

Stephanie Ho (SH): Hello, and welcome to the podcast USDA -- Now You Know. This episode focuses on the plenary discussion at USDA's recently concluded Agricultural Outlook Forum. The session was titled "Growing Market Opportunities for Climate Smart, Sustainable Agriculture." The conversation included five speakers who came from different sectors of the agriculture and food industry. They brought their unique perspectives to the table in considering the question "How can climate smart and sustainable production practices generate environmental returns for society AND economic returns for the producer -- while at the same time, also meeting the needs of consumers?" I'm Stephanie Ho, with USDA's Office of the Chief Economist, and that is the question this episode is going to try to answer.

MUSIC BRIDGE: [Jason Shaw, "Solo Acoustic Guitar"](#)

SH: The five speakers brought together by USDA represented a broad range of the agriculture and food industry. On the producer side, Mike McCloskey is a co-founder of Select Milk Producers.

MIKE MCCLOSKEY (MM): I am in the capacity of representing a large portion of the dairy industry – it's about 70% of the dairy industry (that) came together back in 2007 to start looking at the impact that our carbon footprint and other sustainability efforts would have, and trying to understand them in a more scientific way than we had in the past.

SH: Another speaker, Elena Rice is the Chief Scientific Officer for Genus PLC, a biotechnology company that focuses on animal breeding innovations.

ELENA RICE (ER): We think that climate smart sustainable agriculture should combine two key goals: feed the growing population, that's what we're here for, while reducing escalating climate crisis. And as a part of this conversation, I want to focus on how innovation in animal

breeding will help to protect our food supply, and create, at the same time, more healthy and sustainable food system, to nourish the world.

SH: Plenary participant Emily Skor is the CEO of biofuel trade association Growth Energy.

EMILY SKOR (ES): We are the vehicle to bring agriculture into our national climate strategy. The US cannot meet our ambitious climate goals without expanding the use of low-carbon biofuels. 98% of the cars on the road today use liquid fuels. And the Energy Information Administration projects that gasoline or flex-fuel powered vehicles will dominate new vehicle sales through 2050. We can and we must achieve progress with carbon reductions now – and in the midterm – with today’s infrastructure, today’s vehicles and a home-grown supply chain.

SH: And then, more on the consumer side, David Allen is the Vice President for Sustainability at Pepsico Foods North America.

DAVID ALLEN (DA): we’re working to spread regenerative practices to restore Earth equivalent to our entire global footprint of PepsiCo – that’s almost seven million acres. We want to ensure that we sustainably source our key crops and ingredients, for resilience, and we improve the livelihoods of 250k people throughout our global supply chain – and all of those, we’re going to deliver by 2030.

SH: Finally, the fifth speaker was Glenda Humiston, Agriculture and Natural Resources Vice President for the University of California.

GLEND A HUMISTON (GH): We know the negative impacts of climate change – they’ve been felt for many years – increasing temperatures, shifting agro-ecosystem boundaries, invasive pests, and more frequent extreme weather events, that we’re all feeling. On farms, climate change is reducing crops yields, as well as nutritional quality of some crops, and lowering livestock productivity.

MUSIC BRIDGE: [Scott Holmes, “Something in the Distance”](#)

SH: So, riffing off that last comment -- about how many people are already aware that climate change is causing challenges to agriculture -- Genus Chief Scientific officer Rice couched it in terms of having enough food to feed everyone in the world.

ER: In their very latest assessment, the UN’s Food and Agriculture Organization has indicated that we are not on track to meet the sustainable development of zero hunger by 2030.

SH: So, her company is helping livestock producers cope with the challenges they're already facing.

ER: We need to be able to deliver that zero hunger goal by providing the genetics that do more w less. Second, we need to think about changing climate, such as extremes of heat, changes in the availability and cost of certain animal feeds, and potential to damage the productivity of our animals. So, climate smart agriculture here is about being able to anticipate how the climate will change, the timescale of this change and provide genetic solutions – like resilience to extreme heat, disease, while remaining productive, maintaining productive animals.

