

Morningstar Management Behind the Moat- INGR Fireside Chat

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Seth Goldstein: ... just because we're going to talk about food and beverages today. Within the food and beverages industry ingredients allow us to get the perfect taste, texture, have the right amount of sweetness while also meeting our health and nutritional needs. Ingredion is a premier food and beverage ingredients company operating in this space. And I'm excited to be joined today by Ingredion's Chief Financial Officer, Jim Gray. Jim, thanks for joining us.

Jim Gray: Glad to be here Seth.

Seth Goldstein: So before we get into Ingredion as a company, let's start at a high level. Ingredion sell ingredients primarily to the food and beverage industry and you categorize ingredients as either specialty or core ingredients. How do you define a specialty versus a core ingredient?

Jim Gray: Sure. Great question, Seth. I think companies that sell ingredients into various packaged food companies and into food service may have a host of different reasons. We use essentially kind of four or five criteria when we look at an ingredient. First, it has to have pretty unique functionality that is going to be of high value add to the customer. Two, we're looking at a market that we think is growing. Three, we're looking at what's our intellectual property and know how around making that ingredient. Four, is it differentiated versus what competition may have. Not saying that a competitor may also have the same technology, but usually it's not multiple competitors. And maybe two or three competitors that are providing the same ingredient and have the same or similar type of know-how or approach.

And then five, we look at gross margin and what we think the sustainable gross margin for that product will be over a long horizon. And so that's just to clarify, we only make a classification of an ingredient as a specialty once, when we introduce it to the portfolio. And so we're never switching from a core ingredient to a specialty. So you either start as a specialty and you live and exist as a specialty, or over time some specialty ingredients may actually become a bit more common or the value to the customer, the unique value to the customer may fall over time. And then we'll reclassify that as core.

Seth Goldstein: That makes sense. And Ingredion has targeted five categories, four specialty ingredient growth, starch based textures, clean and simple ingredients, plant based proteins, sugar reduction and specialty sweeteners and food systems. Will you define each specialty category and how Ingredion wins in this space?

Jim Gray: Sure. I think in maybe the first two, so starch based texturizers, and then it's close cousin clean and simple. Here we have a starch molecule and it can be of different sizes. But really what we've gone is from a native starch to some type

of modified starch. And then if that modification involves either an enzyme or a chemical, then we've also figured out a physical process that can get us to a modified starch, but that is by using no chemicals. And so along that continuum, which you really have is you could have a corn starch, a tapioca, potato, rice, really kind of a whole suite of starches. And what they do is... starch is just a pure form of a flower. And as such it has an ability to act in a recipe where it provides separation and it provides volume. And so you and I know that as consistency.

So we eat something and we're eating a porridge and it's very soupy, or we're eating a pudding and it's a bit creamier and thicker, or you're chewing a cracker and the cracker crumbles easy, or we're chewing a cracker and the cracker is really hard. And same is true for cheeses and yogurts and dressings, condiments, et cetera. So that's really where our starch based texturizers. When we say texture we're talking about what's the composition of the food item that we're eating and how does it feel in our mouth and how does that provide crunchiness or smoothness? Okay. And so textures are really big part of taste and appeal that people have towards specific foods. Clean and simple is just one version of that that is really natural and allows us to work really well within the EU guidelines around what's a food product.

The third platform that I highlight would be sugar reduction and specialty sweeteners where we're really looking at both high intensity sweeteners that are natural, like stevia, as well as the other ingredients that may be non caloric, but also add back bulk. So whether it's erythritol, whether it's allulose. What we're trying to do here is both mimic both the sweetness profile of sugar, but also what does it feel like in our mouth? And so that's one of the things that we're really driving. We think it's a massive growth opportunity globally. And obviously it goes toward low calorie or very no calorie type of sweeteners. Our fourth platform is plant-based proteins and we specifically focused on alternatives to soy proteins, particularly in the US market where we think there's a lack of supply.

And you see things like yellow pea and fava bean proteins, which have a great amino acid structure to really help with muscle rebuilding. Quite popular and obviously very sustainable, but really it's the right type of proteins that I think make it... deliver the nutritional benefit. We think that plant-based proteins can continue to be just a really large market opportunity, multi-billion dollar market opportunity, complimenting the whole thinking towards wellness and how much we eat animal proteins versus alternatives.

