industrialization discussion as phrased here is incorrectly phrased. I do not think the question is whether big is bad and small is beautiful, but whether or not open markets will dominate the coordination of the food system. I think the question is whether administrative mechanisms internal to firms will dominate the coordination of the food system, and what the public role is in that? I think that part of the public problem is that the grades and standards markets work and they work well. I believe the strong vertical coordination and integration that we are seeing is the result of market failure to produce the standards that are required by the new processing techniques. If those grades and standards were more appropriate, there would be better functioning markets. What are your reactions to these questions and statements?

**Response by Ed McMillan.** First of all, I have to admit that I have skepticism about the government's ability to develop standards that reflect the true consumer's needs. But, I do realize that is the role of government—to try to accomplish that. Unfortunately, political influences sometimes override logic in the process.

I think an important issue is that the consumer is heard through the process, whether it is a domestic consumer or a world consumer. Obviously, at this point, our consumers here are more discriminating than the typical world consumer. I believe that is the beginning of the process. If the consumers' expectations are heard; if there is a rational system of trying to develop quality standards to meet those needs—whether it is safety or nutritional expectations, whatever it may be—it is important that those two, and the government's role in trying to ensure the delivery of what the consumers wants, can come together.

What I get concerned about is when the government tries to tell the consumers what they should be wanting. I think that is when we get into a dilemma between how those two come together. I look at Europe. You look at the concern of the EU toward products that are primarily American-type products—that are influenced by technology. It is not necessarily a reflection of the consumers' demand. It is a reflection of policy. In effect, it is an effort to try to influence trade policy that is being communicated and excused. That is why I think there needs to be an important delineation.

**Response by Terry Barr.** The only comment I would make is you are asking, to some degree, whether the political process can keep up with the market process. I am not sure that is possible the way the system works. Government policy always lags market changes. However, your assumption is because you integrate this system

back, it is not going to be a good system. In other words, somehow if it is not an open market, it is not a good system.

I guess, if you look at who participates in the political process, and you look at who participates in the market process, you will find they do not match up very well. You have dollars voting in one system, and you have people voting one-man-one-vote in the other system, and so forth. Furthermore, not very many people participate in the political process. So, I agree with your question. There is a question of how this system is going to be shaped, and I bring up the point of who is going to control this system? Right now, there are two points of control. There is a point of control in the genetics side and a point of control in the consumer side. That is the system that we are watching evolve right now. You bring in the rural communities issues with that as well. But, there is a question of what the proper role is for government as we watch this system evolve.

**Response by Marvin Duncan.** Let me note one point with regard to markets. I think those of us who have placed great reliance on public markets and publicly available information are in for some disappointment in the future. I think public markets are on their way out—as we have known them. It may be because markets, or market structures, are not able to adapt quickly enough.

For example, you may recall that derivatives first emerged in the financial markets. It was a case where particular players on either side of the transaction wanted unique characteristics. They found that, by creating derivative contracts, they were able to reshape their obligations or their opportunities under those contractual arrangements. Derivative contracts are now becoming an important part of the commodities business. This is because commodity contracts traded on the various commodity exchanges are no longer specific enough, or reflect the unique characteristics that customers and processors want. So, we will see increased use of the derivatives and private contractual arrangements whether we like it or not.

**Additional Comment by Terry Barr.** I just want to add a follow-up on that as well. When talking about risk management, I am intrigued by the industry having a big debate about the futures market as a risk management tool. I would question whether the futures market is even going to be a viable market in the future.

**Question from the Audience.** *There is an implication and assumption in this discussion that we will have a more efficient system which might imply lower food prices or lower percentages of consumer dollar spent on food. What are the implications for food prices long-term?*

**Response by Ed McMillan.** Well, first of all, I operate under the premise that more and more of a product is going to be less and less a commodity. In this country, in particular, we are going to be developing unique type products again. Rather than

everyone producing No. 2 yellow corn, they are going to be producing a derivative of No. 2 yellow corn.

I think the value of the product that we are producing, whatever it may be, is going to be going up. The value of commodity products, No. 2 yellow corn, is going to be pressured lower. Its value to the system is going to be less tomorrow than it was today because the value of the unique products will go up. I think you see that in the meat industry. You see packers finally paying a premium for truly valued-added products—beef that is better eating quality—consistency of beef—with better eating quality. This means that the commodity-type carcass is going to have a lower value. I think it is a natural implication of that. It does not mean that the net income or profitability of producers is going to go down. It means their opportunity for income is going to go up as they differentiate themselves, from a commodity producer, to a value-added producer.

