



ILSI 2021 Annual Symposium Session 8: COVID-19: Nutritional Vulnerabilities and Food Supply Challenges

Transcript of the presentation, COVID-19 and the Food Supply Chain Disruption, Paul Ziemnisky, MBA, Dairy Management Inc., United States

Good morning, everybody. Two things, I guess, after watching those fantastic presentations. Hope everybody had their yogurt and milk today. I think it just showing we are at the tip of the iceberg, really of it, understanding how food and what we consume can affect your bodies. And I think about the next 25 years where we are going to go linking food and science. From our side on behalf of dairy management, I work for the Dairy Farmers and that's where we're investing a lot in this future space. You talk about lactoferrin, we're just starting to understand things like that.

My role though, unlike my three predecessors, my background is brand marketing innovation, and I was asked to talk about the COVID-19 and the food supply disruption. So, what I want to do is just hit some highlights of what happened in the US with some of the storytelling here, and then just get to that. You guys get to questions.

And so, from, I'll call it about March 17th was D-Day last year when you know the US shut down. And we call it four weeks of chaos that occurred in the US supply chain. I mean, I'm going to focus really on the dairy elements of the supply chain. Dairy Farmers of America is the biggest co-op here in the US. And when COVID hit, you had mass chaos within the food industry of, and I'll talk about, I want to lead with the impact, and I'll talk about the whys. But they were dumping about 3.7 million gallons of milk back on the farm. As we got the supply chain reorganized to handle the disruption.

What we did as an industry, we've formed, we call these emergency action teams to focus on how do we make sure that the kids are getting the right nutrition since the schools shut down and people were getting educated at home. You know, the hunger channel, we had a massive increase in food insecurity with people not working. And then the disruptions of food service where you had shut down, give me an example. If you think about dining restaurants were 35 to a 100% of their businesses is relied on dine in and shut down, where does that volume of products that go through that channel, and then vice versa, you had retail and grocery had 50 to 75% increase in consumption. So, so we will talk about the chain and reaction to all this complexity and how the industry rapidly got together to figure out how they moved different packaging products around to meet these needs and changes.

You know, and I always like to think sometimes we don't, we take a pant or take for granted the food system and how to move products, move through the food system. So, I just grabbed some slides to talk about that. When you think about from ingredient, it moves, milk comes in a tanker, it goes to whether it's a manufacturer or a distributor, or it gets processed. And then whether it goes to retail, hospitals, universities, and the distributors that can handle that market, hotels too. The restaurant industry,

whether it's a quick serve, fast casual or fine dining, and then these smaller individual local places. So, you've got a lot of products move in different sizes and packaging, and you've got emerging technologies out there, whether it's like the meal kits, I will call it delivery companies, that are popping up to get the food to the consumer.

So, in that creative, when COVID hit packaging, when I called conundrums, where you have immediate oversupply because of the changing of the consumer environment, and then also immediate scarcity. So put, put that in perspective. When you think about schools in the US, we have a billion packages and cartons that go through the school environment. Again, all of these kids were not in school anymore, they're at home. And vice versa you had people who weren't working again, you have massive growth in, at home consumption. And so, from a 50 to 75% spike, people, didn't, weren't planning changes in their supply chain here.

When you look at a food service and sour cream, as an example, you have five-gallon tubs that, that are designed for the distribution of food service retail. You had a massive run on your normal eight to 12-to-16-ounce type of products. So, what do you do with all these excess tubs of sour cream that have 30 days' supply, 21-day supply, on the shelf when they're not sellable mark, that, that they're not, I'll call it FDA approved, to sell it retail people aren't buying five pounds or at the retails for their home use? So just a lot of challenges there in the food system.

So, we, then third, you think about cheese, you have got cheese designed for food service, back room for background preparation, whether it's Italian, Mexican channel, different types of food service entities. How do you, what do you do with all that? And then retail, you have, again, a 50 to 75% run up a product. And then you think about the complexity of cheese, you also have a lot of custom packaged cheese. When you think about aged cheddar 90 days, you get a 75% lift. You just can't add 90 days of aging to meet that. And so, you also run into, to supply and production issues are pretty quickly due to the aging process.

