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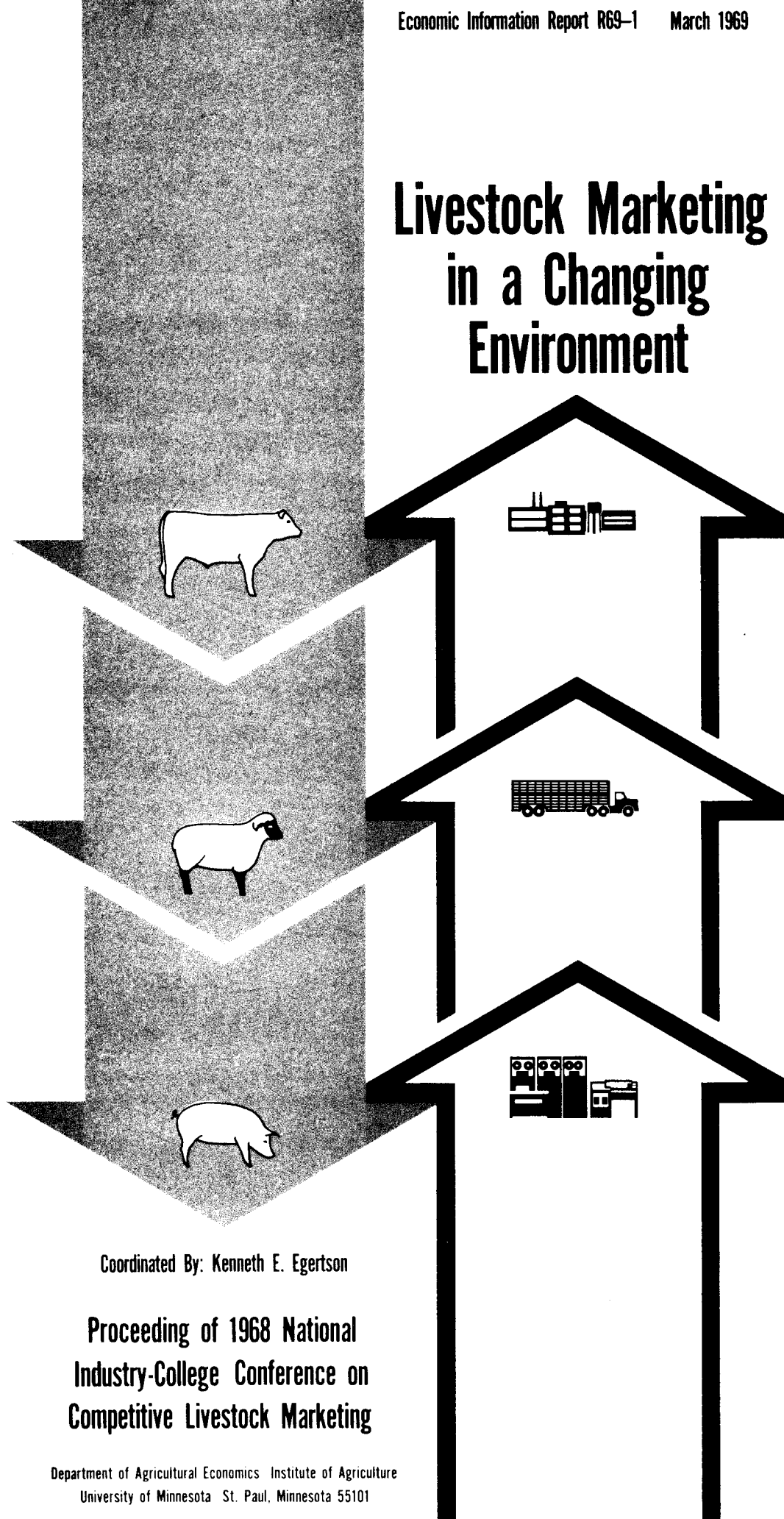
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Livestock Marketing in a Changing Environment



Coordinated By: Kenneth E. Egertson

Proceeding of 1968 National
Industry-College Conference on
Competitive Livestock Marketing

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University of Minnesota St. Paul, Minnesota 55101

**LIVESTOCK MARKETING IN A
CHANGING ENVIRONMENT**

**Conference Proceedings of
National Industry - College
Conference on Competitive
Livestock Marketing
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**Coordinated by:
Kenneth E. Egertson
Extension Economist**

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FOREWORD

This publication presents the major talks given on the first day of the 1968 National Conference on Competitive Livestock Marketing. The activities during the half-day session on Saturday are not reported here since they basically focused on the presentation of the visual production produced by the Institute of Agriculture of the University of Minnesota entitled "In Touch With Tomorrow". We appreciated having Dr. Sherwood O. Berg, Dean, Institute of Agriculture, present for this part of the conference to review and highlight the background of this most effective production.

The conference was conducted in response to a continuing concern that a continuing forum be provided whereby dialogue between industry and college representatives can be accomplished. Part of its success must be credited to the high standards set at the 1967 conference held at the University of Wisconsin.

The specific purpose of this year's conference was to examine in detail the environmental changes occurring in all segments of the livestock production-processing spectrum. The theme was: "Livestock Marketing in a Changing Environment". It was hoped that a broad focus on the environment would expand the knowledge and understanding of the many complex forces affecting the marketing system. It was also felt that future conference programs framed more directly on specific problems facing marketing firms would benefit from this broader view of environmental trends and developments.

The conference was sponsored by the American Stockyards Association; Certified Livestock Markets Association; National Livestock Exchange; and River Markets Group in cooperation with the University of Minnesota. Kenneth E. Egertson, University of Minnesota, and Joel Bennett, South St. Paul United Stockyards, were primarily responsible for program arrangements.

Kenneth E. Egertson
University of Minnesota

Welcome Remarks

by

Dr. Roland Abraham, Director
Agricultural Extension Service, University of Minnesota

I am pleased to have this opportunity to welcome each of you to this 1968 edition of the Annual National Industry-College Conference on Competitive Livestock Marketing. I recall an earlier occasion of some ten or twelve years ago when a similar conference was held here in the Twin Cities to study ways in which we could work together and ways to make the kinds of adjustments that seem to be called for from time to time in the livestock marketing industry.

As I looked over your program I was impressed by several dimensions which seem to me to be particularly significant. I would like in the few minutes allotted to me to develop a few of these for your consideration.

First, it seems that the fact that this conference has been developed as a joint venture of college and industry groups and is aimed at problems of common concern is quite significant. In my view this kind of arrangement certainly must help both groups in this conference. Certainly those of us in research and teaching gain by keeping in closer touch with the realities of problems that those of you in industry face from day to day. Likewise, we feel that industry people also must surely gain by allowing their problems and ideas to come under the eye of individuals engaged in research and teaching. An example I suppose of this kind of joint development grew out of common concerns of many groups years ago and resulted in the shift, for example, to meatier hogs. In this case, the research geneticist, the hog breeders and producers, the marketing and processing specialists in industry and in college work, and extension people across the country teamed together to bring about a significant change in the swine industry. And I think each of you can sort out other kinds of change that result from these same kinds; common appraisal, common attention and problems that concern all of us.

Secondly, the theme "Livestock Marketing in a Changing Environment" is also significant as a topic because we are all experiencing a change in the environment which surrounds us. This has been going on ever since man has occupied the planet, I guess. But at times these changes seem to accelerate and telescope in the rapidity with which they take place and also in terms of the impact which they have on our circumstances. In many cases these changes in environment are difficult for us to control individually and the best we can do perhaps in some cases is to study and understand these changes better so that we can make improved decisions about how

to adjust to them. In other instances there are things that we can determine to do collectively that can shape the direction of changes on occasion.

None of us in our professional or personal life, I am sure, are immune to change. Some of the changes going on in agriculture today certainly affect all in the livestock industry in some way. For example, agriculture producers who because of their changing size or changing specialization or because of their differential ability to manage are demanding different types of educational programs. Some of this calls for additional research. Likewise, I am sure that those of you who are engaged in various marketing services are experiencing calls for modifications in the manner in which you deal with industry to help move products from farm to the consumer's table. I am sure that fulfillment of your conference objective of studying this environment today and tomorrow will be very useful.

Finally, we in Minnesota consider it significant that this conference is being held in our state. Minnesota is a state that we believe is endowed with major agribusiness complexes of all types, especially livestock. I don't like to engage in a Chamber of Commerce activity at the moment, but we do rank nationally about fifth in income from cash farm marketing and while crops are the basis for our livestock industry we do choose to market something like 70% of our farm output in this way. And so, livestock is important to us. Tomorrow you will be viewing an effort produced by the University of Minnesota, Institute of Agriculture in particular, which is designed to point out the agribusiness environment to Minnesota and more specifically, to bring home to the youth of our state the potential that lies in agribusiness industry for their future work. This part of the program illustrates an effort on the part of the University's Institute of Agriculture to attract some of our best young minds into agriculture and its component related industries; into agricultural research, into agricultural teaching. We hope that you will find this effort intriguing as it has met with good reception thus far in the state. We think you will.

We do consider it an honor that you have chosen Minnesota as the location for this conference. We think that we, at the University, are reasonably sensitive to some of the needs in agribusiness industry here. An example along this line is work which was done by one of our marketing specialists under a contract with the Federal Extension Service a year or two ago. Through this contract, Dr. Frank Smith of our staff developed an instructional program designed to aid managers of small agribusinesses in the management of their capital requirements and for this educational program which is now available to all of the state extension services. Dr. Smith was recently honored by his colleagues at the American Farm Economics Association for his contribution to economic education. We are endeavoring to push forward along some of these lines. We are pleased that we can be a part of your conference here so that we might learn more along the way.

Now as you begin the conference let me expressly welcome you on the behalf of the University of Minnesota, Institute of Agriculture, we hope that you have a very successful conference. If there is anything that the Minnesota staff can do to help make your stay here more pleasant, more profitable, we hope that you will call upon them. As we move forward in marketing programs in the future we stand ready to assist you in any way we can.

"Our Challenge: Protect or Adjust?"

by

Mr. Charles Jennings, President
American Stockyards Association, Washington, D. C.

First, let's talk just a moment about the competitive livestock markets that those of us from the marketing industry at this meeting represent. I am going to borrow a few figures from Tad Sanders. I didn't clear this with Tad but I am sure that it is all right.

Last year Tad had a study made of livestock marketing throughout the nation. I broke these figures down into livestock going through competitive markets and livestock going through noncompetitive markets. Most of you, I suppose, have seen these figures but I think it's worth your attention just to show what kind of industry we are a part of. In the year 1967 there were 101-1/2 million head cattle sold in the nation: 63.2 million head through our competitive markets leaving 38.3 through noncompetitive markets. There were 103.2 million head of hogs sold in the nation: 38.1 through our competitive markets; 65.1 million head through noncompetitive markets. There were only 23.9 million sheep sold in the nation: 10.1 sold through our competitive and 13.8 million through noncompetitive markets. This comes down to a total of 228.6 million head of livestock sold in the nation; competitive markets handled 111.4 million head; noncompetitive markets handled 117.2 million head. All of these livestock are worth 19.6 billion dollars -- 9.9 billion represents the sales of our markets; 9.7 billion away from our markets.

Now, this subject of mine, "Our Challenge -- Protect or Adjust?", I think starts out right with the presentation of these figures. Certainly I am not happy or satisfied with the fact that we handled only approximately one-half of the livestock sold in the nation. I am far more interested in the half that we didn't sell through our markets and I think that's what the main thrust of this meeting should be directed toward. How do we get that other half that is not going through our markets?

It seems to me that there is no way to protect the status quo whether it be in livestock marketing or what have you. Our volume of livestock is going to fluctuate up and down to the degree that we change and adjust to serve the industry of which we are a part. And to date we haven't made very many changes. As far as I am concerned there is very little that's sacred about our present method of doing business. Some of you I am sure will disagree with me

about that. But I think it can be changed greatly provided we preserve two or three basic things. I would like to point out to you what I think the basic parts of our industry are that we must preserve as we change and adjust to serve the changing industry.

First of all, it seems to me we must retain ability or professionalism to do our job better than anyone else can do it. If we don't do it better than anyone else we don't deserve the business and someone else will get it. I think we have to retain competition, to me this is the basic element in our way of doing business -- competition. And when I say competition I mean real competition -- not phony competition that's talked about a great deal and isn't really competition. And thirdly, I think we have to perform services that are both needed and desired by our customer. In the past, and even today, I think we are sometimes a little too busy performing services that we think are good, not too interested in whether or not our customer wants them. We are certainly going to have to consider the customer in the future. When we consider whether we are going to protect or adjust I think we should, and we do have a choice. I think we should also look at the other component parts of this livestock industry, and see what they are doing. And every segment of it is changing drastically and rapidly. There is no way that you can miss the fact that the entire livestock industry is changing. For example, the cow-calf operator is facing a great many challenges today. First of all, his land is becoming so valuable that -- you stockyard owners will appreciate this statement -- it's very difficult for him to earn a reasonable rate of return on his investment. He not only has that but he has the ever increasing cost of labor that he has to face up to forcing him to automate. He certainly is having to do all that he can to increase his calf crop, he is using artificial insemination, he is using controls so that he can get his entire calf crop to drop within a two or three week period at the most. And he is faced with the problem of producing a feeder that the feeding industry wants. They are telling him today what kind of a feeder they want. This forces him to go back on the registered breeder and urge them to produce the kind of foundation stock that will permit him to produce the kind of feeder stock that industry wants. These adjustments are shaking up all parts of the industry, the packer certainly has his problems. Any part of it is changing and changing rapidly and drastically so that I don't think we have any choice other than to make great changes also.