SH: Doing-more-with-less was also a point mentioned by Growth Energy leader, Skor, who said ethanol can benefit the environment, be profitable for corn farmers and be cheaper for consumers.

ES: There's overwhelming consensus and a litany of research from DOE, USDA, EPA, California Air Resources Board and others, affirming ethanol's low-carbon attributes. The latest from researchers at Harvard and Tufts, shows that ethanol cuts GHG by 46% compared to regular gasoline, and that advantage continues to increase, thanks to innovations, including climate smart ag practices. Just a simple move, nationwide, from 10 to 15% ethanol blends would reduce our carbon emissions by more than 17.6 million tons – that's the equivalent of taking four million cars off road every year. E15 is also up to 10cents less per gallon, than E10.

SH: This discussion was held at USDA's Agricultural Outlook Forum at the end of February, but in a relevant move, the Biden Administration just announced that it is planning to allow E15 blended gasoline to be sold this summer.

ES: We are a key link between farmers and an ever-growing low-carbon economy. Ethanol has long been an economic driver for our rural economy. We purchase nearly 30 billion dollars worth of corn last year, to produce ethanol and an expanding array of bio-based products like high protein animal feed, renewable chemicals and corn oil. Our industry also supports more than 350k jobs nationwide, including family farmers and rural manufacturers, hit the hardest by recent trade wars and supply chain disruptions.

SH: Meanwhile, Skor added that ethanol can play a role in emissions-heavy industries that are hard to decarbonize -- such as aviation.

MUSIC BRIDGE: [Komiku, The road we used to travel when we were kids](#)

SH: For a consumer-facing company, Pepsico is apparently hoping to lead by example.

DA: We've committed to achieving net zero emissions by 2040. And in order to get there, we've committed to reduce emissions across our entire value chain – from agriculture again, through the end to pack, by 40%, by 2030. We've also committed to becoming net water positive by 2030, given the water-stressed environment the world is becoming due to climate change. That means we're reducing our absolute water use – and we're committing to replenishing 100% of the water that we use in high risk water sheds.

SH: The company's sustainability vice president Allen says the goal is to be better for the planet and, at the same time, better for consumers.

DA: And that includes incorporating more diverse ingredients – things like new food products, and existing products, that are either better for the planet or deliver nutritional benefits – chick peas, plant-based proteins, whole grains, etc. We're also expanding in nuts and seeds. We're accelerating our reduction of added sugars and sodium, through the use of science-based targets, across our entire portfolio, and we're cooking our food offerings in healthier oils.

SH: A good example can indeed be a good thing, but comments by the University of California's Humiston point to the old saying that even though you can lead a horse to water, it's not always easy to get it to drink.

GH: We've got over 100 years of showing the value of demonstrating science – that's the heart and soul of Cooperative Extension (CE), that word cooperative. We've had the farmers on our properties, research properties – we've worked on their properties, so they can see and touch

and feel new plant varieties and better ways to do production activities. But even with that, there's still sometimes the challenge of getting adoption. So, you know, one of the things when CE was created, was our 4H youth development. A lot of people don't realize that that was created largely because adults weren't adopting, and we thought the kids would help us get there. Let's think back to littering – it was the kids that stopped us from littering, if you think about it.

SH: She added that she also very much supports promoting citizen-science, for youth and adults.

GH: I frequently get asked what scares me, these days? And my answer is usually How scientific illiterate our population is – and that scientific illiteracy drives very bad public policy, very bad choices on where to invest limited resources.

MUSIC BRIDGE: [Axletree, "The Woods" \(remastered\)](#)

SH: The dairy group's McCloskey says he is confident that farmers know what they need to do to make sure that they are leaving behind land that is better for the next generation.

MM: It all boils down to is it the right thing? Dairy farmers – or all farmers – want to make sure that this is the right thing for their mission in life, and what are the economics? Kind of the two simple things that you need to be able to answer to be able to get people to listen, and want to adopt the technology.

SH: He says he supports voluntary, not mandatory, solutions.