And then over the decades, there's been a lot of, for mass efficiency, packaging systems designed for optimization across channels. I just grabbed milk, whether it's a restaurant to see store or health care, you've got all these, it's customized over the time and the same thing with other types of packaging. So, you've got this packaging effect of increased demand in some channels and dramatically declines and demands and others.

And when you think about fluid milk, prior to COVID, just put it in perspective, in US 5 billion gallons, what is that about, 3 billion or 3 billion liters, something like that. And 75% are already gone through retail, but you had schools, which is 8%, restaurants, another 8% other types of food service, like hotels, making those that makes up a quarter. So, you had one section of the world, seen a dramatic increase than others, dramatic declines.

And then it just, I thought this was when you think about milk, so you, you, you go through overall milk was flat in the US last year. But then if you're trying to manage the packaging, you're trying to manage the channels and package size, and you retail again, 6 over 600-million-gallon increase, and then schools a 400 million gallon declined, and then all others, again, also declined. And so, just a dramatic pressure on supply chains, giving a very short shelf-life product. How do you manage through that? So, there's a lot of complexity. Like we don't, we don't want to dump it. So, like I said, the first four weeks was chaos, but over time we worked across the industry to say, how do we take the school demand and meet with

new types of packaged systems for retail, and also incorporate where that increased demand isn't hunger.

I'm just going to give you some highlights when you start to then break down the channels. When you look at COVID's impact to restaurants, both global and in the US, they are almost mirrored each other. The top bucket is the restaurant sales demand from Australia and Mexico to the UK, everything was pretty consistent. You just saw this almost at the dining and restaurants immediately drop off. So, it put a lot of that restaurant focus packaging that is not labeled for retail sale in all those products with short shelf lives out there in a quagmire. And then, bottom is the US and just again, showed this drop where we have seen, and we still haven't completely recovered in the US and globally.

In any way from a big picture of food service, I mean, you, you have had decades of decline of growth and sales, and all of a sudden, you see, again, just extraordinary decline volume. And so, the job, job impacts that it put impacted in the US supply and again, just chaos in the food industry chain.

And then, then you have, I call winners and losers, and when you start to fragment the category, the winners in food at restaurants were, were set for digital. When you look at players like a Domino's, who've got a dramatic app system, application system on their phone, whether it's set up for delivery, set up for carry out, or like a McDonald's or the paneras of the world, or like a Chick-fil-A here in the US where they're set up for delivery, drive-through. They succeeded and maintained growth. But if you look at these casual and fine dining where the individual proprietor, hasn't invested as much into delivery systems and carry out systems, and I'll call it new digital technology, they just were crushed. So then if you are a dairy manufacturer in the US that were doing fresh mozzarella for a fine dining Italian restaurant, you had just produced 30 days of supply, and your restaurant industry shut down. That was a big quagmire here in the US.

You are shifting to the retail, and this is where you saw the opposite. When you look at this fluid milk at retail, we were averaging about 5% decline and what's happening with fluid milk, really, 30% of the declines are tied to cereal consumption. Cereals declining because people are eating away from home, eating high protein bowls or bars. Other things just competitive beverages, so you're, you're drinking it in your coffee and your creamers. So that was the historic declines and it's easy to forecast and plan when COVID hit everybody's at home again. They're, they're eating cereal again, they're actually baking more and drinking more at home. And those kids who were in school who were getting the little cartons were at home, they're starting to drink gallons. And so, this is just, you can see the immediate spikes for the first two to four weeks.

And then as I talked about the inverse relationship with milk and cereal, I overlaid the graph of the cold cereal demand to the fluid milk demand. And you could see a big spike, it's linear of consumers at home, the re-buying and re-utilization of cold cereal, and what it's done for fluid milk during the COVID period.

And then this is when we get into the aging process. You look at aged cheese, natural cheese, similar natural cheese was pretty flat prior to COVID at the first three months of the year, 74% increase in and cheese sell because people were cooking at home at dinner versus going out for restaurants. And that 14% increase on a yearly basis.