***Comment from the Questioner.** I asked about the food prices at the consumer level.*

**Response by Terry Barr.** My philosophy has always been that the American public is going to spend about 10 or 12 percent of its income for food. I do not think that this going to change a great deal. They are going to pay more for services associated with food, convenience, etcetera. But, I do not think that consumers are willing to commit large amounts of money to the raw product side. You are looking at a food industry that is probably going to continue to deliver right at about the level of inflation. We have a public policy that is going to work very hard to make sure that happens.

One of the problems we have right now is we have untested farm policy. In other words, we have a farm policy in place now that does not use grain reserves, does not use acreage controls, and does not use the traditional barometers to adjust supply to the marketplace. We have not been through the down side of this thing yet to see whether these tools are going to stay in place.

My experience in Washington is that policy decisions there were made on the basis of maintaining modest increases in food prices. That was the policy. Once you step outside of the U.S. Department of Agriculture, every other agency in town will support those decisions and will support moderate food price inflation. I do not think that is going to change any time soon.

**Response by Marvin Duncan.** One of the things the new food system is enforcing on us is the requirement that everyone associated with a business arrangement perform as expected. The cost of not performing will become extremely high. For example, consider the recent case of Hudson Foods in which one of their suppliers apparently provided them contaminated beef. This situation resulted in

not only a loss of Hudson Food's major customer for beef patties, Burger King, but it consecutively triggered the sale of the plant and, ultimately, the sale of the company. I envision that kind of tight linkage and dependency upon other people with whom you have a business or an alliance relationship. I think it is one of the emerging characteristics of this new food system. I would be interested to know whether my colleagues agree with that, or take issue with it.

**Response by Terry Barr.** Well, yes, there is no doubt about that. I think that this is one of the areas where producers and firms are going to be looking for a niche for themselves to provide that assurance. That is going to be part of the marketing value. Everything they sell on inputs is going to have some type of service associated with it. That certifies this product in some way to the rest of the food system. That is simply the way you are going to market.

**Response by Ed McMillan.** The license to market is going to be tied to that type of fulfillment. Product value and quality expectation are going to become more and more important. Furthermore, you are not going to be able to participate unless you have product value and quality at a competitive price.

**Question and Comment from a Member of the Audience.** *Marvin Duncan mentioned that a key issue was whether the benefits have exceeded the cost of industrialization. I want to focus on that, but reframe the question just a little bit. I want to talk about the distribution of the benefits and costs. I guess a quick observation would seem to be if benefits are, in some ways, concentrated towards certain groups and are, in some ways, diffusely provided to consumers. Also, on the other hand, some of the costs—environmental nuisance, for instance—may be for local economic infrastructure. Those types of costs are borne fairly locally by communities and neighbors. Some of the road blocks and obstacles we are experiencing have to do with the people who are bearing those costs, but who do not have any way to be compensated. So, would the panel comment about this benefit/cost distribution—is it a road block to the acceptance of industrialization?*

**Response by Marvin Duncan.** I think it clearly is. As was indicated, hogs will be produced where it is politically acceptable to produce them in an industrialized system, rather than where the slaughter facilities or the corn are. That seems to be the new reality.

I think that the issue of distribution of benefits and losses is an important question for us to deal with. This is particularly true in the land grant university system. In North Dakota, we probably are not unlike a lot of other states in the Mid-West and Great Plains in this sense. We probably have 25 percent to 30 percent of our farmers who are not going to survive the process of industrialization and integration. It is not only because of that process—it is that these farms, in many cases, are unfortunately going into this environment with too much debt, without

enough adequate management capabilities, and without adequate scale of operation. Perhaps, they simply managed to be farming during a period of adverse weather. So, there are going to be significant losers as well. You are absolutely right. The losers are going to be disbursed and the winner will be more concentrated.

**Response by Terry Barr.** I will add that you have to take that to an international dimension as well. When you started talking about positioning of our agriculture, I recalled some discussions I have had with our members. I asked them, “If you had to build facilities today, would you build them in this country? If you had to make investments in agriculture, would you make those investments in this country?” So, I think this cost-benefit question needs to be analyzed on a global scale as well as a community-type level.

