

## *Future Directions in the Meat Industry: The Next 50 Years*

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It is indeed a pleasure to be here at this year's Reciprocal Meat Conference. I think anyone would be honored to be a speaker at an event that celebrates the 50th anniversary of the American Meat Science Association's annual meeting.

I have been asked to dust off my crystal ball and take a look at the future directions in the meat industry. I hope to intrigue you about what the next 50 years might be like. Before man landed on the moon, no one could picture exactly what that would look like. But many people thought about it. They wondered how it might happen. They thought and thought and thought. And one day it came true. Man did walk on the moon. More than just once, too.

So I'm excited about the future. I see good things in my crystal ball. Tremendous opportunities exist in new product development, food safety, and value based marketing. In all of these areas, meat scientists will play an important role in helping the industry succeed.

I've also been asked to share with you my vision for the future. I'd have to say that my vision is the same as Cargill's. Cargill's vision is to raise living standards around the world by delivering increased value to producers and consumers. One way people seek to raise their standards of living is by

improving their diet. And the way they often do that is by incorporating more meat into their diet. In other words, our meat industry will be part of the broad effort to raise living standards worldwide.

In the day to day grind, we sometimes lose sight of the role we play in the world economy. We sometimes forget that what we do benefits many people around the world—and that we will benefit many, many more in the years ahead. Along the way, we will be presented with opportunities. To capture those opportunities, we must create and add more value. We must continue shifting away from being a commodity driven business. We must continue moving to being a consumer focused industry.

Of course, saying this is a lot easier than achieving it. Consumers want food that fits their lifestyles. More and more, that means building convenience into our products. Consumers also want quality with convenience. They want a satisfactory eating experience, time after time. They want consistency. If we don't give consumers the value they want, beef's market share will continue to slide. We've all seen the data on per capita consumption. Beef peaked in 1976 at about 89 pounds per person per year. By 1985 it was at 74.7 and last year it was about 64.3 pounds. By contrast, chicken and turkey went from 45.7 pounds in 1985 to about 63.5 last year. I think this trend can be addressed if we put our minds together in areas like product development and value-based marketing. But everyone in the marketing chain must work together.

Before I talk about where we are headed, I want to spend

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a little time talking about where we came from. The point I want to make is that the meat industry has changed quite a bit just in our lifetimes. We're getting closer and closer to the consumer. We're creating more value. The value creation is done further back in the value chain.

Let's start with the 1960s and early 1970s, when the beef trade was based on the carcass. In 1971, about 88 percent of the U.S. federally inspected cattle slaughter output was sold as carcass beef. In other words, most of what we produced was far down the road from the consumer. There were many more steps before value was added and the carcass was turned into steaks, roasts and ground beef.

A new breed of packer and new technology began to change the market in the 70s and 80s following the introduction of boxed beef. In 1976, only 33 percent of the cattle slaughter was sold as boxed beef. By 1987, 90 percent of the beef slaughter was fabricated into primals and subprimals. Boxed beef truly was a revolution. The changes extended beyond packaging. We needed more efficient, mechanical means of moving product through the plant and into and out of the coolers. We needed better inventory controls. Our plants became larger to combine slaughter, breaking, and boning. We began to process byproducts. We started seeing economies of scale.

In the 80s and continuing today is the next stage—what I call specialty boxes or specialty products. We have product lines for quarter inch trim. We have product lines for brands like Certified Angus Beef (CAB) and Excel's Sterling Silver. We have specific product lines for our international customers. One size doesn't fit anymore, and our many customers want different products or a different mix of products.

In looking at the broad picture, the meat industry is in its segmentation stage. We have gone from producing a single product—carcass beef—to producing hundreds of products. A comparison can be made to the soft drink market. Years ago, there basically were two kinds of pop offered—regular and TAB. TAB was the only diet offering on the market. Today, you only have to look at the grocer shelf to see a proliferation of products from diet to diet-caffeine free to flavored to diet flavors and so on. And the drinks are sold in many different types and sizes of packages. This trend of segmentation will continue in the meat industry. Today and in the future we will see more products for home meal replacement. We will see more case-ready meat. Simply put, we will be creating more value, more consistency, more convenience for the consumer.

At Cargill, our strategy is to convert a higher percentage of red meat into value-added foods. Our Product Development Center in Wichita is helping us move in that direction. It includes a pilot processing plant, sensory analysis lab, a chemistry and microbiological lab, and kitchen. The center's food scientists and technicians work closely with sales and marketing to develop products for customers.

A recent example is our Breaded Beef Steak for restaurants and other food service facilities. It's similar to chicken fried steak. The product has several features that contribute

to an attractive southern fried appearance—such as its golden brown coloring with black pepper that's visible to the eye. The concept behind this product isn't new. What is new is that a packer like Excel is producing it. What's significant about it is that we've added value to ground beef by making it look and taste different than your regular burger. And we've added versatility to the product. We sized it to fit on a biscuit or bun, so it can be served for breakfast and lunch—as well as dinner.