And then our fifth and final growth platform is food systems. And this is where we're looking at, hey, how do the different ingredients combine to move us a little further down the value chain towards our customer where we can help them both with value add, but we can also help them with a really unique combination, whether it's texture, natural fiber, we're delivering protein, or potentially some of the bulk build back and sugar reduction. So it's, how do we

bring these various components together in a way that's very symbiotic that delivers a unique value to the customer.

Seth Goldstein: That makes a lot of sense. We award Ingredion a narrow economic moat rating based on intangible assets from the creation of the specialty products and switching costs, where once these products tend to be in a food or beverage, customers are very hesitant to switch for fear of turning away consumers. But what do you view as Ingredion's competitive advantage?

Jim Gray: Yeah. I don't know if a narrow moat versus a deep moat is warranted. I would offer that... First one you have to figure out if you look at our value chain, very simply, what's the ag input that you're buying? So we have some pretty unique ag inputs, waxy corn, versus just a normal dent corn. We do a lot of non GMO corn, which is special contract. We have tapioca sourcing and where we source yellow peas and gum arabica. So how you pick the ingredient and then, two, your conversion process while we have relatively large assets, but there's also just a tremendous amount of know-how and how you both efficiently and effectively convert that ag input into a very consistent and pure ingredient. And you can do that economically, right? So that means valorizing all parts of the leaf or all parts of the corn kernel and making sure that you do that well.

And then third, as you look at a how our tech team designs in that recipe for customers, and that's the very sticky part of our business, right? Because there's certain functionality and how the molecule works. But we also save a lot of value. So, as an example, if we pre dry or pretreat a starch and then it's used in making a turnover, an apple pie, a cherry pie. And we can make that cross both flakier but also easier to bake. We save the customer time in terms of energy in the oven, we speed up the conveyor belt, so we expand capacity. And what we're asking for is the modest value in return for the pre-cooked or the pretreated starch that we're selling there.

So there's ways that we can really impact the value-add for the customer, by getting the recipe and the molecule right, by making the ingredients that we make pure and consistent every day. And then still pulling those from everything that's plant based, right? Because everything we make is plant based, right? It's interesting as a company to say, wow, everything that they're making is coming out is from some type of plant. And so I think when you string those together, it's very difficult to replicate. And look and that's why Seth when you look around the world we only have two, three, four competitors in various countries in various regions, right? You can't catch up after time when you just have that group of competencies and they string together in that value chain.

Seth Goldstein: That makes sense. Let's talk about your strategy. And if we go back to 2015, Ingredion sold nearly all corn based products. And while corn based ingredients are still the majority of sales, they continue to decline as a percentage total. And [inaudible 00:10:53] multiple tech and acquisitions focusing on new specialty ingredient platforms. What was the strategy when you started back in 2015 and how has that evolved today?

Jim Gray: Yeah. When you look at what our deep expertise has been, it's been obviously in corn and there's several varieties of corn that we use. We do grow some seeds to grow our own variety. And we really looked at what was the type of starch molecule that we're pulling out of the corn. And we had completely explored that functionality. And then when you start to get into some other raw material inputs like tapioca, you can see that it had slightly different properties in terms of either the molecule length or the functionality. When we'd already built this great go-to market team, and we just needed more tools in the toolkit to be able to be even more robust in solving the customer's design, recipe design issues. And so we added tapioca, potato adds a very long starch length, we've added rice, which is a very short starch length.

And we've done this all in terms of being able to say, hey, let's fully leverage that customer acquisition opportunity. Well, we're in front of that customer let's be as robust as we can be and as agnostic as we can be in providing that ingredient solution. And so that got us into TIC gums, which added gum arabica. We continued to look at other hydrocolloids. We continue to look at natural fibers. All in the effort that by being able to provide these very complimentary ingredients we can really tweak and get just the right type of composition and taste that the customer's looking for.

Seth Goldstein: And how do you view the evolution of the portfolio going forward? Are you satisfied in all the areas you're playing in today or do you see the need for further complementary industries?

Jim Gray: Well one of the things that we outline in is, hey, how big is the ingredients market and which specific ingredient segments are we looking at? So one was when we looked at plant-based proteins focusing on a protein versus a carbohydrate is very different for us in terms of selling. But actually separating the protein from the carbohydrate and from the fiber is something we've been doing for a hundred years, right? Corn has protein in it and gluten meal is what it's commonly referred to. And we pull out that four to 5% of that gluten meal at a molecular level, in a wet milling process. And we valorized that, sell that to the marketplace. So looking at yellow pea or looking at fava while technically a bit different, you're still pulling out the protein molecule from the starch.