To me it is inconceivable that we cannot or should not adjust to give this changing industry what it wants in a marketing system. I think that is our responsibility and if we fail to do it someone else will give the industry what it wants. Now, I don't think there is any reason to fear change unless you are trying to avoid it in this or any other industry. If you are trying to avoid change completely and protect the status quo, then I think you have real reason to be fearful of it because it's going to put you out of business sooner or later if

you are unwilling to change. I think that we do have at least three alternatives when we talk about change or protecting the status quo and the first would be to protect what we are now doing -- i.e. don't make any change at all. I think if you choose that route you are doomed to defeat. The second would be to adjust to the needs of today's industry. And to me this is just a partial step but a necessary one. But the third would go one step beyond adjusting to today's needs and create the services that the industry will need for tomorrow and into the future. And when you start doing this then you become a leader, you start directing the way in which this industry is going. Historically, we have been behind. We are not leading. We are reacting to change rather than creating it. I have told the story so many times about being a navigational instructor during the World War II. For a short time, I had a young man from the hills of Kentucky. As a navigator you are supposed to be able to say where you will be in fifteen minutes or an hour from now. Invariably, I would ask him, where are we now? He would say, "Sir, I can't tell you where we are now but I can tell you where we were 30 minutes ago." We are all guilty to a great extent of this same kind of a problem. We need to take this third alternative, it seems to me, and adjust to serve today's industry as well as to create the kind of service needed in the future. If we choose this third one -- adjust and lead -- then I think this breaks down into three or four things that we have to do. First of all, we are going to have to improve our present services. They have to be upgraded, improved. Secondly, we are going to have to perform additional service over and above what you are now doing. I don't care how complete you think your services are, you are going to have to increase them in order to stay in business successfully. Thirdly, I think you are going to have to create new services not now being performed by anyone. This is when you become a leader, when you get into that part of it. And fourthly, and maybe this is the vital one of all of them, we are going to have to convince and sell the industry on the usefulness and the need for these services that you are performing. This is just as basic as performing a service itself. You are going to have to point out how this is a good service, a needed service and one that the industry will support.

I think we get a great many signals from the industry urging us to make change. We see things happening every day that should point out to us the need for change and adjustment. All too frequently we either completely ignore or misread these signals whether intentionally or otherwise. I think we will have to also face up to the fact that whatever you are doing there is likely a better way to do it. I don't care what it is or how good you think you are at your job, there undoubtedly is a better way to do it, and gentlemen, this is a little hard to swallow at times. I think we have the responsibility of finding that better way of doing a job. This is part of the adjustment process which we are talking about. Not only do we have to find it, but we are going to have to improve on it. Business is that competitive today.

Now just for a final comment. Back to my title, "Protect or Adjust". It seems to me that the only way you can protect yourself is to adjust, I think the title answers itself and what you are going to do in the future. The only way I know for you to protect yourself is to adjust. For a change we must get out in the front of them. I hope this will be your mood in this meeting here today. You recognize the fact that you have to adjust, I hope none of you are too interested or too convinced that the status quo is ideal, that it can't be improved upon. If you do, then I don't think you fit into this changing livestock industry which we are talking about for the future.

I am quite sure you are going to hear a lot of things discussed here at our meeting that each of you can take home with you. Here, when you get a moment to think them over you can even make improvements on them. But I hope that to a small degree I have set a mood here that you can accept. One that you can agree with. My hope is that you can be a successful part of this industry in the future and that we will not be restricted to only half of the livestock we are now marketing but hopefully go after the other half. To do this, I believe you have no alternative but to adjust.

"Changing Livestock Market Dimensions: Bargaining and Coordination"

by

Dr. Harold Breimyer, Professor of Agricultural Economics
University of Missouri

It is difficult to address ourselves to the assigned subject straightforwardly, because the several interest groups in livestock marketing are so heterogeneous. After all, we are talking about a system of marketing beginning at the farm and ending with the consumer and it is a system that might be called one of cooperation -- if contests among individuals can be called cooperation. Differences of interests enter into the system and in fact can be said to describe it.

Further, it is appropriate to ask whether at this type of conference we act like good Rotarians who avoid treading on any toes by being polite at all times. If we are over-mannerly, we won't come to grips with some of the important and controversial questions facing livestock marketing. Only as we can recognize and at least partly reconcile the differences in positions among us can we make progress.

I will be fairly candid in the way I talk about these differences. We all know that the way you put or ask a question affects the kind of answer you get. In fact, you can almost shape it any way you wish. If you will permit me to be a little personal, I am sort of fed up with cliches. I think I have heard often enough that we are in a time of change and so on. Charlie Jennings mentioned this, too. We are going to talk about change, but just to say there is change, predict where it is going and then imply where it is taking us, doesn't help much. Change isn't neutral and it ought not be undirected. We ought to make up our minds as to which direction we want change to go, for it can be good or it can be bad.

We talk about industrial agriculture and use the term a good deal. In fact, I once promoted the term. Now I have got to say that we shouldn't forget that ours is not entirely an industrial agriculture; it is also an agrarian agriculture. The beef steer is not the same as petroleum out of the ground broken up into its component parts. It cannot be treated as though it were manufactured or distilled.

We talk about a technological agriculture. With all respect, I doubt any modern invention in agriculture is as revolutionary as the original wheel was.

And we use the term scientific agriculture. Yet the greatest advance in science when applied to the meat industry was when early man found that salt preserved the stuff.

What I am saying here is that many of the things that we talk about and for which we almost wrench our arms in patting ourselves on the back are really nothing terribly new. Change and progress have been going on for many years. I don't think that emphasizing these cliches helps us very much.

Using Common Resources to Common Purposes

How then should we address our subject?

I am going to pitch my remarks fairly high in terms of concepts. The approach I prefer to use is ageless: it is to put our subject in the context of how man uses his resources to meet his ends -- what he wants. These ends aren't just economic. (Economists are often guilty of exaggerating the economic aspects. A man's own personal realization is also an end.)

The basic data we are talking about aren't just the physical data and they aren't just technology. We accommodate a lot more than technological change. For example, where does the power lie in the marketing system, and how is it expressed? The term bargaining is a conflict type of issue; it deserves to be viewed as such.

Likewise, one of the functions performed by our marketing system is that of providing directional control to both livestock production and marketing. The charge is made that that control is now too loose. I will hit this issue real hard because it is germane and relevant. We do not attain the degree of control that is called for. But just to set up a little guard on this too, let us remember that complete control is total authoritarianism. We don't really want everything absolutely tightly controlled all the way.

In fact, our system is really one of accommodation through negotiation. We want to retain some elements of that. So let's don't go overboard on using this idea of regimented control, for there are dangers in going too far.

The foregoing is running start No. 1.

Let me try running start No. 2.

A few months ago at Kansas City the Department of Agriculture of the Midwest held a meeting to address themselves to the question of how these groups could better service the marketing of livestock and meat. It was a good session. I thought it was commendable that the state directors and their staffs would talk about such a subject. The theme of my remarks before that session was, "Don't be Too Pedestrian". Don't just ask yourselves, I admonished, whether you should add another market news office here or a little more grading service there, and so on. This is all right, I said, but one should begin with the question of what kind of a marketing system we are going to have and more than that, what kind of a marketing system we ought to have. Of course, servicing itself is not inconsequential: the service provided can affect the kind of marketing system we have. So there is some kind of normative judgment involved, too.

I told the people there that I thought we have to think about questions such as these: Will central markets continue to underpin the pricing systems for live animals? Will pricing in the future be largely confined to carcass and product level? Will meat really be priced competitively at wholesale or will it instead move through channels on formula pricing? Further, will packers shift to producing retail packaged cuts so that carcass trading virtually disappears? Will meat packers go through a vast merger movement? Will farmers still feed hogs and cattle on their own account or will they do everything on contract? Might they still be the risk bearing operators? Will there be a new thrust of co-operatives among livestock producers? Will livestock farmers finally discard their centuries-old individual tradition and join in tight bargaining combinations?

I tell you most respectfully that unless we think about some of these questions we really can't envisage what kind of a marketing system we are going to have.

Now for running start No. 3, which may be more down to earth.

Let's ask a few of these types of questions: Will there be a marketing system at all? Charlie Jennings based his remarks on the idea that there will be, and there may well be. His remarks are appropriate in case there continues to be such a system. But it still is a proper question, will there be a marketing system for livestock? Or might we go to the other extreme and have total vertical ownership in which a given integrated firm owns and manages and operates the facilities all the way through processing and marketing and distribution? As another possibility, could we have a contractually bargained system of divided proprietorships, with buying or selling of a product through some kind of contractual bargaining? This is a realistic possibility, too.

However, if a marketing system continues, we ask first at which and how many steps prices will be negotiated or arrived at. How will prices be determined; what will be the infra-structure for such a marketing system of the future? May I offer three premises. One is that if there is to be a marketing system I prefer to stress not the word marketing but the word system. There has to be some kind of central system, I do believe. We are not in a wholly decentralized economy any longer or a totally decentralized marketing system. Rather we are moving more and more toward a kind of organic unity to the whole marketing, processing and distribution system. And it follows from that, I think, that there has to be some kind of central core, some central structure, some base on which prices are made and arrived at and become the foundation. The system cannot be totally broken up and atomistic.

The second premise which comes to mind is that the open market system has been and is the simplest and easiest kind of system that we could use. It has its weaknesses and yet I beg to be the defender of it. I think the market system for livestock has done well over the years. It's the most nearly self-operating system that we can have. It requires least servicing by government over producers or marketers. I think the open market system is the one that comes closest to being self-governing.

The open market system falls short on several fronts. The directional control it gives to the whole production and marketing process is imperfect. It does not give the kind of exact control over timing, and over quality of product, that can be obtained by other methods -- or the kind of control that the processing and merchandising and distribution outlets are demanding. Further, even if we improved it, it would still not be the most precisely disciplined way to direct livestock production. And secondly, it also does not fit quite as well into the merchandising practices that are being used more today. These practices depend heavily upon nonprice competition, merchandising, product development, promotion, and so on.

More Orderly Marketing Must Come

My third premise is that more orderly marketing must come through some means or other. I think we are going to have to have some kind of pre-delivery arrangement. I think we are going to have to have tighter quality control. It's going to be done somehow or other and by someone. The only questions are by whom, under whose auspices and to whose benefit.

Now let me develop my premise No. 2 a bit more -- that the existing system doesn't do all that is expected of it. Two or three years ago, Secretary Freeman remarked to cattlemen that the livestock marketing system may be the most ancient system we have. Still as in biblical times, the farmer with the cooperation of nature produces his livestock, and when he thinks they are ready for market he takes them in and looks for a buyer and demands that the buyer give him a good price. Then the animals move on through the system. The fact that this kind of system does not give perfect control should be clear enough. Moreover, a price directed system for the live animal or even for the carcass is in some conflict with the minimizing of the role of price that we see in the merchandising of all food products.

For example, we seem to be moving toward what the Food Commission and others have called formula pricing. We have it in carcass beef where the trade seems to prefer to sell on the yellow sheet rather than actually to negotiate for a price. In fluid milk we have what amounts to the same thing, through federal milk orders. In eggs it is the same, and the trade seems to prefer a common price that everyone knows is uniform. The merchandising is done on a service basis and not on sharp price competition.

I am not arguing for or against all this. I am simply saying that there is more and more evidence that this kind of formula pricing seems to be growing in all marketing.

In the merchandising area, one of the key considerations is identification of product. The firm or the stage in marketing which can determine what describes or identifies the product gains a great deal of strength. It gets a foothold in that manner. And so there is a running battle throughout all marketing. We see this in livestock as to whether we are to use some kind of uniform grades such as government grades. Or are we going to go more to the packer brands? The running fight is unrelenting, for a great deal is at stake.

If we are to have open markets will the critical pricing level be at the live animal, or at the carcass, or at the retail cut? You can argue that the carcass is really where the values are made, so why bother to price at the live animal level? Now if we go to prefabrication of retail cuts you will have less trading in carcasses. Will retail cuts then be traded under standard identification or only on a brand name basis? If you are thinking about the future I think you have to think about these forms of merchandising or you won't answer your questions as to pricing.

If live animals continue to be sold there will be less eyeballing of the animal. Personal inspection will decline. Could the animal be traded in by paper -- could we use some kind of an exchange commodity market, a paper exchange rather than inspection-of-the-product exchange?

I have already hinted as much, but to repeat for emphasis, in the future there will be more predelivery selling, so that the packer can get what he has to have, a pre-scheduled supply of product instead of being at the mercy of the weather and the whims of the farmer. There is just too much incompatibility, I do believe, between the present absence of pre-scheduling and the needs of the marketing system.

Other Choices in Marketing

What if we don't have open market trading for livestock and meat? A couple of other choices appear. One is to develop wholly telescoped common ownership. There then is no marketing at all, but only administrative control. This is really outside our concern today.