**Question and Comment from a Member of the Audience.** *It seems to me that, one way or the other, eventually we are going to come down really hard on the externalities and force firms to internalize. One way to do this might be to use technology at the local level to deal with public policy. We mentioned earlier that hogs have been moved to North Dakota where there are no people, or to the Great Plains somewhere. But, the fundamental issue is—is all of this process going to give the advantage to the very large firm, the intermediate size, or the small firm? What is it going to do to the structure of agriculture?*

**Response by Ed McMillan.** I do not think the implication necessarily has an advantage or a disadvantage with one or the other. I think the advantage will be to the company who has a philosophy of reinvesting in the gain in future technology. If you look back over the last 15 years of the businesses in agriculture—particularly from the supply side of agriculture—who are survivors today? Who were leaders 10 to 15 years ago? What you find is the ones who lost, for whatever reason, were those who chose to quit investing in technology. It is about a 5-year lag, depending on which industry you are talking about. They were either absorbed, or they lost out in the process.

I think that whoever chooses to reinvest their value creation into future value creation will succeed with new technology. I think we have examples of that in the largest companies, as well as the smallest companies. But, I think that is one of the underlying consistencies that move forward in that process. I think it is important for the government to encourage that development and for the private and public sector to cooperate in the acceleration of that technology so that it is not a we/they philosophy going forward.

**Response by Terry Barr.** I think the advantage does go to the large-sized producer. I think that the way this system is evolving, if you look at the concentration in the food processing side and if you look at the concentration in the away-from-home retail delivery-side, you are going to have a critical mass of product to provide

to these companies. That is, if they want to do business with you. Now, that does not mean you have to be large and, again, my bias with regard to cooperatives may come through a little bit here, but I think it is a question of whether farmers are willing to come together and organize themselves into some kind of an entity that can deliver a critical mass to the rest of the food system.

This system is going to get narrower and narrower and the question is—"Who has enough control over the production mass to be able to do an alliance with the rest of the food system?" This means to give assurances to the system (all the assurances they want) in terms of what kind of input you use. How did you harvest it? What are the quality controls? What are the specifications on it?

If I am in the away-from-home sector, I want assurance that the product is going to be delivered to me. I want certain quality on it, etcetera. You do not want Burger King announcing a new product about the same time Hudson Foods announces the contamination of the beef. This is not good business. So, there are going to be very strong relationships back down the system. That does not mean that it is with a particular farm or single entity. I think one of the reasons they go into business themselves is that they cannot find the entities to do the kind of things that they want to do. If you begin to see these producers willing to come together and say, "Hey! Let's get together and provide this product to these other companies," then they are going to be viable in the system—and they may be made up of a lot of intermediate-size producers.

**Response by Marvin Duncan.** I have one comment with regard to the scale issue. I think the situation may not be as much a matter of scale as it is a matter of relationships. Small producers that are successful in creating desirable and successful relationships could be winners. It will be large producers unwilling to make those relationships and arrangements who will find themselves not very profitable. Frankly, I believe Terry; that the American cooperative movement is on the verge of a very unique and special opportunity in terms of being the vehicle through which farmers retain control of their business enterprise as we move into an industrialized environment.

**Question and Comment from a Member of the Audience.** *Is there any alternative to industrialization? Is there any way to maintain producers in the traditional context? I just do not believe there is a future for small producers in the type of agriculture that is likely to exist in the future.*

**Response by Ed McMillan.** I will just go back to what I said in my closing comments. I think the independent entrepreneur has a very viable future providing that entrepreneur stays on the leading edge of productivity in producing whatever he produces—whether it is a commodity or a unique product.

*Comment from the Questioner. But, he has to be integrated.*

**Response by Ed McMillan.** Well, that depends on the interpretation of what the word “integrated” is.

*Response from the Questioner. He or she is not going to be selling on an open market.*

**Response by Ed McMillan.** He or she is going to be selling at a market of product specifications. That market has a price from a gross commodity to a unique valued-added commodity. The choice will be which of those products you are going to produce. Is it more viable for you to be a least-cost producer of commodity, or is it more economically viable for you to be more of a niche player of a value-added particular product? In other words, can you get a return to the cost of doing that? I think that is going to be the producers’ issue. I do not think it is an issue of integration.

It is interesting that the word integration has a lot of different connotations among people. If you ask people what it really means—for those of us who first started hearing about it in the 1970s or the 1960s—we have one perception today. But, some people believe that integration means an entity-related system not necessarily owned and controlled by each party. I guess I would call it coordination rather than integration. I think we are going to see a coordination issue rather than an integration issue.