And so we knew from a manufacturing point of view that we could get there, but now what we're doing is really saying, hey, how does this particular type of protein work within recipes and how is it viewed by packaged goods companies? Protein was very incremental to our entire portfolio. And you could kind of say, we did the same thing with corn syrup, right? So obviously one of the leading corn syrups is HF, a high fructose corn syrup. And in certain markets, it's fine because it's growing along with younger populations. In the US, it has a bit of a headwind is kind of full calorie soda has declined. But we said, well, wait a minute, let's flip that into an opportunity. And instead of looking at necessarily artificial sweeteners, we said, let's look at what we think is naturally based sweeteners because we thought that long term naturally nature or from nature

or organic would have a long term appeal to younger generations and consumers.

And I think that's proving hard quite a bit. So we really then focused in on stevia and we were able to acquire three quarters of PureCircle, the global leader in stevia production last year. And again, that's very complimentary, right? Same types of customers but we're offering them a different solution yet pretty different set of competencies and value chain and extracting stevia and converting it. So those again, what I really like about these businesses is they're complimentary to, 100% incremental to what's our texture business.

Seth Goldstein: Yeah. That makes sense. Let's zoom out and look at the industry as a whole. How has the competitive landscape changed over the past several years, especially in light of some pretty large competitors doing mergers and acquisitions? And how do you see Ingredion's competitive position evolving going forward?

Jim Gray: Sure. Seth, one of the challenges that I think that we're facing and it's maybe a combination of two trends, which is one, when you really look at flavor houses, right? So a lot of companies really have a deep expertise in just creating what's the right mixture of a few molecules and they sell flavor and they might sell a flavor now while high value add and a lot of competency behind that, it comes in pales and buckets and you usually smaller quantity because it's actually, the flavor is so strong, it can just infuse across the entire batch that you're mixing up for your cupcake, so to speak. But when you actually then think about, well, what's in that cupcake, what's the flour, what's the oil, what's the milk, what's the butter, the sugar and you start changing the major ingredient components. And all of a sudden you want to go from what was traditional to something that's completely new and surprising.

So I want to make a vegan yogurt, wait a minute, you're going to make a vegan yogurt, yogurt's dairy based, right. And you're like, okay, I'm going to make it with something completely different. And so now that requires a change in the big ingredient components. And so that's when you find, hey tapioca, or coconut milk or other types of gums can come in and then replicate what that creaminess is of what we think is traditional yogurt, but surprise and delight the consumer it's actually vegan. And now what you do is you introduce yourself to a whole different audience of consumers because they had dairy sensitivity and now they can actually still have a yogurt, but without any of the side effects of that dairy sensitivity.

Our strategy is that, hey, when it comes to changing the entire composition of the ingredients not just the flavors, the flavor houses... we work with flavor houses, they're our customers, right. But when you're going to change that entire composition, now you got different aspects of aroma, different aspects of texture. And that's introduced by these things like, hey, I have a potato starch, I have a pea protein maybe I have some beet juice and that's formulating, hey,

what is that alternative meat burger look like? And so that's one thing. And then I just offer that.

The other piece of our business that I think is really changing is that biopharma led to a lot of invention in terms of looking at molecules and being able to separate out molecules and having bio conversion, usually kind of with enzymes impacting an original raw material and coming out with just a very specific molecule, so allulose, right? So allulose can chew on a feed stock of glucose or high fructose, but then you get this very rare sugar that that is basically the form of allulose. And so it has the same consistency of a syrup, but it's no calorie and it's about 80% of the sweetness, right?

So that type of bio conversion which would not have existed 10, 20, 30 years ago without pharma investing billions and billions into breaking down molecules, it's now become cheap enough that we can actually use some of that technology in how we're looking at food. And I think that's the trend for the next 10 years, at least.

Seth Goldstein: Wow. And so with these new trends and evolution and change comes risks and opportunities. And I want to walk through each, but let's start with opportunities. So Ingredion is targeting 38% of sales coming from specialty products by 2024, up from 20% in 2015 and 32% in 2020. In order for you to reach these goals, will this come purely from organic growth and taking advantage of these trends or does this assume more inorganic acquisitions?

