

Processor Perspectives on Current and Future Trends in Meat Quality
Doug Sutton

[1]All right. This is our final speaker this afternoon. It's my pleasure to introduce Dr. Chuck Allison. As you may look on your program, Dr. Sutton was supposed to speak in this particular slot, but he had a personal family emergency and was not able to attend, and I really appreciate Chuck stepping up and doing this. He kind of got the notice on Friday, and there were no slides, nothing, and so, he's been kind of putting this together on the fly here, and we really appreciate this; Chuck's effort to put this together. Chuck is one of Doug's colleagues at Smithfield Packing. Chuck received his masters and Ph degrees from Michigan State University in the Department of Animal Sciences. He was focusing on muscle biochemistry and meat quality while there, and he has recently been hired by Smithfield Packing and works at the Tarheel, North Carolina, facility, and his primary responsibilities are in the area of fresh pork quality research and development for the Smithfield Packing System, and with that, I'll turn the floor over. Thank you Dr. Kilfer. I'd also like to begin by just thanking the organizing committee for giving Smithfield the opportunity to come in today and give a little bit of what's going on in our system. I agree with Dr. Ellis. I'm not really certain how to bring this to a biotechnology umbrella. What I tried to do - and you'll see I changed the title just a bit here in the short time from the meat "quality" perspective to the meat "industry." It was kind of interesting listening to the talk this morning in the opening session with regard to the changing mentality, and I thought about that as I was putting together these slides. So, I've incorporated that in here.

[2]What I want to do is we'll just kind of go through a per capita consumption, as we saw earlier this morning, talk a little bit about the consumer profile that we are trying to target today, talk a little bit about setting yourself apart or setting, in our field, setting apart Smithfield products apart from our competitors' products, telling the story of that product, and then finish with some areas for improvement that we struggle with on a daily basis, and I wanted to try to step back away from talking again about pH, color, and water-holding capacity and try to bring up a few other things that I think we need to focus on to take the industry to the next level.

[3]So, we saw this this morning in the opening session. If you look at per capita meat consumption of the three proteins, and this is taken from the USDA from the last ten years, from '94 to 2004, we've seen a pretty flat disappearance of beef products; we've seen a pretty general increase in chicken products and a pretty stagnant disappearance of pork products. So, I think, in the next few years, this is going to be very critical for us to try to bring our consumers back in line and try to get them more excited about purchasing our items that we are trying to produce.

[4]I'll take a little bit of data from the National Pork Board that has been out for some time now, but I think it's really relevant to what we're trying to do in the industry, and that is convenience is still the key, and that's pretty evident when you look at fifty percent of consumers claim that convenience is the most important factor when they pick up a product or purchase a product from the retail level. That's confirmed by the fact that the usage of these types of products has increased about thirty-two percent in the last decade. What's a little disturbing, from my perspective on the fresh pork side, is they want that product cooked in twenty-four minutes, or the ideal preparation time is under thirty minutes. We struggle with that with regard to trying to take a raw product, cook it, and have it be a pleasurable eating experience every time. So, there is a lot of emphasis that I think will be put on this in the near future.

[5]The good thing though is that consumers are willing to pay for products, and if that product is great tasting, they will pay that extra money. If they feel they are getting a good portion size for their money, they are willing to shell out the dollars. The interesting thing is that fifty-one percent of the consumers surveyed responded that they like to take our products and have the flexibility with them.

So, there is still a lot of value in having just generic products out there for them to work with, but we come back down again to about fifty percent of them want that product to be very easy to prepare, and we'll get into that a little bit more as we go through here.

[6]Another slide that I took out of some Pork Board work is that fifty percent of the consumers prefer their meals to be partially prepared, and again, coming back from a fresh pork perspective, that's a little bit concerning to myself, and really, when you look up at the top here with twelve percent of the consumers wanting that product to be fully cooked so that they can purchase it as it's fully prepared. I venture a guess that that's probably going to continue to rise, and we are going to have to come up with creative solutions to be able to provide that for these consumers.