But there is still a third choice and this is a realistic possibility. It is a contractually bargained livestock production and marketing economy. There are many possible forms. On this I have taken a stand with which some disagree. In my judgment, if we go to a contractual system linking packers or retailers with individual small farmers, a general system and not just scattered islands, we will find it to be prejudicial against the bargaining strength of the individual farmer. He would not have the options available to him, or the strength and bargaining power, that he enjoys on open market trading. In such a system there will be need for one of two or three different kinds of protections:

- (1) We might apply a number of legal protections to contractual production and marketing, the equivalent of those we now have in open market trading;
- (2) we might go to a kind of board of trade transactions of the contracts themselves, which would give the farmer, the individual transactor, a good deal of protection;
- (3) we might develop bargaining associations among the farmers themselves.

If the initiative in a contractual production of livestock is with the packer or the retailer I am quite sure that the producers of livestock will find themselves in such a common position that they will get together in bargaining.

This last is exactly what the American Farm Bureau is saying and is one of the tenets for its promoting the American Agricultural Marketing Association. This is exactly what the National Farmers Organization is now saying. The National Live Stock Producers Association seems to be of a similar trend of thought.

If we go to a contractual production of many farm products, various groups will offer to be the bargaining agent. There will be a knock-down-drag-out struggle to see who succeeds.

Mr. Shuman says that 75% of all farm products will be contractually produced by 1980. An Armour and Company man has said that within five years all hogs would be under contract.

As another route, farmers through new kinds of co-operatives could take the initiative in co-operative production and marketing. This is also a kind of bargaining, I suppose. I have told farmers, in effect, that if they want to defend themselves they had better get busy and form some new kinds of co-operatives where they can call some of the shots and describe some of the terms of a co-operatively negotiated contractual livestock marketing system. This comes a little hard because it means that the producers have to get together and be willing to put rules upon themselves. What I am really asking is whether they want controls imposed on them from outside or do they want to put them on themselves. And what the farmers usually respond is, "Yes, we want to do it ourselves, but we aren't quite ready yet." I have been told this a dozen times at least. You have the Farm Bureau in Ohio and some other places, and the Live Stock Producers, and some other groups forming hog producing co-operatives for exactly this particular purpose. But these are still only scattered instances.

Bargaining will continue to be a theme in all agriculture. I treat it not as a scare type of thing, but as a combination of farmer-led coordination or cooperation in marketing, and negotiation as to terms of trade. Not so long ago Mr. Staley told me the NFO is getting quite a few contracts in livestock. I asked him how they were writing them. He said, "Oh, we have advance delivery in there, quality control in there, and so on." You see what I mean. It's not just pushing for higher price. It is also getting some kind of coordination through a negotiated contract.

In summary, what I am trying to say is that the old system has many merits but apparently falls short of today's demands. It falls short on the grounds of orderly marketing. This is the best single word I know for this. It falls short because it is exclusively a price system whereas much trading and merchandising is based not only on price but on product identification and such. It, therefore, doesn't harmonize, doesn't link, with merchandising techniques as well as it might. I also have said that the system could be improved and modernized a great deal if we wanted to do it. As to whether we are going that road or not, I just don't know. It is so much easier to be a critic, to say how things are and what the problems are, than to say what we are going to do or what we should do. I honestly don't know. As a minimum we could go, I think, toward shifting to more paper

trading with predelivery and with tight quality specification. We could go to pricing at the carcass instead of the live animal if we wanted to. We might even go to composite pricing of retail cuts; I doubt we will, but we could.

We could set up some sort of a board of trade or paper auction. In this way we could use the teleauction and such as means of communication. Or we might go to some kind of organized bargaining, with formal negotiation of all of the terms of production and delivery -- possibly renegotiating every three months. This is not outside the realm of possibility. If the hog producers of the Midwest would get together to form a combine, they would meet with the representatives of the packers in the Midwest every three months, to negotiate the common terms of trade that would apply for some time in the future. It might not happen at all but please don't rule it out as a possibility.

Or we could adopt packer contracting on an individual farm basis. In that case the Farm Bureau or NFO or someone would successfully organize the contractees. Furthermore, in the long run it is better to have some kind of an organized bargained arrangement than a hit or miss system.

Then, of course, the ultimate in coordination would be full common ownership all the way with the possible exception of ranching.

I have left out a number of possibilities. Many of these will be on your program during the day. For example, I think a case can be made that the one thing you won't have is independent large, specialized cattle feeders or hog producers. This may shock you. I am inclined to think that the risk involved is too great in such a narrow value-added operation. It is more likely that cattle feeders will be either farmer-feeders or packer-feeders.

Each of the possibilities for the future offers a different pattern of performance. Each presents a somewhat different configuration of interests, of conflicts. Each would give a little different result and yet I would argue that each of these is a genuine possibility. What will come about, I don't know. Perhaps the industry itself will shape what will happen.

"The Competitive Environment for the U.S. Meat Supply"

by

Dr. John Ferris, Professor of Agricultural Economics,
Michigan State University

The livestock and meat industry in the U.S. faces competition from a number of sources. First there is the competition for the consumer's disposable income. This is a contest not only with poultry and other food products but also with nonfood goods and services. Another competitor being watched very carefully is the foreign livestock and meat industry. Imports of meat and livestock have been increasing, and some restrictions have been placed on the imports of certain meats. Another competitor just beginning to make some inroads into the vast market for red meat is the meat analog made from plant or synthetic sources. In the long run, this source may be the most serious threat to the livestock industry.

Let's examine these three sources of competition, see how effective the red meat industry has been in the past in meeting the challenge, and ponder what the future might hold.

Competition for Consumer's Dollar

First, how effective has the red meat industry been in vying for the consumer's dollar? In the 20-year period from 1947 to 1966, expenditures on domestically produced red meat in the U.S. doubled -- going from \$12.8 billion in 1947 to \$24.5 billion in 1966.^{1/} This may sound like a real success story -- and it is -- but it loses some of its luster when we consider that disposable personal income in the U.S. tripled in the same period. People are spending a smaller share of their disposable income on red meat than they did before.

This is not necessarily any reflection on the red meat industry. There is an old theory in economics which asserts that as incomes rise, a smaller proportion of total income will be spent on food. This law, known as Engle's Law, has been operative in recent years in the U.S. Personal consumption expenditures on food as a percent of disposable incomes have declined from 25.7 percent in 1947 to 17.2 percent in 1967.^{2/} So perhaps we should measure the performance of the

^{1/} Stephen J. Hiemstra, Food Consumption, Prices and Expenditures, Agricultural Economics Report No. 138, USDA, ERS, July 1968, p. 184.

^{2/} Ibid., p. 181, and National Food Situation, NFS-125, ERS, USDA, August 1968.

red meat industry in competing for the consumer's food dollar instead of competing for disposable income. In this regard, the red meat industry compares more favorably. But I was somewhat disappointed to find that expenditures on red meat as a proportion of total expenditures on food have no more than held their own in the past 15 years, averaging very close to 25-26 percent. I had assumed that red meat -- being the core of most meals -- being high in most consumers' preference scales -- would have become a larger part of the consumers' food budget.

Consumers have catered more to beef in the past 20 years. But while a larger share of the food budget has been going for beef, a smaller share has been going for pork, veal, and lamb and mutton.

In terms of poundage consumed, the red meat industry has fared reasonably well. If you are an average U.S. consumer, you are buying about 145 pounds of red meat (retail weight) this year, about 20 pounds more than you were consuming 20 years ago. You are eating about 80 pounds of beef, 30 pounds more than 20 years ago. You are eating about 60 pounds of pork, about 3 pounds less than 20 years ago. You are eating 3 pounds of veal, 6 pounds less than 20 years ago; and you are eating 3 pounds of lamb and mutton, 1 pounds less than 20 years ago.

The broiler and the turkey industries have provided the most competition to the red meat industry. The average consumer is eating 37 pounds of broilers (ready-to-cook basis) this year, more than twice as much as was consumed 20 years ago. Turkey consumption is around 8 pounds this year, also double the rate of 20 years ago. While fish is also a close competitor to red meat, per capita consumption has been virtually unchanged at about 10-11 pounds per capita per year.

Increased efficiency in production has enabled poultry producers to put broilers and turkeys on tables today at a price some 25 percent under the price prevailing back in the late 1940's. In this same period, retail prices on red meat have increased 30 percent. That is the main reason why poultry meat has outdistanced red meat in the past 20 years. In addition, the red meat industry can learn something from the poultry industry in the area of product standardization, quality control, packaging and merchandizing.

The contest for the consumer's food dollar in the future will be something of a different ball game than in the past. The consumers of 1980 are described in detail in "Project '80", a study of the prospects and potential for rural Michigan in 1980.^{3/} The consumers of 1980 will be much more affluent than today with a much larger "discretionary income"; that is, income above that needed to buy

^{3/}

Highlights and Summary of Project '80, Research Report 37, Agricultural Experiment Station and Cooperative Extension Service, Michigan State University, East Lansing, Michigan, November 1966, pp. 17-19.

necessities. Consumers will have more leisure time, will travel more, will be more interested in gourmet foods, and will eat out more often. The homemaker will spend less time in the kitchen and likely less time in the home. It will take a great deal of ingenuity to please the palates of the future consumers. The future consumers will be looking for more new experiences in eating and will be more attracted to exotic type foods. Processing of meat will play an ever increasing role in providing these new experiences and the needed variety. Consumers will be more easily influenced by advertising and promotion because they will be in a better financial position to react.

The course of livestock and meat production in the future depends, then, on how well the industry responds to changing demands and helps to shape consumer preferences on red meat. Already we can see some promising signs for the red meat industry. The demand for pork declined sharply in the post World War II period until the early 1960's when the decline began to level off. In very recent years, we have actually witnessed some increase in demand. While the rate of increase in consumer disposable incomes has been rapid in recent years, the improvement in the quality of pork has undoubtedly contributed to this turnaround.

Consumption of beef per capita has continued to rise with higher per capita incomes and as yet there are no signs that this boom for beef is slowing down. Veal consumption is largely a function of the number of dairy cows and the demand for dairy steers as feeder cattle. With dairy cow numbers continuing to decline and with the strong demand for Holstein steers from feedlot operators, veal consumption will continue to trail off. Little change is expected in lamb consumption except for the rise and fall in consumption which accompanies the various phases of the sheep cycle.

Projecting past trends in poultry meat and fish consumption would indicate a rapid growth for poultry and no change for fish on a per capita basis. This, however, may not be the case. On poultry, feed grain prices are not likely to decline as much in the next 15 years as in the past 15 years, and it is unlikely that efficiencies in feed conversion will bless the poultry industry to the same extent that it has in the past.

Fish consumption per capita may very well increase in future years. Based on a USDA study of food consumption in households of the United States in the spring of 1965, higher income households spent considerably more and consumes more pounds of fish and shellfish than did lower income consumers.^{4/} The most striking

^{4/}

Food Consumption of Households in the United States, Spring 1965, Report No. 1, ARS, USDA, 1968.

difference between high and low income households was in the consumption of shellfish. If the fishing industry really makes an effort to capitalize on their potential, a substantial increase in consumption could result. Efforts to increase the efficiency of our fishing industry, to increase the population of desirable fish in our lakes and to expand fish farming may help supply a growing demand.

We might well look very carefully at what the more affluent households are consuming today because the average household of today will be in this class a decade from now. Per capita incomes are expected to double in the next 15 years or so. Today, the average household income is between \$7,000 and \$8,000. A 50 percent increase in incomes would put the average between \$10,000 and \$15,000 in 1983. In the spring of 1965, households were spending an average of \$7.66 per week on meat. The more affluent households were spending somewhat more with those in the \$10,000 - \$14,999 category spending \$10.20 per week and those with incomes \$15,000 and above spending \$12.69 per week. The more affluent households were also consuming more pounds of meat than the average -- some 3.7 - 3.9 pounds per capita per week compared with the average of 3.4 pounds. The average expenditure on poultry meat was \$1.08 per week, but those in the \$10,000 - \$14,999 income bracket spent \$1.38 and those with incomes \$15,000 and above spent \$1.59 per week. On fish, the average expenditure was \$.73 per week, with households in the \$10,000-\$14,999 and \$15,000 and over income brackets spending \$1.10 and \$1.44 per week respectively.

In terms of total expenditures on food, the average for all households in the study was \$35. The \$10,000 - \$14,999 income households spent \$50.65 and the \$15,000 plus households spent \$64.97 per week. On the average, \$6.11 spent on food was for meals away from home. The \$10,000 - \$14,999 income households spent \$12.66 away from home and the \$15,000 plus income households spent \$18.69 away from home, 3 times the average!

As consumer incomes rise in the future, will the population emulate the high income consumers of today? If so, this would indicate good opportunities ahead for the red meat industry. Households will spend more on red meat. They will consume more pounds of meat per capita. They will be willing to pay for more services such as eating out more. At the same time, poultry meat and fish will also be in strong favor with the affluent consumer.

Imports

After reaching a record peak in 1963, imports of red meat dropped sharply in 1964 and edged still lower in 1965. Since 1965, imports have increased, reaching 1,841 million pounds (carcass equivalent) in 1967. This represented about 5.4 percent of U.S. red meat production in that year. Through the first 7 months of 1968, imports of red meat were 17 percent over the first 7 months of 1967. Because of quotas which apply to most of the meat imported, the growth rate in imports will slow down in the coming year. Once imports of the meat subject to restriction reach the upper limit, further expansion will be in line with the growth in the domestic production of these meats. The import quota level is related directly to recent trends in domestic production.