Jim Gray: What we put forth in our four year outlook Seth is organic growth. And so that's really where we've been very thoughtful about looking at the market and understanding the longer term trend. And we have to, because it takes us a while to put some assets in the ground and begin selling the capacity off our plants. But generally when you look at our starch space, texturizer, clean and simple and then you combine that with what we've done with plant based as well as sugar reduction, right now, as we look at our four year outlook and we'll update that as we have an upcoming investor day, as well as other presentations early next year. But all of that, our discipline and how we communicate our model is that's a four year organic outlook. Yeah.

Seth Goldstein: Makes sense. And then assuming you hit your 2024 revenue goals, you forecast as much as 60% of operating profits will come from the specialty ingredients. How will this affect the volatility of your business across the cycle?

Jim Gray: Yeah. And if I can presume that when you say volatility kind of profit and whether or not profit is up or down, do the changes in the underlying cost of corn or something else.

Seth Goldstein: Exactly. Yes.

Jim Gray: Yeah. So as you go forward a specialty product sells for anywhere from four to six times the pricing per ton of let me just call it syrup. And so just because it has a higher price point, it also has a higher gross margin. So therefore the cogs, there's a lot more cogs dollars in there, and within that cogs dollars there is the raw material but it's less of a proportion of the total cogs. And so even though you may still get some ups and downs in corn relative to the price point that the customer's paying, because it's a higher value add and differentiated product your ups and downs in the cost to your corn or your tapioca are more muted. So it should help contribute to overall, we should see grow in profit, just absolute grow in profit dollars, which is what I focus on. But should also should get a bit of more stability or a narrower range maybe of change in profit as you go through different ag cycles.

Seth Goldstein: That makes sense. We've talked a lot about the different specialty ingredient platforms, but where do you see the most upside and where are you most excited looking at the portfolio today?

Jim Gray: Seth, I wish you could be in one of our team leader meetings, because each of us has different passions with regard to that. And hopefully I think as some of your folks who are potential shareholders or existing shareholders come to know our company, I think people form different views. Me personally, I think attacking sugar reduction is important. There's just something about human nature that is sweetness is an affinity it's in our taste buds and sugar overall is a \$75 billion plus market. And so to the extent that you can do something that really tricks the human taste buds and aroma and mimics that sweetness and mimics that mouth feel yet delivers virtually no calories, I think that contributes to human sustainability.

And we don't really talk about it in ESG. Not many people ever ask us. But you do have something where you have to actually think about, well, net, net, did I leave this place a little bit better? And so me personally, I think high intensity natural sweeteners is definitely an interesting area for us long term. Both in terms of just purpose in executing our purpose, I think in terms of sales dollar growth, but also just in terms of the unique competencies in the IP in that area, and allows us still to earn very attractive margins, I think for us and shareholders over time.

Seth Goldstein: That makes sense. And if we turn to risks high fructose corn syrup, as you mentioned in North America, which is Ingredion's most important segment from a revenue standpoint. High fructose corn syrup in a North America demand seems to be in a steady decline. How do you view this risk? And in addition to investing in alternative natural sweeteners what else can you do to offset this steady decline?

Jim Gray: Yeah, well, within North America, HF sales are less than 12% of our sales. So we've been managing that as we've gone. Now, I think 12% of sales running in the decline and the decline is really in the US. It's down one to 2% a year, so it's not like... It's a very, very, very long tail, I think on that demand. And as if you

looked at some industries where they're very mature the product that's in that industry appeals to those last users the most, they pay the most price for it as it goes out over time. That said what we're working with various beverage customers as well as various food customers on is can you blend and or wholly replace?

And so there's two approaches. One is this very overt, hey, I'm going to do something with stevia, or I'm going to do something with an artificial sweetener, and it's going to be zero, right. Zero that, Coke zero, Pepsi zero and it's going to make that promise. Or you'll see where just surprise and delight. Hey, you know what, we reinvented a salad dressing and it has fewer calories. Because we put a little stevia in as a natural flavoring and we were able to take out any of the added sugars, right. And so you'll see that just slowly come down, right. Might go from 140 to 120 to 120 to 100 per serving. And I think it's because some packaged foods companies are thinking about sustainability as well and say, hey, if I can do something that has less added sugar on it, then generally that's the direction they want to go in.