MM: In every one of the initiatives we are looking at, we feel very strongly that through a market-based solution, which would be carbon credits, or nutrient trading – we haven't talked about that here today, but nutrient trading makes so much sense and it's so important for water quality, and for climate, because eutrophication is a huge climate problem – especially in our dead zones in the ocean. So, creating these trading platforms for nutrients within watersheds makes incredible sense, and that's the market-based solution. No different than what we saw happen with acid rain – for those of you who are as old as I am, which none of you are – but if you go back and look at our problem with acid rain and how we solved it in this country, was a market-based solution with exceptional results.

SH: At the same time, he says any market-based solution -- such as carbon markets -- will need active support from legislators and the federal government.

MM: I think that's a delicate discussion. We all know that that's a long investment. There's a lot of concerns that practices will change, and that carbon will not be there, how is that going to work? If we don't have strong partner like USDA coming in here and underwriting these types of practices, it's going to be very difficult to create that marketplace.

MUSIC BRIDGE: [Robert John, "Surface"](#)

SH: At the end of the two-hour-long session, panelists were all given a chance to suggest how people could make an individual impact on climate change. The trade association representative's suggestion was not a big surprise.

ES: So, I will say, as someone who is based in WDC, talk to your elected official. I am a big believer in the power of grassroots. So much of what we have talked about on this panel has been the importance of policy, and regulation, and lawmaking. And I see this, when a lawmaker has the opportunity to talk to a farmer, to talk to a jobs provider in a biz, and understand the implications of the policy they're entertaining, and understands, maybe, the unanticipated consequences that they maybe hadn't anticipated, that's incredibly important – and they remember the stories, and the information and the feedback.

SH: Meanwhile, the biotechnology company official stressed the importance of having clear goals.

ER: for our org, it's really all about science – and as a scientist, we want to see data, we want to see numbers. And our population was changing generations who are now young generations who are coming to work for us – I think those questions are becoming more as a norm. our people driving these conversations, they ask our leadership about what our sustainability goals – and I think it's a very strong push – I'd call it bottom up, right? When people in the organization want to be part of the solutions – and they asking the leadership about bringing the solutions, and suggesting the solutions.

SH: For the dairy industry, coordination and communication was, and still is, crucial.

MM: So, we used every cooperative board in the country, we used our trade organizations, we used the DMI Board, which is an enormous board, and we moved that info down, moved that info up, and it created a cohesive message within the entire industry – Now, not everyone buys in, we all know that, but the majority buys in and understands where we're headed. So, from the top down, and from the down – up, we created a great information amongst us. Everyone

was informed of what we were going to the commitment we were going to make as an industry – and embraced it – and, now, the next step, which is occurring as we speak, is now our outward communication, which goes all the way to the consumer over time.

SH: The university representative urged people to get involved, by volunteering.

GH: You can volunteer in so many different ways – but as you do that, I would encourage people to spend a little time digging around websites, and making sure you’re getting good information – making sure you’re using valid info, valid websites to get that. But, yeah, I think most of us probably have volunteered at different things, and I would encourage people to look at that – because then you’ve got some infrastructure and a network to help you be effective, in your goals.

SH: Meanwhile, the foodstuffs company officer urged people to begin by just doing it,

DA: what I try to impart internally and externally – don’t allow perfection, or the desire for perfection, to prevent progress. So, it’s small steps – whether you’re voting with your dollar, whether you’re taking just an individual, a little bit more effort in composting or recycling, or just starting those conversations – an internal, sustainability-focused Green Team of people who are collectively passionate within your organization, biz, school, farm, coalition – and starting to have those conversations. You know, the journey of a thousand miles begins with one step.

MUSIC BRIDGE: [Atch, “First Light”](#)

SH: That's all we have time for in this episode. If you want to hear the full discussion, it's available online until February 2023. Just input the words USDA - Agricultural - Outlook and Forum in your search engine, and there will be a box to click that allows you to watch on demand. The plenary discussion took place on the morning of the first day of the forum, February 24, 2022. This is Stephanie Ho, with the office of USDA's Chief Economist, thanks so much for listening.