**Response by Jim Webster.** Not many of you on the tour yesterday were aware of American Classic Tea, although we do see it in the Washington-area supermarkets. Some of you may be aware of branded Farmland Beef and branded IBP Beef in plastic wrap—ready to go into the microwave—precooked. National Cattlemen’s Beef Association had a reception in Washington a week ago and they had precooked beef there. We do not see that at the supermarket. There is not a national distribution of these differentiated products yet, but I can guarantee you that the beef feeders that make the top dollar are going to be the ones that supply into that chain. The pork producer who can supply the lowest fat, consistent quality and highest quality to IBP specifications is going to be the winner in this game. They can, and will, continue to be independent operators. They will give up some control. As Luther Tweeten said yesterday, they will be compensated through premium prices for that.

Eugene Paul mentioned something yesterday about, “we cannot let the rest of agriculture go the way of the broiler industry.” Well, there are pluses and minuses to that. Some of those contract broiler operators are sending their kids to college and they have new pickups, and they are doing a lot better than they did before the integration of the broiler industry.



**Response by Terry Barr.** Let me follow-up on that comment. One of the intriguing things to me is that I think we actually have begun to move beyond a characteristic type of agriculture. We are really moving to the next step, which is really product-defined, and we are fairly early in the game. I think it is also very early-defined in the sense that you are talking about input bundling. You have to have a certain combination of inputs now to get the product down the system. These are very concentrated channels that you go into very quickly. I think this changes the nature of production agriculture and who can fit into that system. The final say is now with consumers—there are certain things that they want. Those things are really going to be preordained by the input mix that producers have to begin with. I think that is where you begin to limit the opportunities for the next layer on down the system.

**Question and Comment from a Member of the Audience.** *When you start off with industrial economics, one of the early things that people talk about is the ability to enter into a business. In other words, I am talking about barriers to entry—entry thresholds, etcetera. The classical example, of course, is the automobile industry. In automobile manufacturing, the threshold to entry has become so high that the individual entrepreneur can no longer go out and enter the industry. Is the threshold going to be extremely high in terms of getting into production agriculture—be it a specific product or a generic product? I guess one of the concerns is if there is not an open market for volume, i.e., to be able to sell your product, and if there is not an open market for technology—if the genetics is locked up under patents. You know we now have barriers to entry in agriculture that are all of a sudden going much, much higher than they have been in the past.*

**Response by Marvin Duncan.** I think the short answer is yes. The longer answer, however, is that there will be a lot of opportunities emerging that are spun off from these new relationships and business developments. When I was young and thought about agriculture, I thought about it as becoming a farmer. I noticed that the students in my classes currently tend to think of it in the same way. I do my best to try to dissuade them from that and they look at me somewhat amazed when I ask them how many of their farm operations generate more than \$250,000 in annual sales. They have not thought about what is required to be a successful farmer. On the other hand, I see a lot of new business opportunities linked to agriculture that never used to be there. Most North Dakota farmers are now hiring some crop consultants. They are hiring marketing consultants. They are hiring pesticide management and application consultants and soil fertility consultants. I think there will be a lot of new business opportunities for entrepreneurs that are linked to agriculture and agribusiness that we did not used to have.

**Response from the Questioner.** *Marvin, I agree with you. I think there will be jobs for people. My question is one about ownership and control.*

**Response by Marvin Duncan.** There will be a lot of smaller businesses that provide specialized expertise which will offer the opportunity of ownership and control but, just like your example of the automobile business, a smaller proportion of people will be their own bosses. Now, that is both good and bad. Not being your own boss has some significant advantages as well. Otherwise, most of us would not be working for land-grant universities. We tend to be an extraordinarily risk-averse group of people. Nonetheless, I think there will be some unique opportunities.

**Response by Terry Barr.** I think you will still have ownership, but I think it will be controlled and that control will be given away to the risk management option. I think producers will discover that the risks are just too high to have absolute control. So, producers are going to give up control for that. The pace of that will probably be influenced by the rate of growth in the export market.

If the export market grows rapidly, then I think you probably have less concerns about that. If you do not have growth in the export market, I think—to a large degree—you spend a lot of time in agriculture selling these trade agreements and selling this export market. So far, we have not seen the kind of growth that everybody is talking about. If we do not see that growth, I think a lot of these concerns about consolidation and concentration are really going to intensify. The food system in this country has already narrowed down dramatically to satisfy the domestic market.

**Response by Ed McMillan.** I just want to add to and reiterate what I previously said. Those who are closest to fulfilling consumers' demands are going to be effecting that control process. That does not mean that the food processors are going to control the system. If we let that happen, that is what will happen. I think that there are many, many examples—in cooperative systems in particular—where participation in that has been in place. But, the consumer is going to direct so much of what we are doing. How production agriculture participates in fulfilling those consumer demands will have a big impact.