So I do think that you have to start with your customer base and you have to recognize that that customer is using that syrup because it's lower cost than sugar, right. And that lower cost is passing through to the consumer at an attractive price point, right. You can't just have everybody have all these really high price points. We have to also deliver value through our customers to consumers ultimately. And so if that value price point is really the sticky point, then you got to figure out alternatives that allow you to say, well, that syrup is really economical in use and that's why it's being used. Okay. How can I tweak it? How can I make it slightly better?

Seth Goldstein: Makes sense. And what other risks or set of risks keep you up at night?

Jim Gray: Yeah, well I think we're in this point where let's just back up. We started several years ago with an impact on globalization with various trade and trade tariffs and that impact and some trade flows between China and United States and other countries. Then we moved through COVID and COVID's had its own impacts and really amplifications on where supply chains are vulnerable. And so I think business in general is stepping back and just looking at supply chains and saying, whoa, how can I get to consistency because I really need product availability to be able to meet my customer's demands. I think the small blessing just in our overall business model is that we generally put our wet milling facilities or production facilities close to the biome where the agricultural input grows.

And so we have not felt that much of the global supply chain disruption. Yes, we've seen higher ocean freight and we've seen some higher freight costs. And we are very much trying to meet customer needs, that's a daily battle. But I think that's the trend that we really have to think about going forward is, is where government's going to act, how might tariffs or trade restrictions still impact us. Once we're still settling out through the COVID disruptions on supply

chains, smart business folks are going to think about redundancy and that redundancy has a cost but they're going to really look at redundancy.

Seth Goldstein: Makes sense. If we can pivot to more of the long term outlook for ingredient and amongst our... many of our clients tend to look very long term, tend to hold stocks for a number of years. And Ingredion has provided a long term plan called vision 2025, where you eventually want to get to at least 50% of sales from specialty ingredients and less than 50% of sales from corn based products. Can you walk us through your vision and how you get there?

Jim Gray: Well, I think with visions Jim Zallie and the leadership team can challenge us. All right. And so in some ways the value in the vision is be able to say, hey, there's an aspirational target out there and it's then understanding what's the value in that aspirational target, right? So for us it's, hey, not just corn, but other raw materials, so we just diversify. I've already kind of spoken to, hey, why does that meet various customer needs? But also it also diversifies us against particular crop risk. Right? And so generally we say, hey, I don't know if we'll get there by 2025, but it's a noble aspiration for us to continue to work towards that. It also helps you know, Seth, to your prior question, hey, when you do some tuck-ins Jim, why might you be doing something that's on a potato starch or something that's focused on tapioca or elsewhere. And that's what we're trying to do is just think about what are those various raw materials that we're seeking? What do we think the long term demand pull for those are? And how can we present that in ways where our customers have alternatives, right?

And it's not just from an opportunity perspective, right? In terms of what's on the ingredient label, it's also from a risk management standpoint in that you may get a drought in China and corn prices go up, and guess what tapioca starches and corn starches are relatively similar molecule. And all of a sudden we had a good tapioca year, and we can just substitute a whole bunch of tapioca starch in for that corn starch, because we're modifying both to very similar functionality. And you can really kind of save some of your customers who are in the food supply chain, right. They have to daily produce, right. And so they're facing a shortage, not just a price goes up they're actually facing a shortage there just isn't the material. Then you have to figure out other ways that you can help mitigate that. So I think that that aspirational goal is one.

And they're all designed that way, right? I think the intent is to say put a date out there, but what we're really striving for is how far can we shape the portfolio?

Seth Goldstein: That makes sense. And as a part of the long term goal, let's talk ESG. ESGs obviously been a topic on the mind of many investors these days. And Ingredion has set long term ESG targets and areas such as reducing the environmental impacts, using sustainable agriculture, diversity, equity, and inclusion, and human rights. As an ESG focus is becoming more important to many companies, where do you see opportunities from Ingredion's setting these ESG targets and focus?

Jim Gray:

Yeah. Well first you have to think about your employee and you have to think about the communities that our employees live in and work in every day. And I really, I do come back to diversity and I come back to some of the social issues because it impacts whether or not you can bring your full self to work. So we absolutely are working towards that both, a number of different dimensions within DEI. I think if you're somewhere along that journey, you have an engaged team. Now you can really think about, hey, how do I want to impact the world? And our value chain is one of we buy from a certain biome and we impact farmers in that community around that ag input tapioca, starch, whatever. And then we convert.