Pressures will continue from foreign countries to ship more meat into the U.S. One reason is that wholesale meat prices are usually higher here than in other countries. Also, most of the major exporters of meat are expanding livestock production, particularly beef. Should supplies of certain types of meat become very tight in the U.S., political pressures from consumers could cause import restrictions to be relaxed.

The most important import item is boneless beef. In 1967, imports of boneless beef represented 85 percent of total beef imports and 61 percent of total red meat imports. Boneless beef used primarily in hamburger and processed meat. For this reason, beef imports compete most closely with cow beef. In fact, imports of beef have tended to increase when domestic cow beef supplies have declined and have declined when domestic cow beef supplies have increased. This has helped to provide for a steady growth in supplies of processed beef and hamburger. Another reason for increased imports in the past 10 years was a renegotiated agreement between Australia and the United Kingdom. From 1952 to 1958, the U.K. had guaranteed Australia minimum prices on beef, mutton and lamb while Australia accepted restrictions on exports of these meats to markets other than the U.K. and certain British colonies and dependencies. In 1958, a new negotiation was made with U.K. removing all restrictions on exports of beef and veal. As a consequence, most of the increase in beef and veal imports into the U.S. since 1958 has been from Australia.

Australia, New Zealand, Argentina, Ireland, Mexico, and Canada have provided the bulk of our beef and veal imports. Nearly all our mutton imports (which exceed our domestic production) originate in Australia and New Zealand. In major producing areas, some expansion is underway or planned. Here are some brief summaries of how the Foreign Agricultural Service of the USDA appraises the prospects.

Australia

"Australia has a very large potential for increasing its production of beef, veal and mutton in the next 5 to 10 years. This will be brought about by greater land development, use of proper fertilizers, reseeding with high producing legumes and grasses, and water and road development, and by use of well-organized programs through the Meat Board and Wool Board to expand export markets."

"This means that Australia will continue to offer competition to the U.S. meat producers. Most of this competition will be in manufacturing meats, such as those coming from canner and cutter cows and bulls, and mutton. Since there is a trend in Australia to market younger animals, and since interest in feedlot finishing is increasing, competition for the U.S. market from this higher quality frozen meat may increase."^{5/}

"New Zealand's latest Agricultural Development Program is expected to bring about substantial gains in livestock numbers as well as in production of beef, veal, mutton and lamb, over the next decade. The Program will continue to stress such projects as land development, tax deductions to encourage capital developments, increased use of aerial top-dressing, irrigation, and transportation developments. This means that New Zealand will continue to offer competition to U.S. livestock and meat product producers. As in the past, this competition will come mostly from boneless manufacturing meats such as those coming from lower-grade cows, bulls, and mutton."^{6/}

"Argentina has an appreciable potential to increase livestock production. Improvements in animal disease control programs could result in a 30 percent increase in beef production. A tremendously increased output per hectare is possible with more extensive plantings of improved pastures. The latter would require large investments of private capita. Consequently, the market prices for livestock and livestock products, serving as incentives or disincentives, will influence these developments."^{7/}

^{5/}

Reuben Albaugh, The Livestock and Meat Industry of Australia, FAS-M-164, USDA, July 1965.

^{6/}

Martin V. Gerrity, New Zealand's Livestock and Meat Industry, FAS-M-184, USDA, June 1967.

^{7/}

Q. Martin Morgan, Argentina's Livestock and Meat Industry, FAS-M-188, USDA, June 1967.

Beef production in Argentina is expected to increase by about 25 percent between now and the mid 1970's. The competition which Argentina gives U.S. meat producers is somewhat indirect. U.S. sanitary regulations prohibit imports of fresh chilled or frozen meats from Argentina. Argentina exports of canned, corned beef and other preserved meats do offer some competition for U.S. producers. But because the U.S. is not a producer of canned, corned beef and because the U.S. market for this product has been rather stable, canned, corned beef from Argentina is not restricted by quotas. Since 1965, however, imports from Argentina have increased substantially.

The competition from Argentina is felt more from the large quantities of the high quality chilled beef she ships to England and Western Europe. This beef crowds out the beef from Australia and New Zealand which must find a home elsewhere. The U.S. market is an attractive alternative.

Mexico and Canada ship both beef and live cattle (as feeders) into the United States. It is likely that the expanding demand for beef in both countries will limit much expansion in shipments of both beef and live cattle into the U.S.^{8/}

Demand for beef will also be expanding in Western Europe, U.K., Japan, and other developed countries. This may help take some of the supply pressure off the world market for beef. However, the prospects are not as promising as they might seem considering that some countries such as the U.K. and the European Economic Community are attempting to encourage their own livestock industry to expand. To do this, these countries are placing some rather severe restrictions on imports of certain kinds of beef.

Imports of pork, mostly canned hams and shoulders, have been minor though some increase in recent years is noted. In 1967, pork imports represented 3.1 percent of U.S. pork production. Exports represented 0.5 percent of U.S. pork production leaving net imports at 2.7 percent. Future imports will be dependent primarily on pork prices in the U.S. and no serious threat to pork producers is projected.

Meat Analogs

Every product rests in a nest of substitutes. Some of these substitutes are very close. For red meat, poultry and fish would be close substitutes and, if you stretched the point a bit, cheese, beans and a few other foods fill the role of

^{8/}

John E. Riesz, Livestock and Meat Industry of Mexico, FAS-M-185, USDA, March 1967.

meat in meals now and then. But some of the products resting in that nest with red meat haven't been hatched yet. The warmth of higher prices and a little more technology might do the job. Already we see synthetics making substantial inroads into hide and wool markets. How close are we to meat analogs and how much of a threat are they to the livestock and meat industry?

Three sources of protein are now being widely discussed as potential substitutes for animal protein. One source is oilseed protein, primarily soybeans. Another is high protein corn (high in lysine and tryptophan) which will be commercially available for planting in the U.S. in the coming spring. A third source is chemically derived -- protein made from petroleum with the use of microorganisms. The latter two sources are being developed more as animal feeds and as food products which will help meet protein requirements in the developing countries of the world. High protein corn and petroleum are not regarded as likely direct sources of protein in the American diet in the foreseeable future. For this reason, we will confine our attention to the potential for soy protein in the American diet. At present, soy protein is used in certain health foods, foods for special diets and foods for religious groups with restricted diets. What about the potential of soy protein foods for the average consumer?

First of all, animal protein will not be able to compete with plant protein on the basis of price. Soybean protein can already be produced at a cost under animal protein and the economies to scale in processing will undoubtedly lower costs of production even more. The real question relates to the quality of the product. The typical American consumer of tomorrow is not likely to compromise very much on quality for the sake of a cheaper product.

In fact, the use now made of soybean protein is primarily to improve the characteristics of the product. An increasing amount of soybean protein is going into comminuted meats, such as frankfurters, bologna and other sausage products, for the purpose of binding the product. Soybean protein is also used in TV dinners and turkey rolls for binding gravy and juices.

This is not to say that there is no room for a cheaper, lower quality meat product made so by adding plant protein. Dr. David Call of Cornell University cites the production of "economy frankfurters" in New York State, using up to 5 percent isolated soy protein.^{9/} "Thus far," he states, "it is clear that these products do not have the quality characteristics deemed most desirable. They do, however, seem to fill a niche in the marketplace for a lower priced and lower quality product."

^{9/}

David Call, "Impact of Meat Analogues on the Livestock Industry,"
Proceeding for 1967 of the Cornell Nutrition Conference for Feed
Manufacturers.

Dr. Call feels, however, that the quality problem will be solved and that we will, in the not too distant future, see frankfurter-like products with up to 25 percent soy protein. He also looks for a similar development starting soon in the hamburger and ground beef segment of the market. These are the products not produced in sufficient quantities domestically to fill the growing demand.

Already a simulated hamburger product is being used by the institutional trade. Other uses of soybean protein as a meat extender could be cited.

Some of the same arguments as to whether imports are detrimental for the livestock and meat industry can be applied to the use of soy protein in processed meat products. If the use of soy protein improves the quality of the product and helps stabilize supplies, the long run effect could actually be beneficial. The point is that the development of meat substitutes are not necessarily a threat to the meat industry.

Just the same, what might be going on in the laboratories is a little uncomfortable to the livestock and meat industry -- particularly what might be going on with respect to textured soybean foods that would compete directly with steaks, ham, pork chops and other table cuts. To get some insights into this question, I contacted several food technologists in universities and in private firms.^{10/} They agreed that predicting the success of meat analogs is somewhat hazardous. But, they did indicate that there was little likelihood that textured soybean foods would make much inroad into the market for table cuts of meat in the next decade. The quality and sensory characteristics of textured soybean products designed to simulate meat products are not very attractive to U.S. consumers as yet. Food scientists do expect increased use of soy protein in comminuted meats. Some looked for more widespread acceptance of soybean protein as flavored ingredients (Bac-O's, ham chunks, etc.) and snack items. But none saw the new developments in the laboratory as a serious threat to the livestock and meat industry at the present time.

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Helpful comments were received from: Dr. D. L. Call, H. E. Babcock, Professor of Food Economics, Cornell University, Ithaca, N.Y.; Mr. Charles F. Feldman, Chemicals Department, Gulf Oil Company, Houston, Texas; Mr. A. D. Odell, Director of Special Programs, Central Research Laboratories, General Mills, Inc., Minneapolis, Minn.; Dr. Richard A. Phelps, Anderson, Clayton and Co., Houston, Texas; Dr. James Price, Department of Food Science, Michigan State University, East Lansing; Mr. P. A. Putnam, Acting Chief, Beef Cattle Research Branch, ARS, USDA, Beltsville, Md.; Dr. Walter M. Urbain, Department of Food Science, Michigan State University, East Lansing; Mr. H. L. Wilcke, Vice President, Ralston Purina Co., St. Louis, Mo.

This was reassuring to me, and I would concur with their conclusions. But, I still become a little uneasy about the meat industry when I look at what has happened and is happening to the dairy industry -- much of which was not predicted well in advance. The old dairy cow apparently isn't so sacred. Dr. G. G. Quackenbush, Market Research Director for the American Dairy Association, estimates that dairy substitutes -- mostly margarine, coffee whiteners and nondairy whipped toppings -- have taken 25 percent of the milk market.^{11/} Now, filled milk (nonfat milk solids combined with vegetable fat in place of milkfat) and synthetic milk have come into the picture to challenge fluid milk. Sales of filled milk have been minor except in Arizona, California and Hawaii. In Hawaii, sales of filled and synthetic milk has reached 20 percent of total sales.

Some of our research at Michigan State indicates that food technologists aren't very far away from simulating the fresh milk taste. In a recent taste test, only a little over half of the consumers involved in the experiment could tell the difference between synthetic milk and whole homogenized milk.^{12/}

My young son was on a milk substitute for a year to clear up an allergy. It was made from soybean oil, a soybean protein isolate, corn syrup, calcium, vitamins, minerals and enough sugar to help kill the taste. I didn't think it compared very favorably in taste with fresh milk, but Billy didn't mind. Many a night he woke me up crying for his soybeans. It might well be that the consumer of tomorrow will not have the same strong taste preferences for good old fresh milk, or even some of the meat products you and I prize so highly today.

Conclusion

The need to gear meat products to consumer demand cannot be overemphasized. Basically, the red meat industry is in an excellent position to capitalize on a natural preference for its product in this affluent society. But, demands will be changing and the product must be changed in order to keep its favored position. If the U.S. meat industry can remain flexible and open minded about adjusting to consumer demands, and if the industry is innovative in shaping consumer demands, the outlook for the coming decade or so is quite promising.

11/

G. G. Quackenbush, "Dairy Products -- Modification and Substitutes," Speeches presented at the Cornell Conference on New Foods, Flavors and Analogs, Cornell University, Ithaca, New York, April 24-25, 1967.

12/

Mary D. Zehner and Henry E. Larzelere, Imitation Milk as Viewed by a Consumer Panel, Agr. Econ. Rpt. No. 92, Dept. of Agr. Econ., MSU, East Lansing, Michigan, April 1968.

"Changing Structure of Livestock Production"

by

Dr. Paul Hasbargen, Professor of Agricultural Economics,
University of Minnesota

There is emerging a dual structure in agriculture -- a commercial farm sector and a low resource sector. An understanding of this trend will go a long way in giving you a better understanding of your changing environment.

The commercial sector of agriculture consists of about a half million farms with the following characteristics:

- . The farm operators have shifted their roles from that of laborer to that of manager-operator.
- . Capital has largely replaced labor so that firms have a very high capital to labor ratio -- over \$100,000 per operator.
- . These firms exhibit continuous growth in production.
- . These firms earn "parity" incomes.

By contrast, the low resource sector has over two million units with the following characteristics:

- . Farm operators generally conceive of themselves as laborers rather than managers.
- . Long hours of manual labor are used along with only limited capital in small livestock enterprises.
- . These farms have been disappearing quite rapidly in recent years (as operators retire, neighbor purchases farm).
- . Many farmers in this group are now recognized as being a part of a general "low income" or "poverty" problem that is only incidentally related to agriculture. (These rural poor have been largely bypassed -- both by agricultural programs and by welfare programs.)