**Question and Comment from a Member of the Audience.** *We basically just had a company dissolve in Nebraska because of E. coli. I guess, to me, that raises the public health issue and who is responsible—if anybody. If there is a role for government—or there are some implications of technology. I would argue—or I think it could be argued—that the production practices in the last 20 or 30 years have developed super strains of bacteria that have now tainted our food supply system. The good part is that there is some accountability on the brands of products. But, we also have tremendous social costs because the tools we have used in the past do not work. I would like you to comment about that, and the role that government can play, if any, in dealing with that issue.*

**Response by Jim Webster.** That is a good question because it is so topical. I think that it is probably competitively in our advantage if we use those parts of the

country for agriculture where it is environmentally least damaging. We should use technology to mitigate the environmental impact of production. We can capture those markets and have some jobs. Now, the question that Eugene Paul raised yesterday—how about some of the sweat shop labor involved in that? That is a problem. The Occupational Safety and Health Administration (OSHA) has levied two of its biggest fines in history in the last two years. Both were against egg producers—one in Maine and one in Ohio. OSHA has moved on Hudson; they moved on Pilgrim's Pride; and they have moved on some others. There is evidence that OSHA is going to get even tougher on the poultry industry. I think we have to look at the terms of contracts—the rights of contract growers. Things like that are going to emerge as political issues that address the costs that you are referring to.

**Response by Ed McMillan.** I have two comments. The person that puts their name on the product is going to be responsible. I think it is quite interesting to see that Hudson chose to decide that they could not re-enforce their name. Tyson said that is no problem—we know how to do that. IBP said that is no problem—we know how to do that. The people who want to put their name on a product and then create linkages back through either—an integrated, coordinated or series of independent producers who deliver that—will have it in play. The government will set expectations along the way, but the government does not put their name on it. The company that puts their brand on the product is going to have to be accountable. They are going to have to stand up and accept it and put the expectations in place. Additionally, that company will have to pay for those expectations along the way.

***Comment from a Member of the Audience.** I have a comment about the linking of the family farm concept and industrialization. I believe that this is really a disservice, not only to agriculture, but to how we deal with this issue as policy educators. It is not a link—it is an emerging process of coordination. Organizations like the National Farmers Union, the National Farm Bureau and your local Farm Bureau and others want to make that link and say that the industrialization means concentration—which means no family farms.*

**Response by Ed McMillan.** I am a product of a family farm, and I assume many others here are also. It is a very emotional, warm feeling for me but that does not keep my family—that is involved in agriculture—viable. If you want to look at the sustainability of family farms, look at the European Community. What they are trying to continually do is to sustain a rural life and environment through creating policy that sustains an inefficient system. This is reflected in the political movement in this country—of which many of you were a part—when we moved to the freedom to farm philosophy. We said we are going to create freedom for entrepreneurial initiative for an individual to be successful, whether it is a family or whatever it is. We have a policy that encourages that independence. I do not think we are going to see policy in this country that maintains a family situation at the expense of producing a high

quality product. There is going to be opportunity, but it is not going to be at the expense of that.

**Response by Terry Barr.** You are talking about organizations who are grass roots-type organizations and so forth. If you have 2 million farmers out there and 1.4 million of them are small, what is going to be your status? What kind of statement are you going to make in this environment? You are not going to say, "Well, we would like to have those 150,000 large farmers be members of our organization." They are going to go with the broader political base. They are political organizations to begin with. They are looking for that broad base, and you do not have a broad base for very large agricultural producers. You have a financial base, but you do not have the broad political base.

**Response by Marvin Duncan.** I have always been impressed by the innate good judgement of farm women. If you talk with a farmer, he is apt to be angry about possible loss of control through a contractual arrangement—the loss of the right to decide whether to farm today or go fishing. His wife, on the other hand, is interested in whether there is health insurance for the family, whether the family can be educated, and whether there is a nest egg being put away for retirement. So, it seems to me that when you look at the broader interest of the farm family, it may indeed be served by some increased linkages whether the farm be small, medium-sized, or very large. My guess is that if the men are not happy about it, the farm women may be.

**Comment by the Jim Webster.** Ladies and gentlemen, I am sorry, but our allotted time has expired.



***Administering Environmental  
Law: Impacts of Private  
Landowners and Public Uses***