And so I think the first step is when we look at our value chain, how are we doing in terms of sustainable agriculture? What are we looking at in terms of regenerative crops? How are we working with farmers in all parts of the world? Right? Because this is not us just going out and talking to a US farmer who has technology and has efficiency. We're working hand in hand with families in Thailand in Vietnam and Cambodia to purchase tapioca. We have an outreach program for farmers in Pakistan where when you offer them advice on soil preservation and water usage and particularly the species that they're growing, it has a meaningful impact on the economics and the community. And so it benefits everybody, right?

So it starts with, I think, sustainable ag, as you look at our conversion process. Obviously we need energy and so how can we look more towards renewable sources of energy over time? We use water, so we have to be very thoughtful about how we use water, conserve water, water goes out in our product. Syrups is a portion of that as water. So you have to be very thoughtful about how you think about water usage and that involves both capital decisions as well as very thoughtful manufacturing network strategy. And so that's part of the thinking that's coming into when we are now looking at our ESG strategy, what's material five years from now? What's material 10 years from now? And how can we make incremental decisions today to provide very thoughtful stewardship for where the company wants to be long after I'm gone as CFO, right.

But I can look back and say, yeah, you know what? We actually did that, that, and that, and that helped us put us in a more productive biome with a great community of farmer into a facility that's low impact on the environment. And yet still, what are we doing? We're creating plant-based ingredients for folks. So we're just making the food supply chain even more sustainable.

Seth Goldstein:

Makes sense. Let's talk capital allocation. So you list, organic specialty growth and dividend growth as the two top capital allocation priorities. How do you view acquisitions versus repurchases or other use of the capital after you've met these first two targets?

Jim Gray:

Yeah. Well, I think the first one you have to say on capital allocation is this, hey, Jim why think about the capital to keep your assets going as well as capital to support organic growth, right? And that's driving that earnings growth, right.

And so while we think about mid to even high single digit, maybe some years low double digit earnings growth, that's going to be the first biggest component of shareholder return, right? And so we really think about that because hopefully as you've listened Seth, your questions and my responses, you realize that Ingredion has some amazing growth adjacencies in what we're doing. And they're not just here and done, they're actually enduring growth opportunities. So as we build capacities and build our competencies across our value chain, I think that we're going to be able to deliver a long term kind of value to customers, which is going to show up in our results.

So then we cut back and then we say, okay, now what are we doing with the remaining cash that we have available? So one way of giving back to shareholders is through the dividends. We're mindful of our dividend yield, as well as dividend growth. But that even then still leaves us cash for strategic deployment. So if we can do tuck in M&A that accelerates those growth platforms and that tuck in M&A is going to be at a return on invested capital that's well above our whack then we're very interested in extending our moat, so to speak. So we'll dig that moat a little deeper, Seth, if we can do that. And if not, there's times in the marketplace when the stock price is still attractive, and then another way of returning capital shareholders is repurchase.

And so very thoughtful about, okay, well, what are moments in time when the market may not be seeing what we're seeing. Or the stock price might reflect more like, oh, there's an immediate headwind on rising cost of corn. And you're like, yeah, but that too will pass and the underlying earnings power of the company will shine through and we'll trade at a higher value in the future. So stock purchases look opportune at a moment in time, particularly if we're going to enhance shareholder return.

Seth Goldstein: That makes sense. And finally, while we're talking about the stock price, Ingredion's shares have basically traded flat over the last two years. What do you think the market is missing here relative to some of your peers who have seen a quite rapid share price gains over that same time period?

Jim Gray: Well, we maybe could debate which peers. But hey, I don't honestly think the market is missing much, right? If you have some of the challenges that we have from trade globalization and the impact of China, either not buying soy beans or now today buying corn on the cost of our inputs or the value of our co-products that we sell primarily in our North America business, look, that impacted our results. COVID had some significant impact on some of our food service customers in the spring of last year. And we saw really COVID impacts on volume demand from some of our customers, linger Q3, Q4. And we had a big spike in Q4 of '20, both here in the US, as well as in South America and other places. And then you started to see this massive rebound. I think it probably started in March, but really April showed up in our Q2 results for this year. And so the market's just saying, hey, just show me the consistency, I think. And the underlying volume growth and then the underlying revenue and profit.