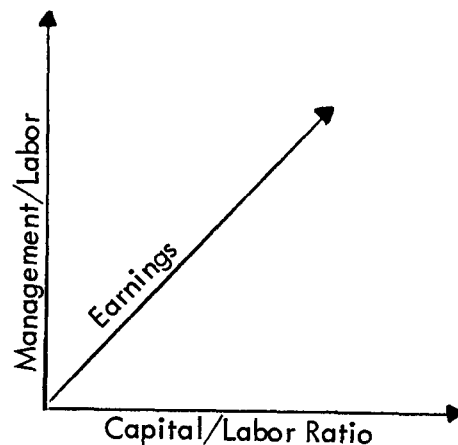
Changes in the Resource Mix

Three resources give rise to production and earnings. These are labor, capital, and management. (Land is a distinct form of capital -- not uniquely important to livestock production.) Labor becomes more and more productive as the capital/labor ratio increases. The level of this ratio in any given country is one measure of economic development. A higher capital/labor ratio is found in the more developed countries. This is a major factor in the higher productivity and subsequent higher earnings level of people in a developed industry as well as in a developed country. A man with only a hoe to help him produce food cannot be very productive. But, as agriculture continues to increase its capital/labor ratio, production per man increases dramatically and earnings also rise.

But, perhaps even more important than the much discussed capital/labor substitution occurring in agriculture is the management/labor substitution. When farming required primarily a large amount of labor, earnings were limited by how much physical work a man could accomplish -- and there isn't much difference in the work capacity of healthy individuals. But, with capital now being the major input on commercial farms, earnings are limited primarily by a man's ability to acquire and manage capital.

If management is inept at handling larger quantities of capital -- either because an enterprise is expanded beyond the operator's management ability or because he has shifted into an enterprise with which he is not familiar -- his earnings will actually be reduced by increasing his capital resource. Therefore, we do see low capitalized farms with high management/labor ratios obtaining higher levels of income than highly capitalized farms with low management/labor ratios.

Chart 1 shows the changing resource mix trends. As firms move in either direction, earnings per man increase. Many studies have shown this.



For example, a recently published study showed that when Kansas farms were broken down by efficiency measures -- the 180 well managed farms showed an average operator labor earnings of \$7,428 in contrast to \$1,883 for 200 less well managed farms during the 1960-64 period.^{1/} In contrast to this 4 to 1 relationship in net earnings, due to management differences, there was less than a 2 to 1 advantage of large farms over small ones when the farms were sorted by the scale variable.

When sorted by both variables -- management and capital -- the results shown in Table 1 were obtained.

Table 1. Operator Labor Incomes on Western Kansas Farms 1960-64, by Size and Management Levels

	Small Farms	Large Farms
High Efficiency Farms	\$5,625	\$9,332
Low Efficiency Farms	\$1,557	\$2,223

Different names might be given to each of the quadrants in Table 1.

The low management-low capital firm might be called a low resource farm or -- in today's jargon -- a poverty case.

^{1/}

The Relation of Farm Size and Efficiency to Economic Outcomes on Western Kansas Farms, Dale A. Knight, Tech. Bul. 158, June 1968.

The upper left quadrant might represent skilled laborers; the upper right quadrant, capital oriented managers; and the lower right quadrant might be called the creditor's nightmare.

The choice you need to make is which group do you want to get geared up to serve. If you wish to serve the group which will be producing the lions' share of the livestock in the years ahead, you must analyze the service needs of the commercial capital oriented operators.

To do this, first let's examine some of the changes that result from the changing resource mix in agriculture.

Second, we will consider what implications they have for marketing agencies.

Structural Changes Resulting From Changes in the Resource Mix

Increasing the management/labor ratio in agricultural production gives rise to the following:

1. Specialization by firm (this comes about since a "good manager" can be an excellent manager in a specific field of endeavor.) Rather than 3-4 livestock enterprises per farm, farm records now show 1-2.
2. Reductions in average production costs (the excellent manager is creative in discovering new ways of putting new technologies together so as to minimize costs).
3. Specialization by location (this develops as specialized managers are drawn to -- or developed in -- an area which has locational advantages for "their" commodity).

Increasing the capital/labor ratio gives rise to the following:

1. Specialization by firm (higher production efficiencies are usually attainable with more specialized capital inputs).
2. Larger size and fewer production units (mechanization decreases labor requirements thereby encouraging size expansion).

Table 2. Hog Producers Required at
Different Average Size Units

Average Sales/Farm	United States	Minnesota
250	341,000	23,870
500	170,000	11,928
1,000	85,250	5,967
2,000	42,625	2,984

1964 number a million 55,455

3. Industrialization of agriculture (the livestock production unit becomes more like industry as the rise in purchased inputs makes the production process more of a transformation process (e.g. transforming feeder steers, feeds and machinery services into slaughter steers) rather than a primary production process (e.g. harvesting rangeland pastures. This is the source or cause of the cost-price squeeze.)

Implications to the Livestock Marketing Sector

Specialization by firm. The highly specialized competent manager will buy services on the basis of cold facts and economic logic -- not on the basis of an emotional appeal.

Cost reduction forces. The specialized manager will insist upon cost minimization in the buying and selling of his livestock. If you can perform these functions more efficiently than he can, you will have his business -- but if you don't -- you won't.

Specialization by area. As livestock concentration builds up in an area which has some locational advantages, demands will grow for processing and market service functions in that area. Therefore, the locational basis of your operation may need to shift to "where the action is".

Larger size. The assembly function may be already completed by the larger livestock producer. Therefore, he may demand that you bring your services to him rather than he coming to you. His larger volume will be able to pay for

individual services that were not justifiable at an earlier date. For example, if transportation to assembly point cost \$5/head: then yesterday's cost was: $5 \times 50 \text{ hd.} = 250$; but tomorrow cost is: $5 \times 5,000 = \$25,000$. This is enough to pay for special services.

Industrialization. The industrialization of livestock production will create an expanding demand for: (1) more services, and

- (2) improved coordination tools which can be used to establish market price levels prior to production. These are required because of the higher risk of loss that is associated with larger volumes.

Your Challenge

A primary task of management is to set organization goals. This is a continuous task. After this conference each of us should call together our top management to readdress this task.

In the reconsideration of the goals of our respective organization, I suggest that SERVICE be given number one priority -- service to producers and to consumers.

Remember that the demands for services continues to grow as agriculture goes industrial. Your challenge is to (1) interpret the specific facets of these demands and (2) to develop programs that will more effectively service them.

I hope that my remarks will be helpful in the interpretation of producer demands.

I am confident that those of you intimately associated with the livestock marketing segment will develop creative programs to serve these demands.

" A Producer's View of Livestock Marketing"

by

Mr. Lee Schuster, Livestock Producer,
Gower, Missouri

I am sure you would be disappointed if I didn't give you a candid overlay from a producer's point of view as to where and how I feel livestock will be marketed in the coming years. I fully realize that there is room for argument and disagreement in much of what I have to say. If there were not, quite frankly, I could find little reason for being on the program.

I'll be talking primarily today of hogs but the remarks are equally, if not more, applicable for cattle. We are finding in our poultry endeavors that the same would be true for eggs.

Let's take a look, first, at trends of livestock production. Many of these will be seconding much of what Paul Hasbargen said in the morning program. The chart that he put on the screen giving number of farms producing hogs can be illustrated, I think, even more graphically when you consider that the number of farms producing hogs in the United States is going down at twice the rate as the overall drop in numbers of farms. Swine management is doing a respectable job now with 500 head and will soon be moving to 1,000 yearly volume. Most, over the next ten years, will be thinking in terms of moving to somewhere around 2,000 head. On the other side of the coin, the man with 10 sows will find that with the thin profit margin per pig he is going to have to get bigger or he will have to ease out of hog production, concentrating on grain production or some other endeavor. We still have a long way to go in this trend, but the direction of specialization is irrefutable.

Speaking of specialization, although as the introduction indicated, Schuster Farms is somewhat diversified, we are also specialized because we have set up individual accounting, individual profit cells and individual specialized managers for each enterprise. As units become larger, if they are going to be in separate endeavors or separate areas of production, I think they are still going to be doing it with this degree of specialization.

Speaking of the number of hog producers, I think it has been pointed out a number of times that as few as 60,000 producers with 100 sows each could now account for the current rate of commercial slaughter. I would point out that annual marketings from 100 sows would only be 1,500 butchers and that with current labor saving innovations this could effectively be handled by one man. In our own operation, five years ago we started revamping our program to try to get additional

output per man. In the five year period we have been able to move from one employee per thousand head marketed to one employee per 1,500. A number of factors contributed to this improvement. Improvements in sanitation and disease control now erase a ceiling which might have heretofore existed. We have more effective methods of cleaning farrowing houses. We have an increased antibiotic artillery. The introduction of autogamous bacteriums, specifically designed for problems on individual farms would have to be listed. SPS seed stock, and increased control through confinement also contributed. Our resident veterinarian is able to see all of our animals in a day's time whereas 12, 13 years ago when we had pastures and animals scattered hither and yonder, many times it was a week to 10 days between inspections. We are beginning to get the swine industry down to a science, to the point where if we have competent management we are going to be able to move up in numbers without earlier restrictions to growth.

The operation of the future has pointed in the direction of specialized 1,500 to 2,000 head units. I suppose a few in our audience would find room for disagreement here. If we accept these size units, the question follows as to what this is going to mean for the marketing route which these animals will follow. As long as the man was producing 50 to 200 head per year, the tendency was maintenance of the status quo. Shipping in this case is to the terminal with little concern for costs of selling, with hogs being pretty much lost in the shuffle as to identity. Small marketings, in other words, have not in the past warranted marketing concerns. I think the same might be said here for quality. The man that is producing a hundred head is not going to be very likely buying the kind of boar that he should be for producing the right kind of animal. However, as producers become bigger, costs of selling and, of course, ultimate return per animal assume new significance. This was alluded to this morning. As we have more out of the pocket costs for labor, for feed, whatever it might be, the profit margin per animal sold assumes a far greater significance than is the case where most of the costs are controlled on the home farm production set up.

I think that the livestock industry is changing its basic concept of production. We have been somewhat guilty the last 10-15 years of being production oriented and I think that looking down the road for the next ten years that we are going to find that production orientation is going to be moving over into market orientation. I think, as an example, you might glance at a swine industry conference program for this past year as compared to the one held seven or eight years ago. You will see increased emphasis each year on the functions of marketing. Now, what does market orientation mean? In our own operation it means taking a long hard look at the end product being merchandised. We have just gotten a brochure back from the printers and we are hitting this up real hard as far as egg merchandising is concerned. We are putting a man out on the road, he is going to be selling eggs under our label. We feel that this probably is a little farfetched as far as the

entire livestock industry is concerned. We are not, as producers, equipped to lock horns with either you, Clif (Armour), or Leonard (Wilson), but possibly in years hence we will be thinking about a Schuster sausage that we would have made up on a custom basis and accompanying this in our sales effort with eggs. This is kind of out in the fuzzy gray area, though, so we won't dwell too much here.

Back to the average producer, though. First and foremost when we think of market orientation I think we are thinking of a shift of selling pork rather than pigs. No longer are animals dumped on the market indiscriminately without concern as to weight, condition, uniformity, and market demands. In the spirit of co-operation, there is strong evidence that we in the industry are becoming increasingly sophisticated in tailoring production to specific goals, not only for our own production units but also for packer needs which in turn become retailer requirements and, of course, ultimately demands of the housewife. Evidence of this abounds. Just last week I was visiting with the head of Indiana Swine Producers Council with reference to increased revenue from voluntary check offs, and what this was going to mean in the way of an increased working budget. This, of course, becomes money which eventually becomes directed to the promotion of pork to that all important consumer. As an example of efforts he told of a highly successful pork-chop cook-out which ran throughout the Indiana State Fair and ended very comfortably in the black. Producers are rolling up their sleeves and tackling problems of soft, watery pork, bruises, abscesses, gastric ulcers, and other internal difficulties which for too long became the tough luck of the packer who happened to get the bum load.

As producers have become larger, packers have become smaller and more localized. As these old tired Johah's on the terminals are closed and exodus to areas of production rather than consumption several things are happening. First and foremost of these would be increase in the internal control on the part of the packer at his new plant.

It is no longer a big deal to have animals tattooed and followed through the kill to see how they were measuring up. When we first started grade and yield selling some 10 years ago it was not uncommon for hogs to be lost in the kill, chilled weights exceed hot weights, or something of this nature. Now as a virtual matter of course we get reports back on if not every load a good representative sample. I think another thing that is improving this is that as in most industries the local individual who is managing that plant has a higher degree of autonomy, is able to call his own shots, somewhat more strongly than has been the case in the past. As these animals are identified back, if not to the producer at least to the buyer who was responsible for marking a load of \$20 instead of \$19.75, the packer is adjusting his accounting so that profit per load is gathered as standard information. Thus, as the packer becomes more selective in his record keeping he can identify which animals are making money and which are not.