And then you talk about another thing is shifting how consumers buy the product. So historically, people would go and walk into the store, less than in the US, less than 25% of consumers had bought groceries

online and whether to drive and pickup or just to have delivered to their house. When COVID hit, over 55% of the consumers bought online and so they're using new delivery methods and new pickup methods to do that. So again, the industry is like you're seeing people order maybe more gallons and go into the stores less, so it changed. And again, a lot of the packaging pressure and production pressure in the system. So, when you look at e-commerce, we were averaging prior to COVID, on the dairy front around 50 to 70% post COVID over three times growth behind that.

And then hunger, looking at the hunger channel, and you see here in the US around 15 to 20% are food intake had been consistently food insecure, which is never a good thing. But when COVID you saw dramatic segments of the population all of a sudden it impacts, I'll talk about that, what that did on the next slide.

You've got 37 million households and we've got programs here from, we call it SNAP, and then our food banks are set up and they're set up to handle weekend distribution and things like that on a national basis. And I think there's about 90,000 food banks in the US. COVID again, a 17 million households, so what is that close to 40% increase in demand, just in last year that resulted in a billion pounds of additional fluid milk demand flow through that system. So, you think about we're that last mile of food banks, it is usually distributed through whether it's a church, a school, or a very small food center, where they've got maybe two refrigerators and industrial refrigerators. We got a billion pounds going through that system, there's it created chaos for them. The government was buying to help meet this additional food insecure. The industry was donating to meet this food insecure, but then that the food hunger system didn't have the capability to do that. So, there's a lot of partnering taking place to try to meet that demand.

So just to put that in visual perspective that additional 17 million people, this is the picture on the left is just how the food was distributed in the US. And so again, try to get healthy, nutritious food and not just dairy, but think about produce across the US that's used to a much more normalized system. And so, this is we had lines miles long to get food in the US and it created a huge challenge to get nutritious food. But the boxed only deliver so much health versus the higher levels of produce in dairy and other proteins. And so, this picture on the right is an example of what a normal, they may have three or 40 max at some of these food banks. And then yet they get an additional billion pounds of just milk that doesn't include dairy, doesn't include other produce that was bought. And so, it just created a chaos in the system. It wasn't really attuned to handling much mass refrigeration. And I think the government is looking at now how do we build that last mile infrastructure for the future to meet demands for hunger system?

And then talking about schools, the schools really to at home learning created the need to how do you get quality, the cold food, distributed at schools safely to kids to go home and eat. And so, so think, think about, a significant portion of the US actually eats breakfast at schools and lunch at schools, what they were on a daily basis. And so, we worked to help build systems within the school nutrition alliances in the US to try to everything from waivers. So, like I said, daily the kids are getting a little milk carton, to letting parents come in and take gallons home. We'll ask them a couple of days. It makes it easier for the parents. It makes it easier to distribute the foods. Number two, on equipment we've secured and worked with other agencies that we have relationships with to do equipment funding, to provide things over here, to the right, like portable coolers, that they can distribute the milk to the kids to take, to take home.

And also like their lunches and sandwiches. And so, the industry put not, not just dairy, but the whole, I'll call it the whole food secure systems. How do we make sure we're, we're keeping youth fed and these major metros that if a kid, the schools aren't feeding, the kids have a lot of at risks? We talked about 54 million youth in society, or in society that became food insecure. If the schools aren't providing the foods, there's a lot of concern about the kids getting the right nutrition to grow, to learn. So that's why it was so important as an industry across these areas where we had excess foods and the food service world, we, we looked at, are there ways to repack some of those excess foods and or donate them to the hunger channel or reprocess it for the schools channel. So, we can make sure that a big portion of society is getting fed. So, it's some of the key takeaways there.

And from a Total US Dairy Impact, when we talk about the massive movement across channels, what's really interesting we still witnessed dairy consumption grow. I know my friends on the plant-based side, like to tell the story that they're growing X percent, but I said, when you got a hundred-billion-dollar category, 1% growth is a billion dollars of growth. So, so it's just we're still seeing nice growth and we've had historic growth both domestically and internationally. So, I thought I'd wrap it up and just say, the growth came through massive, and I'll call it the partnerships, to move products across different channels in a new way. And again we, our focus was making sure these channels got food to those most in need, whether it's the hunger side or the youth side in schools. And then retail and food service we're, we're more packaging systems that we knew would come back in the long term. So...