[7]One statistic that has always just amazed me and I included it here just because it blows me away every time I look at it is sixty percent of consumers don't know, at four o'clock in the evening, what they are going to prepare for dinner. Now, when I was growing up, that was not the case in my household. With my parents, my mom always had generally about a week's worth of meals planned out regardless if we liked it or not. My wife is about the same way. So, I don't have much input into that decision either, but what is a little bit disturbing here is today's consumers feel incompetent in the kitchen, and we've heard that a lot in terms of sitting through meetings in our camp about consumers don't feel comfortable about taking raw pork products and cooking them and being able to present them to their friends and family and have a pleasurable eating experience. That is shown further by the fact that there has been a decline in the number of pots and pans in the kitchen. So, we've really got to come up with strategic ways to present our products to these consumers, give them kind of the goof-proof solution or products that we can put out there that are guaranteed to perform so that when they bring their people over or their friends over for outings they feel really comfortable about putting out these products.

[8]I'll switch gears here a little bit and talk about just some things that have been done here in the short term and that will continue, I think, to be very valuable assets to the industry in terms of setting our programs apart. I'm not going to spend a lot of time on this, but I wanted to share a little bit of data with you that we've collected internally that I think really points to some holes in the system that we need to try to rectify. I'm sure that you're all aware of branded pork programs and process verified programs, but we'll discuss a little bit about them, and then, I want to talk about some packaging concepts and some flavors that are supposed to be hot this year for marinated programs.

[9]We did a survey with an independent firm looking at consumer preferences on some of the things that we were looking at pursuing in our group. This is just the demographics for those surveys. Fifty percent of them were college graduates. Sixty-five percent of them were Caucasians. There was a high predominance of females. The income for this was somewhere around twenty-five to seventy-five thousand dollars on a household basis, and then, the ages ranged from eighteen to sixty-five. Excuse me.

[10]There were about eleven hundred respondents focused up in the northeast. There was a group down in Dallas, Louisville, and the Charlotte areas.

[11]What we asked them or one of the questions we asked was, "when you select meat, how important are the following factors," and we have the process verification, if it's cut fresh daily, no hormones or antibiotics, no antibiotics ever, all natural, farm raised, or locally grown. What's interesting about this information is that seventy-percent of the respondents claimed that in their purchasing decision the USDA processed verified label was important. It was important that it be cut fresh daily, or they had the feeling that it was cut fresh daily. No hormones, no antibiotics, and all natural products were similarly responded. What's interesting and I'll come back to this towards the end is this locally grown. About fifty percent of those people wanted the comfort level that their product was raised close

to where they were purchasing it.

[12]We also asked them, if given the choice of meat, whether it was no antibiotic ever or no antibiotics, which one would they prefer. Sixty percent of them said that they preferred product that had no antibiotics ever with seventeen percent saying that they preferred no antibiotics. Interestingly enough, twenty percent of them said it made no difference. Now, given the area where this information was collected, I thought that was quite surprising given the northeast influence for all natural and no antibiotic programs.

[13]We also asked them, "If you look at the USDA processed verified program, what does that mean to you?" Sixty-four percent of them said it meant that it had proved and passed inspection while twenty percent said they didn't know. So, I think there's a lot of opportunity to take these programs and really solidify what they mean and what the value of those are to the end consumer and the effort that we are putting in at the production level to guarantee these programs.

[14]Strikingly though, eighty-one percent of them thought that the USDA label on a package was a positive factor with sixteen percent thinking neutral and three percent saying it was negative to have that on there. So, I think we really need to tease apart what these comments here are for people that view that as a negative addition to our packages.