On a localized basis with fewer larger producers the packer is better able to pinpoint who is shipping what, be it quality or be it junk. Let's for lack of a better term call this delayed grade yield. If a producer elects not to sell on grade and yield, his animals are; nevertheless, evaluated as though such had been the case. The old adage of being able to skin anybody only once would definitely hold true here. Thus, if overly fed animals were overly finished, fat content proved disappointing, primal cut percentage was lower than expected, or any other number of factors were present that made those animals worth less than price that was paid, a sharp buyer is going to be making a mental note of where these animals came from. The converse, of course, would be true with the good animal. Next time around then prices become adjusted accordingly. If we move as rapidly in the direction of 60,000 producers with 100 sows each as I think we will, keeping tract of them -- the 60,000 -- will be quite a bit more manageable than the 1 million farms that now have pigs.

As packers get to know producers better, and vice versa, there logically follows a healthy unclogging of the pipelines of communication. In our own production, we welcome constructive criticism from the packer, it is the only way we can intelligently evaluate the production job we are doing and if something is wrong, obviously corrective action needs to be taken. Rather than vertical integration, this then becomes vertical cooperation.

As packers come to know producers better and deal with them more directly, the question naturally arises as to what role the marketing agencies now in existence will play in the scheme of things. Because marketing patterns change it does not necessarily follow that marketing functions are eliminated and this to me becomes the salvation of those who are involved with the terminal system, be it commission men or stockyards personnel. Much of what we are doing, in other words, still has to be done. The question boils down, I think, to how and where. If the packer shift continues at current rate, and the terminal hotel continues its downward spiral of disuse, the obvious answer becomes that of constructing motels out where the traffic is. Let's take a look at services -- those which the stockyard concerns now provide and I might interject here provide with a high degree of proficiency and professionalism. Getting animals checked in, registered if you would, identified, weighed, penned, and settled as comfortably as possible are principal functions. These are also important to livestock arriving at Cherokee, Iowa; Logansport, Indiana; or Beardstown, Illinois.

Another function which would adapt readily to this group of jobs would be that of lot identification. The fact is according to a recent communique from Washington, the time might not be too far in the distant future when all animals will have to be identified back to the home farm. The point is that there is still a battery of things to happen to the steer or pig before they are slaughtered after

they leave the home farm. If packers could be shown the true pros at these functions, could get the job done better and cheaper than with packer personnel, it would seem a logical follow through that those best qualified would get the job. Packer procurement cost is still lowest at the terminal. The problem confronting terminals, of course, is that the packer is no longer there.

I have left price determination for last because to each of us this in reality becomes of prime consideration. For years we have weighed every load of animals as it pulled from the farm and calculated returns on a net per hundred weight farm weight, affectively eliminating double talk of hot yield, marketing charges, grade, primal cut percentage, and so forth. With large numbers we have been able to apply market muscle whenever, wherever, and however we thought we could get by with it. One packer told me he felt that we had effectively utilized volume to the tune of between 25 and 50 cents per hundred weight on our yearly kill. I would find little room to quarrel with this assessment. In reality the marketing programs being discussed by certain farm organizations declare that animals in quality are worth more than the same critters in dribs and drabs. Again, there is no room for argument. Packer interest in contracting further states that not only is quality desirable but scheduled quality becomes worth that much more. Tie this in with a consistent quality, tailored for a specific market and the whole package becomes pretty darn attractive, not only to the producer but also the packer because he is getting what he wants when he needs it. There is logic to this reasoning and I cannot help but feel that somewhere in the not too distant future a program will be put together which will allow for the pooling of animals on a scheduled basis. It is further conceivable that in a given area similar genetic stock might be utilized along with management and feeding programs similarly to provide a tailor made animal locally suited for local conditions. The scheduling, sorting, hauling, yarding at a plant, identifying, weighing, and so on entails staggering detail. But let's get back to price. Who will decide at what figure all this takes place? Here again I must concede that Clif Cox (Armour) and I are dimetrically opposed. He wants to buy his hogs just as low as he can and I want to sell mine just as high as possible. Neither of us are adverse to honestly getting into the other fellow's pocket. In the past commission men have acted as arbitration agents and I think they will continue to do so. However, maybe they won't be called the same thing, maybe they will be operating in the country rather than in a livestock exchange building and their office will probably be a car with a mobile telephone. This gets back to some of the adjustments alluded to this morning. Packers, after all, are professional buyers and producers with intermittent sales are not always able to keep abreast of the market and are in a bad need of professional assistance.

In summation, change is always painful. Change creates problems, but with these problems, potentials. I was assigned the topic of livestock problems and potentials. Livestock production problems, I think, look down a well charted road. Marketing

paths are less well defined. This becomes the reason for meetings such as this. To my way of thinking, marketing offers the most challenge and excitement of any area of production. It is certainly the area that is now occupying the bulk of modern management time and effort. I don't know how I'll be selling hogs ten years from now, hopefully, if I do my job correctly, it will be via a method that will utilize the greatest skills that we have in putting together consistent quantity and quality on a schedule basis.

I think this might be an appropriate time to make just a few remarks as one hog producer looks down the road at some of the questions that have been brought forth as to the impact of corporate farming, contract production, and vertical integration. We, in a way in our own operation, have vertically integrated by backing up into the feed business and moving forward into some retail sales. I would like to state as one producer that hopefully there will be no restrictive legislation which will prohibit anybody from getting into some other endeavor than what has been the case in the past. I think too often we look upon the government as the answer for legislating this or that group out of the segment of production or marketing or whatever it might be and this to me is unfortunate. I am not concerned about corporate farming. I am not concerned about contract production. I am not concerned about vertical integration. I don't think that there are going to be a few giants who are going to control this industry because the capital requirements are just too great. There is still going to be a tremendous need for practical management know-how and the man who is able to effectively do a job of producing pork on a low dollar is going to be assured a healthy return in the years ahead. Being fully cognizant of a basic disagreement in marketing philosophy with today's audience, I would like to assure you that I respect your opinions and would hope that the converse might also be true. I do not discount arguments and problems brought forth by others on the program as this system shifts.

Anytime an industry finds itself in transition, the need for flexibility accelerates. We fully intend to stay loose, constantly evaluating and re-evaluating market concepts. If we do our homework diligently, hopefully this will mean a greater return per pig. With increased emphasis on contracting, joint venture feed outs, grade and yield selling, decentralization and hedging by live cattle, hogs, pork bellies, it becomes increasingly more evident that those who hammer out effective marketing programs are going to reap some handsome rewards. The ultimate boss as each and everyone of us knows is Mrs. Housewife. And whatever we can do to move our products through channels of distribution in more efficient and economical fashion in the form she desires becomes good business for all of us.

"Procuring Livestock to Meet Meat Competition"

by

Dr. Clifton Cox, Group Vice President - Foods
Armour and Company

I'm not sure what should be said in this area of procuring livestock to meet meat competition. That's a rather hard subject for me to look at. I think that when I look at it from the vantage point of a packer, I don't think there is any disagreement as to what the consumer is basically looking for. She is looking for tenderness, in meat, she is looking for protein or lean meat, she is looking for variety. Sometimes we overlook this. She does not want steak every meal. In fact, it is hard for a lady to cook steak, actually most of you men have to do that. She is looking for some variety in the menus, she is looking for a consistent quantity so that she can get the same thing each time she buys it. Now that is about all I am really going to say about what the consumer wants, because I think everyone knows this is basically the way she is trying to purchase. Now she wants it at a price she can afford and she probably feels it is always too high. I don't really think so. This year she is going into that market and paying more for that beef than she would have a few years ago for the same quantity. She is going into that market and paying more for pork than she would have for a few years for that same quantity. In fact, if you studied some of the disappearance patterns of pork products this year it amazes you. She still will eat it even though a lot of people say she doesn't like it. There is a tremendous amount of product being consumed. We have been slicing bacon at the rate of 28 million pounds per week under Federal Inspection. That's a few slices of bacon! The consumer is in there bidding day in and day out for good quality product.

I think most of you know, but to get it in perspective, livestock procurement is one of the most important jobs that the meat processor has in meeting competition. For every dollar of sales that we make, we spend approximately three-fourths of it, or 75 cents (sometimes more) for livestock. For example, it is estimated that for total sales of the Meat Packing Industry of \$18,325,000,000 in 1967, \$13,895,000,000, or 75.8%, was spent for raw materials. Is there anything more important than livestock procurement?

Again, to set the competition, let us take the state in which we are meeting, Minnesota, as an example. Minnesota has 17 cattle slaughterers and 9 hog slaughterers. During 1967, Minnesota marketed 1,939,000 cattle and 5,232,000 hogs. Of course, some of these were not for slaughter.

When we congregate large groups of sows and large numbers of baby pigs, the threat of disease is quite prevalent. Many veterinarians thought that by using pathogen free stock and proper sanitation methods that diseases could be controlled. Yet, we recently lost almost all the pigs farrowed in a three-week period in one of our experimental units. Still, if the disease problem can be overcome, I would say that hog production will be concentrated into much larger units in the future.

There is also now a genuine interest by packers and farmers to find some way to prevent the wide fluctuations in earnings that have been going on in the pork industry. Packers have had feast and famine. Farmers have had feast and famine. Slaughter at one season of the year is one-third less than slaughter at another season. At one time in the hog cycle, numbers were 20% more than at another time. You will note that in 1966, hog prices were extremely high. Packers with pork operations suffered major losses. In 1967, the numbers were larger as farmers reacted to the higher prices from 1966 and produced more hogs. So far this year, prices have been good, and farmers with lower feed prices are keeping production slightly more than 1967.

In order to get away from some of these cyclical results, I see a major trend for contracting the production of hogs by processors to assure a supply of hogs. This can be done by having an agreed price at the time hogs are put on feed. Feed companies are also interested. It may well happen that with the technology now available, a program might be developed that will benefit the entire industry.

There has been considerable recent progress with pork in the areas of swine nutrition, management, farrowing, weight, and disease control. At the same time, there is increasing consumer demand for leaner, meatier pork.

At Armour and Company, we have taken steps to enable us to purchase higher quality pork. Our Pork Evaluation Program, whereby the value of every lot is estimated by the buyer and checked by weighing and grading each carcass on the line, is enabling us to identify more readily and differentiate quality in hogs. We have also developed new grades to more accurately reflect improved quality. We have a grade and yield buying program whereby top-quality hogs command a premium price.

These efforts to identify and purchase top-quality hogs have been translated, at the retail level, into our Veribest Pork Program. Armour Veribest Pork cuts are identified to the retailer and to the consumer as cuts produced from high quality hogs. Veribest commands a premium price.

Turning briefly now to lamb and veal, the biggest problem we are faced with in calf procurement, whether on public markets, auctions, or direct buying, is the extreme competition by replacement buyers for calves of dairy breed formerly slaughtered as veal, and which now are being retained for feeding into cattle weights. This has shortened the supply of veal calves for slaughter considerably, and has stimulated the production of forced fed calves on various formulas to produce heavy weight veal calves of very high quality. This type lends itself to developing direct buying or custom slaughtering arrangements between feeder, packer, and wholesaler, and usually by-passes marketing agencies. This seems to operate satisfactorily, and it is unlikely that it would ever switch to marketing at auction or private trading. One significant change in lamb procurement which is in the offing is the determination of lamb values based on recognition of cut-ability factors. I don't think there is any question about the future marketing of lambs on this basis being recognized and accepted the same as it has already been on hogs and cattle.

It would be well for marketing agencies, both public and auction, to be familiar with the change being recognized in this specie, and plan to assist in bringing about the marketing changes which will undoubtedly follow. For years the recognition of value on lambs has been tied to live weight and carcass yield. The cutability factor minimizes the importance of these two criteria, and could result in a need for more and different sorting of live lambs and the adoption of new standards for recognized live lamb values.

I hope today that I've given you an idea of how we meet meat competition. I have attempted to point up some of our problems, and indicate in which directions we are going.

One final point. We do not fear competition. It is necessary and healthy for growth. We much less wish to function in a controlled economy. All of us here today, I am sure, want to see business trade fairly, and bargaining be open and free. Our chance of reward, our incentive to change and improve our system of marketing is inherent in our having freedom to grow and function.

"Possibilities for Improved Livestock Market Coordination"

by

Dr. Leonard J. Haverkamp, Vice President,
Wilson & Co., Inc.

The essence of livestock market coordination is equating the supplies of varying types and qualities with their respective demands. In its broadest sense, however, market coordination encompasses all of the physical and economic activities associated with the production, transfer, and transformation of products from the producer to the consumer. It concerns not only the channels of distribution and product pricing, but also the choice of inputs, production practices, timing of production and type and quality of products produced. It includes not only coordination between producer and processor, but also coordination between packer and retailer, and between retailer and consumer.

Ten years ago I attended a conference on vertical integration where a well-known and knowledgeable student of livestock marketing made a statement that I still distinctly recall, as follows: "I believe we are now on the threshold of a tidal wave of contract production." I think we would agree that there has been an increase in contracting over the past decade, but that it has hardly resembled a tidal wave. The projection was therefore sound with respect to direction, but it missed the mark with respect to magnitude of change.

This incident illustrates two points. The first is that timing is one of our most difficult forecasting problems when we are concerned with the area of technological change -- and I would suggest that technology is the fundamental or driving force, giving rise to changes in organizational relationships, both within firms and among them. Secondly, this incident illustrates how relatively easy it is for us to be influenced unduly by either current happenings or developments of the very recent past. As you may recall, 1958 was a year when a great deal of publicity and discussion centered on vertical integration; it was -- as quite a few people then saw it -- the primary form future livestock market coordination was destined to take.