And with corn rising, obviously we have much, much greater revenue sales, and I think we're going to be on that trend as we're looking forward.

Seth Goldstein: Thank you. And now I'll look to the chat for some audience questions. First audience question here, can Ingredion pass along inflation costs and if so, how quickly?

Jim Gray: Yeah, it is a great question. It depends on where we're operating in the world. So really kind of outside the US if you have inflation in your raw material, most of our pricing models or how we work with our customers passes through those changes in the cost of corn or tapioca or whatever the raw material is, usually between over a three month type of time period. In the US some of our customers have a little bit less than half, but quite a few of them contract just on a flat pricing. And so therefore when we go from one year to the next is when we have opportunities to pass through inflation. And that could be either chemical cost, packaging costs, labor. But usually the big one that we watch is the cost of a raw material. And then the second one is really our freight cost, but some of our freight costs typically we've tried to price out freight separately in our pricing contract. And so freight moves, it's usually now something that's generally getting absorbed by the customer.

Seth Goldstein: Thank you. And our next question from the audience, how does Ingredion deal with volatility in corn prices?

Jim Gray: Yeah, well, I think just real simple, the first model is, if your customers recognize that corn is a large part of your input costs and in markets, you have to be able to price that through. So mostly South America, generally Asia Pacific, Pakistan. These are markets where I can just... As the cost of the input moves, I can pass it through. Okay. So that's one way of addressing volatility. We try and really target a consistent gross margin over time. In markets where I can't do that, then I have to employ hedging policies and hedging practices. I do hedge corn within my North America business and that's where I'll look at. I've now contracted on a price with the customer, I'll hedge a certain proportion of that corn. And then what remains open either on the corn usually offsets the co-product value. And so those act as natural hedges as we go through the year, as we go through the year, I'm just making sure that I've laid on enough hedges against the corn that I'll need to serve to create the products for that customer, which sell at that price.

So that's usually... that's typically our approach to how we're managing volatility.

Seth Goldstein: Makes sense. Last question I see right now from the chat, if fewer consumers eat at restaurants right now, how does this affect Ingredion's business?

Jim Gray: Well, if it says right now in the question, then that's a very astute question because if you rolled back, let's roll back two years ago end of 2019, and I'll use

the US market but we could use some other markets. Consumers were not trained and had not habituated things like curbside pickup. Really online ordering was there but it has taken a massive acceleration and penetration into how each of us act and how each of us use these things to get fed. And so what we're seeing now is it depends on which segment within food service. Is it quick serve? Is it even fast cash or even fine dining? That those restaurants that have survived through the last 18 months are much more savvy about answering the phone, taking orders, scheduling curbside pickup, being quite friendly in terms of that.

I think that that actually leads to, I think, volume wise, I think we're seeing that volume return. More importantly, and it says it's kind of a... This will be like a blinding inside and you'll like, go, whoa, right? When you're in a restaurant and chef is done making your mashed potatoes along with your steak and maybe you have a sauce, it goes from the kitchen counter to your dining room table in 30 seconds, so it's hot, the sauce stays the way the chef intended, et cetera. Now, when chef has to put that in an aluminum 10, or recyclable plastic 10, put a cover on it, give it to the Uber driver. And then it winds up 15 minutes bumping along in a car, shows up at your front door and then you open it, one, you absolutely expect it hot, but you also want to make sure that the bun didn't absorb the juice from the hamburger or that the salad dressing didn't separate, or that the sauce that's on the mashed potatoes or whatever also remains hot.

So starches and our texturizing help with things like heat retention and help with stability as food products move throughout the food supply chain. And so I think long term, that's a very interesting opportunity for us because I think convenience of food service is with us. It's just terribly convenient. Honestly, if you look at the total carbon footprint, it's not great. But I think if you can help in terms of how that food shows up when you're ready to eat it home or on the beach or wherever, that requires a lot more from the ingredients. And I think that that's... We have some real opportunities as we continue to drive food service demand.

Seth Goldstein:

Wow. Well, yeah, my mind is blown. That's great insight there. Well, Jim, I appreciate your time. I appreciate you joining us and thank you so much.