[15]We'll talk a little bit about packaging, and one thing we struggle with, in our group anyway, is how do you present those packages to the consumer that it will make them really pick it up off the shelf? One thing you might notice, if we look at some of the other industries where they are going to smaller portion size individual bags, having more health information labeled on the actual packaging the question becomes, "Do we need to move to that in terms of our pork products?" One thing we struggle with, in our group, is do you show the raw product, leave as many labels off there as physically possible and show the majority of the raw product and let them make the decision from there, or do you try to put a big plate shot on the product to show them what it could look like in a finished format? I'm sure that you are aware that there has been considerable interest in alternative packaging sources that will improve shelf life, the big controversy around CO. I don't want to get into that today, but I just would say that there is certainly an advantage to that, for us or for any of the processors here, to be able to improve our shelf life - improve upon our shelf life and be able to garnish a larger part of that market with getting across different distribution areas. Some things that I think will be key in solidifying in the consumer's mind that those are safe products is the addition of a time temperature indicator to show temperature abuse or some type of sensor that can be placed in the packaging to monitor internal environment and give them - not to replace use by dating but to give them a visual indicator of the integrity of that package, and then, lastly in packaging, I think as Wal-Mart and the groups continue to expand and do more case-ready programs, we are going to put a pretty substantial burden on our landfills in terms of plastic and Styrofoam. I think there will be a very good benefit to finding alternative packaging materials that are more environmentally friendly, and we can push that along as well as give our customers something to show their consumers that they are being more environmentally friendly.

[16]We'll talk a little bit about flavors and marinated programs, and I think, across all of the organizations, they are becoming a bigger part of the business, certainly in our group, as we've seen pretty substantial growth in our marinated pork program. This is a list from McCormick that just lists the flavors that are supposed to be hot for 2006 and what they think - what they feel is going to really takeoff. Not all of them, obviously, are catered to a pork program or to a meat program, but a couple of them, Caraway, which is a blend of dill with a sweet flavor; Chai, which is a combination of cardamom cinnamon, cloves, and leaves, which is thought will be really big this year in organic and natural foods; and then, one that actually made the list that I'm pretty proud of because we developed this flavor for our marinated program is a sesame ginger, and what that does in the package is that we put whole sesame seeds around the meat product that just gives it

that eye appeal. We've been pretty successful with that thus far.

[17]One that is emerging that I think is going to be the next big push is functional foods. It is projected that by 2010 that this will represent about five percent of the global food market. I expect it will probably be greater than that. Just a couple that I pulled in from some of the reports I was reading; there is a link between obesity and aroma, and what they showed in some research is that people who lose the sense of smell eat a lot more and are more likely to be obese. It sounds a little contradictory to what you might think, because I smell food and I like to go eat, but there is some pretty good evidence that would suggest we can help fight obesity by putting on different flavors, different aromas. Omega-3 fatty acids have been a pretty big push with the Canadian pigs. You've probably seen a lot of that in the news and those coming into the U.S. and people trying to figure out how to get omega-3s into meat products, and that's, again, for the benefit and reduction of heart disease. Another one that has been around for a while, which I think will takeoff even more, is the addition of fruit flavors; meat products trying to take - or trying to get some of those positive effects from different fruit flavors into our meat products. Just an example is the antioxidant properties in cherries that has been around for awhile that Michigan State has been working with, and then, the last one that I thought was pretty interesting is that there has been some spices that have been identified as having anti-cancer properties. Being able to put that on the label, I think, could help generate some profitability in moving some of these programs forward. I think the question comes back to how much do you have to - if the product is fed, how much has to be fed, and the point of return on that, or if it can be enhanced with one of these substances, how much does a person have to ingest to truly get a benefit from that type of product?