Doubtless, these forecasts of rapid increases in integration and contracting in the livestock industry, and the related concerns -- even fears in the Corn Belt -- were stimulated in large part by the massive wave of integration which had characterized the broiler industry during the preceding decade. But, firms do not integrate for the sake of integration. While integration brings about changes in market structure and coordination, it in itself is brought about by even more basic changes. And, in the absence of these more basic changes, integration does

not materialize. The reason that integration has not occurred in the livestock industry with the swiftness and intensity it did in the broiler business is that the basic economic forces which generated the change in broilers have not characterized the livestock industry.

At the time integration began in the broiler industry, production was characterized by small, inefficient units at all levels of production, by poor processing technology, and by a virtual absence of market coordination with respect to type of product, packaging, and sanitation. Independent decisions were made by foundation flock breeders, hatchery flock suppliers, commercial hatcheries, broiler growers, and processing or dressing plants. Such a network of producers made it virtually impossible to reflect accurately and rapidly changes in consumer demands to the basic supply point.

In contrast, the red meat industry has never been broken into this many segments. In pork, for example, the breeding and production of hogs to market age often constitutes only a single decision center; and, adding the killing plant as a second such center, gives us a total of only two such centers. This compares with five separate and distinct centers which existed in the broiler business. In short, the red meat industry has never been atomized vertically as was the old broiler industry; therefore, it does not follow -- or so it seems to me -- that we have ahead of us a coordinating process of such revolutionary proportions as was witnessed in the broiler industry.

While integration and contracting have not swept through the livestock industry, there have been significant changes, although not always spectacular or obvious to the naked eye. The result of these changes has been a more efficient marketing system, attained primarily by shortening the distribution channels between producer and packer.

And they have surely been shortened. Packers built many new and specialized (one-specie) plants, away from terminal markets and closer to sizable concentrations of slaughter livestock. Many producers responded by selling direct to packers; they liked the bevy of buyers that came straight to their feedlot and competed vigorously with each other, enabling the seller to maintain complete control of his product at the farm until the terms of sale were established.

One way of capturing the impact of these changes is to mention only a couple of numbers that some of you surely know by heart, namely, a reduction in packer purchases of cattle on terminal markets from 75 percent of their total buy in 1950, to only 31 percent in 1966. The comparable figures for hogs were from 40 down to 22 percent; for lambs, from 57 to 22 percent.

But an additional and interrelated change of major importance has been the rapid increase in size of operating units at each major level in the livestock and meat system. At retail, supermarkets became increasingly larger through the post-war years, and only recently has unit size shown evidence of leveling off. At the producer level, this audience is fully familiar with the upsurge in size and scale of cattle feedlots and, while somewhat less dramatic, hog production per farm appears to be growing at an accelerated pace. The packing plant is changing, too. While only a few years ago we thought that 3,000 head per week was a large plant, cattle abattoirs with a capacity of 6,000 to 10,000 head per week are now no longer novel.

Though these trends toward more economical methods of marketing of livestock are well established, we may be only at the beginning of improving other essential factors in livestock market coordination -- the type and quality of product produced, the timing of its production, and the pricing procedure. Although the following list is neither novel, nor all inclusive, it sets forth some of the basic forces which, in varying combinations, will probably lead to great coordination. Hopefully, it may also give us some starting points for our afternoon workshops. The basic drive behind each of these forces is profit.

1. Efforts by farm suppliers to develop a bigger market for their products -- e.g., feed companies.
2. The desire of processors to obtain a more dependable and uniform flow of product to their plants.
3. The desire of producers for arrangements that will give them access to the increased amounts of capital that they require, but cannot otherwise obtain.
4. The desire of some producers to concentrate on the production activity, and transfer the marketing function to some other party.
5. The desire of some producers to obtain additional managerial assistance which they may well find beneficial as the management decision area becomes more complex.
6. The desire of producers to shift price risk to other parties.
7. Efforts by processors to obtain a particular quality of product, perhaps to more easily meet the specifications of certain suppliers.

Among these seven points we probably have much of the motivation for most of the attempts at improved coordination that have been launched within recent years. Contracting has been the most common coordinating vehicle, taking a variety of forms, and tried in several types of situations. Looking first at hogs, I would guess that contracts between feed companies and hog producers are presently the most important from a volume standpoint, although even here the percentage of total industry marketings involved may not yet be especially large. Types of contracts between these particular parties that we have heard about place emphasis upon provision of either high-quality sows and gilts, or an adequate flow of feeder pigs for producers with finishing programs. Some combination of credit, management services, and loss-protection provisions are frequently built-in.

On the hog marketing front, packers appear to be mainly involved with either (1) supply contracts -- where producers deliver a stipulated volume per week but continue to assume all price risk -- or (2) with forward pricing contracts, where producers fix their selling price well in advance of delivery and thereby eliminate price risk.

While Wilson & Co. has written a number of such forward pricing contracts for delivery of hogs, we have found considerably more producer interest in a parallel form of contract involving the future delivery of fat cattle. I would guess that there are two main reasons for our greater activity with cattle contracts. First, many cattle feeders have more price risk than most hog producers, and are more risk conscious; second, the cattle futures market has usually had sufficient trading volume to permit quick and efficient hedging of contracts, whereas the hog futures market has frequently not been adequate from this standpoint. This second point is relevant, because the price risk involved in all of our forward contracts with producers has been immediately transferred to the futures market, and, therefore, any difficulties in placing hedges promptly and at a normal basis tend to have an adverse effect on the program.

From our standpoint, we basically look at our fat-cattle forward-contracting program as a tool for reducing our need for a custom-feeding program. Other things equal, we prefer it because we do not have capital tied up in feeder cattle, as is, of course, essential in a custom-feeding activity. It also follows that our volume objectives in a forward contracting program do not extend beyond a range of, say, 5 to 20 percent of our slaughter capacity, depending upon the supply situation in each plant area. This is not to say that we would not go beyond this point if and when this method of marketing should reach such a level of popularity; but it does say that we cannot presently see any economic advantage for a packer, in most circumstances, to obtain a majority of his kill requirements from either a program of this type, a custom feeding operation, or his own feedlot.

The distinction here is that a packer's primary consideration is to have a back-up supply for unexpected short-run supply bottlenecks. For instance, each Monday morning he guarantees thirty-six hours of work to his hourly employees, and few things are more frustrating or expensive than to end up with a supply of cattle that does not equal thirty-six hours of work. There are other reasons and advantages for a back-up supply of moderate size, but to my way of thinking, this is the most important one.

Without question, considerable experimentation is taking place today with new forms of coordination and especially new contractual arrangements. This is essential; the true test of a program is its efficacy in practice. Prospective parties to a contract will want to measure, whenever possible through a test program, the economies and benefits that seemingly exist; they need some practice in working together in order to reach agreement on a satisfactory division of net benefits uncovered.

However, to make our test programs as meaningful as possible, all of us try to look down the road and visualize the probable impacts of technology in all its forms. At least some of us see, first of all, a rapid growth in size of operations of the livestock producer. While this will be especially true of the cattle feeder, it will also become true of the hog producer and feeder as soon as the hog disease problem has been dealt with more adequately, which I am sure is bound to come. This larger feeder, and all those like him, will represent the greater proportion of the total livestock produced, his investment will be substantial, his exposure to loss will be great. Therefore, he will not only hedge the price of his livestock through the futures market or through contract, but he will also hedge the cost to gain through use of the grain futures, and he will be satisfied to work for a narrower, but adequate, margin of profit. He will produce more to specification than anyone is currently doing today. He will be more inclined to deal with fewer outlets in making his contracts with packers. He will be much more concerned with profit and return on investment that he has on his operation, than he will be with the relative price he is receiving compared with what someone else is getting. All of this could well put the small farmer or feeder in a position where he will essentially copy the practices of his competitors, and likewise turn to contract production, even though he may have somewhat less price and risk exposure.

In any event, I cannot visualize where the producer will continue on for any extended years in raising livestock and then taking it to market for what it will bring; by the same token, I cannot visualize the packing industry continuing on indefinitely without the slightest idea as to what volume of livestock it will have available for purchase on just the following day. All of this adds up to the likelihood that more livestock will be sold direct to packers on contract, less

livestock will be sold in relationship to a market, markets as such will be more and more difficult to define, terminal markets will be more difficult to maintain, and market quotations will be less representative of total livestock being delivered. More and more, price quoting services will concentrate on providing accurate market news on finished meat products, since it seems likely in the years ahead that the relationship to the value of the finished product will have substantially more to do with livestock values than will relative relationships of livestock prices themselves.

There is one final point I wish to make. While our entire economy is characterized by change, there is much inertia with respect to change, and the livestock industry probably has its share. We can make progress only through change, and we must consciously battle the temptation to cling to the old institutions and methods, merely because they have worked in the past. For instance, we can be much concerned about the efficiency of price making as a result of the decline of terminal markets, the increase in direct purchases, and the growth of contracting. Certainly, these changes result in a shift in the locus of price determination and a reduction in the number of pricing points. However, this does not imply a decrease in price efficiency. The broiler industry has gone through this experience of a decline in the number of price junctions until there is no longer a meaningful live price. But, there is no evidence that I know of which shows that pricing efficiency in the broiler industry today is inferior to that which once prevailed.

Further, it has sometimes been argued that contracts relocate managerial control, depreciate the status of the farmer, and deny market outlets to the farmer. With respect to livestock contracts, the farmer decides whether or not to accept the contract, he decides what to produce, he decides whether or not to produce. And, he decides with whom he will contract. Contracting per se does not affect the number of economic units involved in any stage of production, and consequently does not eliminate any market alternatives.

The over-all desirability of changes in marketing coordination or industry structure is, of course, hard to measure. But, it would seem that one could do worse than recall and apply some words of the late, great Henry Simons of the University of Chicago, who once commented along these lines: "If you are searching for a final, acid test for sound policy, generally speaking it is simply this: If it's good for the consumer, then it is also good for the country's welfare." By no reasonable stretch of the imagination can I visualize very many consumers who would be willing to trade the products from today's integrated broiler industry for those of the pre-integrated era -- either in terms of price, quality, or quantity. Granted some progress would have been made without integration, but I know of no one who argues seriously that such progress would have matched what has actually been achieved. To the extent we are willing to agree with Simons that consumer welfare is a vital consideration in any economic issue, then the broiler case will serve to support even this more extreme form of coordination elsewhere in agribusiness, rather than oppose it.

WORKSHOP REPORTS*

1. Service Programs for Different Size Producers - Reporter Richard Fenwick, North Dakota State University (Group A)

The first service we discussed in our group was whether or not producers were getting enough market information. The type mentioned included both short- and long-market information as well as futures market trends. This type of information was felt to be especially interesting in view of the fact that the packer has it available to be used in negotiating process. The livestock producers without it would, therefore, be put at a disadvantage.

Pooling hogs for small producers was discussed, along with the benefits that would accrue to it. It was recognized that as hog production units get larger and hogs are already pooled in acceptable size units, this market function becomes less important to the large producers.

Discussion also centered on the point of developing long-run marketing programs for producers rather than merely striving to get the "top" dollar on a particular day's market. Market personnel should take more of a marketing approach rather than merely selling.

Some felt that market agencies should work out means to make packer data available to the feeder producer. This would effectively extend performance testing on to the packing plant.

Unfortunately, too much time was spent by some of the workshop participants in the time honored profession of running down the packer, so not as much headway was accomplished as desired.

* The recording machine did not work when these reports were given. Therefore, they are based on recall by the reporters.

2. Pricing in a Decentralized Market
and Competitive Markets' Place in Marketing -
Reporter Wayne Purcell,
Oklahoma State University (Groups D and F)

During opening comments by the workshop chairman, reference was made to the relation between bargaining and pricing in a decentralized marketing system. Thus, the decision was made to discuss the topics jointly and in launching the discussion, the following questions were offered as deserving of consideration by the competitive marketing system:

- (1) What types of services do producers need and/or desire?
- (2) Are producers receiving such services through current marketing procedures?
- (3) What can the competitive marketing system do to better meet producer needs in a changing environment, an environment characterized by concerns over bargaining and the effectiveness of the price mechanism in a decentralized system?

In the interchange that subsequently evolved, it was noted that the central market has functioned to provide a bargaining arena -- to gather a willing group of buyers and sellers to facilitate pricing processes. Concern was voiced as to who will provide this service in an increasingly decentralized marketing system.

In reply, the need for such physical proximity of buyer, seller, and the product was questioned. If the available information is adequate, if the product (the live animal, in many cases) is rigorously described, then effective bargaining is possible without physical proximity of buyer and seller. This does not mean, however, there will be no role for the bargaining agent who operates on a commission basis. The agent sells a service, essentially his expertise as a salesman and/or interpreter of market trends. It would appear the producer, especially the smaller producer, may need such services regardless of the route the livestock take to the packing house.

The need for effective pricing processes, to coordinate production and consumption, was noted. Immediately, objections were raised -- does the marketing agency serve the consumer or the producer? There was strong support for the position that the producer is the only important client of the marketing agency. In contrast, it was noted by other discussants that concern over, and awareness of, the needs and desires of consumers is essential to the long-run competitive position of the industry.