We've been producing value-added products for many years. Our Nebraska City, Nebraska, plant for example was producing fully cooked products for the food service industry even before Cargill bought Excel in 1979. These cooked products include prime rib, roast beef, pastrami, barbecue beef ribs, barbecue pork ribs, pork roast, and corned beef. We also produce processed products at Nebraska City like beef fajitas, chicken fajitas, barbecue beef, barbecue pork, and Morton's corned beef.

A few years ago, we built a new facility with the latest in food safety. In fact, it was designed with food safety in mind.

Nebraska City is where we are now producing cooked beef products for the retail meat case. All you have to do is heat them up at home in your microwave. The product line includes a 1-1/2 pound pot roast, a 1-1/4 pound sliced roast beef, and a package of two 10 ounce slices of prime rib. When was the last time you came home from work and made prime rib? How many of you out there make a pot roast after finishing up a long day at the office? With these products, it's into the microwave and out in a few minutes, ready for you to eat—and these products taste great. Another key point is that the pot roast and the sliced roast beef add value to primals that haven't kept pace with the middle meats in recent years—the chuck and the round. Sometimes, those primals are used only for ground beef because not enough people know how to cook roasts. We're changing that with these microwavable products.

These products fit into the Home Meal Replacement category. We've all seen the research. Fewer people are cooking from scratch. They're eating out more, getting carry out more often—and they're looking for easy-to-fix products they can get at the grocery store. This trend is only expected to continue. It makes you wonder what home kitchens will look like in 50 years. Maybe they will go the way of the root cellar.

Realistically, people will still cook. They'll still buy fresh meat and cook it at home. That's where case-ready fresh beef comes in. Excel has been a pioneer in case-ready beef, and probably everyone here knows the history of it. It's been a slow journey since we introduced it in the 80s, and we've done a lot of experimenting. We have always said that case-ready fresh beef is an evolution, not a revolution, but one day it will be commonplace. Actually, our involvement with case-ready fresh products is multispecies. It's not being limited to just beef.

But what about the future? Let's try to think in ways we usually don't about how meat will be packaged and sold 50

years from now. How about beef sold in packages like the astronauts eat? Before man actually went up in space, did anyone picture in their minds an astronaut in the space capsule, dining on prime rib, served up on a plate atop a white linen table cloth? Probably not. Just add water. Or just squeeze it out and there's your beef dinner. Now there's a thought for you to chew over. Or will your beef dinner look like this? All the nutrients boiled down into this single pill. The dark brown is for well done and there is a red for rare. There's also no-fat, low fat, and full fare.

Is that how I think the future will be? Space food? Beef in a pill? I certainly hope that doesn't happen. I really like the taste of beef. It's a unique eating experience. You don't get that experience with any other protein. No one can say: "Beef—oh right, it tastes like chicken." So it's up to us to give the consumers what they really want, which is a convenient, consistent, high quality dining experience. A pill might be convenient, but you can't tell me it would taste good. Again, we're the ones who have to create a great eating experience. Factor that into your thinking as you picture the next 50 years.

We'll also have to think of new and innovative ways to address food safety. It was Phil Seng of the U.S. Meat Export Federation who noted that food safety is the single most important issue facing meat industries around the world. He noted that the meat industry will be challenged as never before to satisfy a rising expectation among consumers for safe food. He said price, product availability, and quality grades mean little in a market where consumers question the safety of the meat they buy.

Food safety is an area where scientists, the industry, and government can work together cooperatively with a common purpose to continue efforts to make food safer. The steam pasteurization process is a case study for this. As you know, about a year and a half ago, USDA approved the use of steam pasteurization. The process helps reduce the levels of pathogens like *E. coli* O157:H7 on the surface of beef carcasses by exposing them to a brief blast of steam. We now have steam pasteurization units in all of our North American beef slaughter plants. Developing steam pasteurization involved four parties:

1. Cargill and Excel, which had the beef plants and understanding of the process.
2. Frigoscandia, which had the engineering expertise in heating and cooling equipment.
3. Kansas State University, which provided the third party verification, and
4. USDA, which gave a blanket approval for the use of steam pasteurization in any beef plant.

No one entity could have made this happen on its own. It took a joint effort. Scientists, industry and government will continue to develop newer ways to enhance our processes and make food safer. Steam pasteurization addresses the carcass surface. New intervention strategies will be developed for offal. Tests for bacteria and pathogens will become faster.