[18]We talked a little bit about, in that survey that we saw, the response that people want the feeling that their food is locally grown, and it comes back to this food with a face concept and being able to tell the true story of what happens from the time that animal is born until the time it reaches the consumer's plate I think will be very huge going forward. The need to incorporate emotion into marketing, to really put a face with each segment of the production system just to give the consumer the feeling that we are proud of what we're doing, we're making it in a very safe and wholesome manner. The comment was made in some of the reports is that consumers want to buy an experience, and I think that's true when you start looking at their purchasing decisions and wanting to know how that animal was handled all throughout the system and into their home. We'll finish up here just with a couple of things that we struggle with internally that we are looking to try to disburse some help with. I think the group as a whole has done a really good job of taking and implementing pork quality, improving pork quality, by the research that has been conducted over the last thirty years. What we've done though effectively is focused on about eighteen percent of the carcass really, being on loin quality, and we've neglected roughly about the other eighty-two percent.

[19]So, I'm just going to show a series of pictures here and just comment to the problems that it causes and things that we're trying to accomplish. What I have shown here is just a couple of inside top cushion... that we would take off a ham to reduce the weight. What we see is that you have product that would be classical of a PSE type product side-by-side with one that would have been - would be potentially DFD. What happens when we take these to our processing facilities they will inevitably end up beside each other, and then, when you go to slice that ham or lunch meat, we get customer complaints for two-toning and our slices. I think we'd all agree that the ham is probably one of the hardest primals to get chilled, but we need to find alternative solutions to try to overcome these differences so that we can make them more uniform processed meat products.

[20]Similarly, when we look at marbling, and there will be a lot of talk here over the next couple of days about marbling in pork loins or beef products and the impact that that has on consumer acceptability, but when we look at what marbling does in the ham, for instance, and this would be the same top cushion..., we are trying to target a ninety-seven percent fat-free meat product, and we are having to deal with all of this marbling, and when you start putting all of that in together with a lot

of heavily marbled pork products, it becomes very difficult to hit that ninety-seven percent fat-free mark.

[21]I believe, and I don't know one hundred percent, because I haven't been in all of the different facilities, but I think this is a phenomenon that we experience strictly in the east coast and possibly only in our camp, but butt separation is very difficult - or the butt is a very difficult primal for us to deal with. You can see the heavy piece of seam fat running down through the middle. What happens when we try to slice that product and put it into a retail case-ready package, it will end up falling apart. You'll have a lot of separation in the package, and you start losing your steak integrity. Furthermore, when we try to inject that product, we run into a lot of problems with meat separating and keeping that product together even to get to the slicer. So, this is really a big area of concern for our group.

[22]One that I've been working on within our group for quite a while and haven't had - I know there are several of you in here also who have been working on this, and we haven't made a whole lot of improvement in the area of black bone or bone discoloration in retail packages. These are actually chops that would have been stored for ten days in a modified atmosphere package of eighty percent oxygen, twenty percent CO₂, and they have been treated with an ascorbic citric acid mix, but we still have pretty severe discoloration. The reason I wanted to point this out though is with regards to going to an all natural programs and needing some source of treatment for these chops that we can use that can still be claimed as all natural. It's a pretty strict definition, when you look at the claim for all natural and you can't have any coloring agent. So, it becomes pretty difficult to try to find something that can prevent this and we can still achieve the shelf life that's required for that program.

[23]The other one - and these are chops actually taken from the same loin, and they've been stored on the tray for, again, ten days under the same type of atmosphere, and it may not show up very good, but what we have are a couple of chops here that discolor at a greater rate than what the remaining chops do. Again, we struggle with this one just trying to identify the mechanism that controls that and being able to reduce the possibility of having chops in a tray that have such diverging color.

[24]So, just a quick update on where we're at, and I'll just try to wrap up, because I know everybody wants to get out of here and get to the picnic and Career Fair. The future - I truly believe convenience is going to still be the key and trying to find that niche that consumers prefer on a routine basis is going to be - it's immeasurable. What I think we have to focus on is brand loyalty and being able to get consumers bought into one product of a specific brand and being able to get them to come back to get our other products that are on different levels. I think it will be really important that we do put a face with the product just to give our consumers that assured feeling that we are doing all we can to provide them with a safe, wholesome product every time, and then, I do think we still have some areas for improvement outside of the loin that we really need your expertise in helping to try to identify corrective measures for these problems.