In closing, two quite positive suggestions were offered as to what the marketing agency can do to survive in a changing organizational structure. First, more attention can be given the need for quality, capable personnel. Second, the services offered can be improved. These two basic needs persist because management of the marketing agencies have, in general, dragged their feet in encouraging and aiding innovations. In seeking to preserve the status quo, many opportunities for effective adjustment have slipped past and are gone.

3. Size of Market and Service Potential
and Service Programs at Different Locations -
Reporter Marvin Skadberg,
Iowa State University (Groups B and C)

It was pointed out by some that although the topics discussed by the previous speakers were interesting and in many cases true, they did not provide any concrete answers to the problems of public markets. Others disagreed.

Any plan devised which would accommodate direct shipments of livestock direct from farm to packing plant would not help stockyard companies, which have sizable investments in facilities.

Our group also discussed the plan that people in Chicago were developing which would allow packers and marketing agencies to buy and sell livestock before physical delivery of the livestock.

One disadvantage expressed about this plan was that the buyer or packer would have to accept the grade and quality that a country grader placed on a particular lot of cattle. The buyer or packer would have no recourse if the lot of cattle failed to meet the standard as they were estimated. The packer may think he is buying low-Choice steers dressing 61 percent when he actually may have delivered Good cattle dressing 59 percent.

Discussion was held as to what might entice or encourage packing plants to no longer buy livestock direct by buying through their own hired buyer. It was expressed by a packer representative that packers are primarily concerned about two things, (1) a reliable day to day source of supply and (2) prices for livestock be competitive. If any marketing firm can guarantee the packers that they can meet these two conditions that packers, at least this packer, would be happy to no longer hire their own buyers. But, until these conditions can be met packers will continue to use their own buyers and buy the best way they know how.

It was also strongly suggested that public markets are or will be in serious trouble if they don't develop some new techniques in selling livestock. If they do not they will not remain a viable part, as they have in the past, of the marketing system.

4. Service Programs for Livestock Producers -
Reporter, Michael S. Turner
University of Nebraska

We made an attempt to determine first of all the existing services being provided by the competitive livestock markets to both the producer (farmer) and the packer. These services are as follows:

Producer

1. The conversion of livestock to cash in a rapid, efficient manner.
2. Evaluation of livestock for quality.
3. Provide information on price level.

Packer

1. Minimization of supply uncertainty to the packing industry.
2. Provide a variety of livestock quality plus assembling quantities of like quality.
3. Provide a center of price and market information.

We next attempted to evaluate likely services which might be provided by competitive markets in the future. A few of these discussed were:

1. Assistance in transferring risk (perhaps through futures markets).
2. Management services (probably to feeders in production in addition to marketing).
 - a. Feed formulation
 - b. Buying feeders
 - c. Marketing fed cattle, farm records, etc.
3. Supplying or arranging for credit needs.
4. Cash trading of livestock without inspection.
5. Assistance and involvement in producer group contracts.
6. Some role in administering the provision of a marketing order or a marketing board.

SUMMARY AND IMPLICATIONS

by

Mr. Kenneth E. Egertson
Extension Economist
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We have just completed what I believe was both a successful and informative conference. Excellent papers were developed and presented by our speakers and stimulating discussions followed both in the formal workshops and informal bull sessions.

As is generally the case, a conference must be "summarized" and "concluded" by someone. The person who usually performs this function is enough removed from the original planning to be in an unbiased position. Since this is not the case here, you are free to judge my remarks accordingly.

It is now time to assess such questions as: What has been accomplished, and what do we do with the information presented? The two questions are obviously related. The question of what has been accomplished has meaning only in a relative sense, i.e. in terms of the objectives set forth for the conference. Also, an assessment of the first question can be used as a measurement in answering the second.

We believe that the broadly stated objective of the conference which was "to expand our awareness of the changing environment in which livestock marketing firms operate" has been sufficiently worked over by the speakers and accomplished. A picture of change in a descriptive, explanatory and predictive framework was developed by each speaker. All of us would likely agree that no matter from which angle we view the agribusiness complex, we visualize a period of rapid adjustment.

Viewed from the livestock production side we see such changes as larger production units, interest in contractual arrangements to reduce risk and uncertainty, more sophisticated and informed farm managers, interest in expanded bargaining power, increased livestock production specialization, more standardization of product through improved breeding and feeding, etc.

Viewed from the meat processing angle we see such developments as locational adjustment in slaughter and processing units, improved slaughtering and processing technology, increasing problems associated with variations in livestock quality and quantity, interest in contractual arrangements, increased competition from synthetic products, etc.

Viewed (as we did at the 1967 conference) from the angle of associated marketing facilities we see improved ways and means of moving livestock and meat from producers to consumers, alternative ways of communicating between buyers and sellers which feature electronic "gadgetry" rather than physical contact, new

means of evaluating the value of meat animals, expanded ways of collecting and disseminating price and market information, etc.

More importantly, even the crystal ball used by most of our speakers would indicate that in the area of change we likely "have not seen anything yet."

As managers of livestock marketing firms caught up in this web of change, how will you react to the changes discussed at this conference? There are three alternatives. The first is to perform the "head in the sand" act. It is easy to "remember back when"--wishing that all this change will soon go away. Second, is to adjust to external environmental change in an open-minded and objective manner, and third, is to attempt to affect the external environment. Positive action in either of the last two cases is usually productive except when one attempts to fight constructive change occurring in the external environment. Unfortunately, this is many times the case. It generally arises from situations where individuals will not adjust because of lack of information or selfish interest.

Assuming that most of you would normally react to change as specified in alternative two, how can you use the information presented during this conference? We hope it will become useful in your planning function. Each of you is faced with two environmental situations as you make plans and formulate decisions: The external environment (the one which we have discussed at this conference) and the internal environment. Both are important and related. Unfortunately, it is generally the internal environment which demands most of a manager's time and directs most of his plans. This is likely because it is the area in which a manager has the most control.

But what about the external environment? Why is it generally passed over in decision making? The answer is generally because the control by the individual over many of the changes occurring in the external environment is negligible. It is nevertheless instrumental in creating internal opportunities and problems. Therefore, even though it can't be controlled it must be considered. In other words, the decision maker views his internal environment in terms of external changes in attempting to match his capacities to the external opportunities.

In this setting, the challenge in view of the things talked about at this conference should become clearer. A firm's internal capabilities as measured in terms of management ability, physical assets, technical ways of doing things, and financial resources, must be adjusted to the problems and opportunities which have developed because of the ever-changing external environment.

The new systems of livestock marketing which seem destined to arise in the future will be developed by those who are willing to carefully consider the new if the changing external environment dictates it and who possess the internal capabilities to change.

The analysis presented in this summary as well as the topics covered at this conference have implications for future educational efforts as well as management decisions. I agree with many of you attending this conference that at future conferences we might more closely focus on what has to be done by individual firms in planning operations to fit the new agribusiness complex of the future. To the extent that part of the groundwork was laid at this conference, we believe that future conferences can continue to build toward a final result that can only be constructive and beneficial to all of us whether in education or practice.

In closing I want to express my thanks for the fine cooperation given to Joel Bennett and myself by the many speakers and discussion leaders who participated and to each of you attending this conference. We hope you have found this effort rewarding and will look forward to the 1969 "edition."

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Then, let us, for a moment, take a look at an efficient sized packing plant. From estimates we have made and from taking a look at construction in the industry, we believe that the efficient sized cattle slaughtering plant handles from 250,000 to 500,000 head per year.

It can be seen very readily that Minnesota does not need 17 cattle slaughtering plants. Either some of these are inefficient or many more cattle are needed for slaughter than we are getting.

If we take a glance at the trend in marketings in Minnesota we can see, as in other areas, there is a definite trend for beef slaughter to move to areas of big production with large feed lots.

This is pointed out best in the Panhandle of Texas where three firms are going into the same area. Two of these are already on stream and the plans for the other have been announced. I am sure that whoever did the analyses for these firms pointed to the increased feeding in the area. Each of them saw the opportunity. None backed down with its plans just because others were going in. In this particular area, there will be one plant that will kill 10,000 cattle per week on a one-shift basis. This means a half million per year. The other two will kill approximately one-third of a million cattle per year each on a one-shift basis.

If we take a look at the entire United States with an average of one-third of a million head per plant throughout the country, we can slaughter all the cattle in the United States in approximately 100 plants instead of the 2,700 that are now operating.

We can see the tremendous change that might come about in the slaughter of cattle in the years ahead.

In beef cattle, we observe a continuing trend toward feeding cattle in large lots. This trend is not new. It just has not taken over in some areas of the country as much as in others. In the Midwest, the cattle are still fed in rather small lots compared with the West and Southwest. When I look at some of the research data, it appears to me that there are economic factors entering the picture that prevent growth in the Midwest, particularly in the northern part of the Midwest.

Cattle in feed lots during February, March, and April that are not protected from the mud and cold in the Midwest have exceedingly high cost of gains. If you watch, you will see some shift in cattle feeding to drier areas, and sometimes to areas with higher temperatures.

We know that at times we are able to contract for feeding as much as 3 cents a pound difference from one area to another. You can ship cattle a long way for 3 cents a pound. We will see some continued shift in cattle feeding to areas with high conversion efficiency as a factor along with the availability of grain.

As these lots become larger, the day of the terminal market might have passed from a city location to a feed lot of an individual operator. There are times when an individual feed lot has more cattle available to a buyer than a terminal market which means that the feed lot is now a terminal market. A buyer of cattle and a seller of cattle must know and be able to identify the value of the carcass under the hide and this we believe can be done while the cattle are still alive.

I might point out here our system in that area. We are not the first by a long way, in fact I think we were late in the industry going to it. We ask each buyer as he looks at every load of cattle to estimate the yield, estimate the grade, estimate the weight range, that is the number of cattle that will fall into different weight ranges because this is a value factor, estimate the cutability of the cattle, and then as these are slaughtered they are kept track of, accounted for, added to that other information such as bruise damage. Every lot of cattle and every bar we calculate out how much bruises he has bought along with him. You would be surprised at how much bruise one of them buys occasionally. But, so that we know at the end of the week and every morning after these have gone through our system and are graded in the cold cooler, how each buyer did on every lot he bought. Whether they were bought according to money he was given to buy with and how he did on his estimate.

Now we have a little other thing, sort of a truth in lending, I guess. There you see that this buyer really is spending about \$100,000 a week for us. That is about how much money we give the buyer a week, it is about \$100,000 a week to spend. Once a month we have this run through a computer with the worse buyers on top. There is no trouble for a computer to do that and it puts the worse buyer on top so that you don't have to hunt for him to find him. It's a little system that is effective. I get a copy of that so I can see whether the manager keeps him on the next month or not. I let them go one month, but after two months we ask questions.

There is another factor here that I wanted to mention and this is not a commercial because it is just a factor that I think will be taken into account in the future. We are now able in Armour and Company, and I think this is a real breakthrough, to tell whether this carcass is tender or not for its average cent to the retail store for every cut. We cannot do it live, but we can do it after the carcass is chilled in certain grades of cattle. We have applied for patent on this process. We have

merchandised this process under the name Tender Test and it looks, to us because the consumer rates tenderness as the No. 1 factor, that if we could do this it is a real merchandising and a real satisfying area of telling which carcasses are tender and can be relied on as being tender. Now we cannot do this live but if we ever could this would be a real buying tool and it is a real merchandising tool with the retail store. We think it is equally merchandisable in the restaurant if that restaurant operator can always say to the customer he gets a tender steak and not having any gripes about it and the wife can say that too, then this is a real value factor.

With the development of the futures market in cattle, a feed lot operator can minimize his risk by hedging them. There is some romance apparently in owning cattle either through the futures market or in the feed lot. Therefore, the feeder today, who wishes, can know what the public believes will be the value of those cattle at some date in the future. He can determine the cost of feed and, therefore, set his earnings if they are favorable for the futures market at the time the cattle are put on feed. If he does not wish to do this himself, he can, in turn, sell these to a packer on the day he puts them on feed, and the packer, in turn, will hedge them in the market. The facilities are now available for taking the major risk of price change out of the feeding of cattle if it is desired. However, I should point out that there are times when these cannot be hedged at a profit and, therefore, the feeder must be willing to go out of the business or take some risk because if he hedges them, he is actually locked in a loss rather than a chance for profit.

Let's now take a quick glance at hogs. Minnesota marketed, as stated earlier, 5,232,000 in 1967, with 9 hog plants. It is generally agreed that an efficient hog plant can kill a million per year. You can see we only need about half the number of hog plants that we now have in Minnesota as far as capacity is concerned.

I am using Minnesota here, but I believe that in any Midwestern state, essentially the same picture presents itself. There are presently in the United States about 2,000 plants processing hogs. Yet it is conceivable that less than 100 plants could supply our nation's annual pork requirements.

You and I know that this is not just around the corner, but plants are tending to be larger, are tending to be located where the hogs are raised; namely in the Midwest, and we are shipping product to processing plants located in large consuming areas for final processing and distribution.

Changes in hog production in the future are likely to be greater than in beef.

There is genuine interest these days in confinement feeding of hogs. There are also some problems with confinement feeding.