Will we be issuing a written guarantee saying that your food is pathogen free and you'll never get sick? Maybe there won't be any written documents, but I doubt if society will be tolerant of anything left to chance—whether that's eating meat or transporting yourself from point A to point B. Am I saying that meat isn't safe today? No. What I'm saying is we are doing things today that we would not have even thought about 15 years ago. Fifteen years ago, we never would have imagined that we would come up with the intervention strategies we have today. What happened 15 years ago? *E. coli* O157:H7 was first identified. We wouldn't have thought 15 years ago that one day we would develop steam pasteurization. It will be the same 15 years from now. It's hard to envision now, but we will continue to enhance our products.

So let's assume for a moment we have assured the consumer about the safety of the meat they eat. We then must still address the issue of consistency. You've heard or read about the consistency issue and that something must be done to address it. We are working on it, but the industry will have to work even closer together to get us to where we need to be.

At the plant, we try to control consistency by more sorting before the cattle enter the plant and by sorting carcasses before fabrication. Excel has invested millions to build carcass sortation coolers. These let us sort and select carcasses hours before fabrication. It enhances our capability to group carcasses that have graded Sterling Silver or Prime and so on. We've also tried to control quality through formula pricing and forward contracts, using them as tools to pay discounts and premiums based on individual carcass merits. Ultimately, what we're trying to develop is value-based marketing. As I have said elsewhere, one Monday we will buy all of our cattle through value-based marketing. I can't tell you exactly when it will happen, but it will happen. It has to happen so that we get away from a system of averages—a system that rewards poor quality and discounts superior quality.

Value-based marketing is the tool that will help us have a more consistent product. It will help the industry create value. It will get us out of the industry quicksand of buying cattle on averages. Alliances seem to be a way the industry is trying to go to get at value-based marketing. Excel is involved in one called BeefWorks. Right now it's being used at our plant in Schuyler, Nebraska. I think BeefWorks offers a lot of promise.

BeefWorks links cow/calf operators, stockers and feeders with Cargill's animal nutrition and meat processing businesses. It isn't a packer driven program. We're just one cog in the wheel. BeefWorks is designed to measure and communicate information about the real value of cattle across all segments of the beef production chain. The data can be used to improve genetics and management systems. This ultimately can improve the quality and economy of the final product, creating a higher value for cattle in the future. In our earlier efforts at value-based marketing, we focused mainly on the feedlot. But with BeefWorks, cow-calf pro-

ducers receive data on individual carcass value, carcass attributes, growth potential and profitability. The information is summarized according to genetic history, so cow-calf producers can make breeding decisions that can enhance the future value of their herd.

At feedlots, ultrasound is used to evaluate all cattle individually for back fat and marbling score. This data and information about current market conditions help estimate an optimum slaughter date and helps avoid discounts due to excess fat and overweight carcasses. Vision grading at the packing plant will be an important tool in establishing the value of individual carcasses. We'd been experimenting with vision grading for a number of years. Recently, we began using a system developed in Canada at our High River plant south of Calgary. If the Canadian vision grading system proves workable, we'll implement it in other plants.

BeefWorks displays the spirit of where the beef industry needs to go if it wants to take advantage of the opportunities out there. All the different segments need to be working together to deliver a consistent, convenient, good tasting, safe product. But as you know, we don't always work together. It's been this way long before I got into the industry.

I was reading an article written in 1962 about the events that led to the formation in 1922 of the National Live Stock and Meat Board. The article talked about how livestock producers wondered if they were getting a fair deal. It talked about how such complaints did not go unnoticed in Washington. Congress began calling packers to hearings. But there were other events that forced the different players to work together. The original Meat Board included 11 livestock producers, two spokesmen for the terminal markets, two meat packers, and two retail distributors. One primary factor that

brought the group together was the prevalent folklore at the time that high level meat consumption was adverse to health. Some people believed that eating meat predisposed one to rheumatism. Vegetarian faddists were having a field day.

We continue to be challenged by health issues today. But I think the list of challenges also has grown. Fewer people have time to cook a roast anymore. Many might not even know how to cook it. This increase in the number of challenges, of expectations we must meet, makes it even more important that the industry works together. We all have to work together to stop and maybe reverse the trends in market share. The future will hold many challenges, but I'm optimistic. I'm excited about the future. The sky isn't even the limit.

It's really been a relatively short time to get from carcass beef to microwavable pot roasts. The changes in the years ahead may come even faster. It's almost hard to imagine what the future will be like. My crystal ball could break tomorrow, but some of the possibilities I've talked about today might just happen. Or in the case of the beef pill, possibilities that I hope don't happen.

We will continue to move from being a commodity business to being consumer driven. We will be able to offer consumers products that taste good time after time and fit their lifestyles. We will continue to find new ways to enhance food safety. Bring it all together and we will be part of a vision that seeks to raise the standards of living of people around the world.

Meat scientists have played a key role in helping the industry move in this direction and they will continue to do so. As a packer, I can tell you we will appreciate your insight and help. Thank you very much.