

DIVERSIFYING ON-FARM INCOME: OPPORTUNITIES TO STRENGTHEN RURAL AMERICA

THURSDAY, APRIL 29, 2021

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Tammy Baldwin (chairman) presiding.

Present: Senators Baldwin, Tester, Hoeven, and Hyde-Smith.

DEPARTMENT OF AGRICULTURE

STATEMENT OF DAVON GOODWIN, MANAGER, SANDHILLS AGINNOVATION CENTER

OPENING STATEMENT OF SENATOR TAMMY BALDWIN

Senator BALDWIN. Good morning. I want to thank you for being here today for what is the first hearing of the Agriculture Appropriations Subcommittee for the 117th Congress.

As we await the full fiscal year 2022 budget request, I thought it would be a great opportunity for our subcommittee to discuss diversifying and increasing on-farm income and how that can help to strengthen our rural communities.

I want to start by welcoming our five witnesses, four of whom are with us virtually Mr. Davon Goodwin, board president of the National Young Farmers Coalition; Dr. John Lucey, director of the Center for Dairy Research; Ms. Rebekah Sweeney, Wisconsin Cheese Makers Association; and Mr. Jason Weller, president of Truterra and one who is here with us in the room today, Mr. Brian Carroll, director of Grand Farm. Thank you all for joining us today.

And I am glad to see my colleague Senator Hoeven, ranking member of the committee, is here with us as well, and I look forward to working with you, Senator Hoeven, and all the committee members this year.

In Wisconsin and across the country, a strong agricultural economy is vital to a strong rural economy. Our hard-working farmers and ranchers tie our rural communities together and move our economy forward by creating jobs for others and spending money in their communities to support the many local businesses that serve farms and our farming families.

For our farms and rural towns to succeed, we need a Federal Government that is in their corner. We need to make investments and support policies that will help our farms thrive and be finan-

cially viable to support themselves, their families, and their rural communities.

Today, only 10 percent of American farm families earn most of their income from agricultural production. This subcommittee has an opportunity to turn that figure around and transform our food system. To make this transformation a reality, we need to create better markets, fairer markets, and new markets to ensure that our farms, no matter what their size, have a successful and sustainable future ahead of them.

There is so much more we can and must do to make farms of all sizes more profitable, diversify their on-farm income, and manage risk, especially with a changing climate. I believe that it starts with helping to create better markets that allow for a competitive marketplace.

All across agriculture from the dairy sector to crops, livestock, and poultry evidence shows that where we have supported innovation, processing, and regional food systems, we allow our farmers to keep more of the consumer's food dollars and increase their on-farm income. Our subcommittee is responsible for a wide variety of programs that can help make these better markets a reality, and I am especially excited to hear from our witnesses today about how the new regional Dairy Business Innovation Centers are helping dairy farmers diversify and increase their income.

I must add that for farmers to be a part of these better markets, we need transformational investments in broadband that ensure all Americans finally have access to reliable and affordable high-speed Internet service. It is a necessity for our jobs, education, healthcare, and helping farms be a part of this transformation of our food system.

Of course, helping all farmers thrive in increasing their on-farm income means we must be fighting for fairer markets that ensure opportunities for everyone who wants to be involved with agriculture, regardless of their income level, race, gender, farm size, sector of agriculture, or location.

Lastly, this subcommittee must look for innovative ways to enable new markets and revenue streams as we look to mitigate the impacts of climate change. First and foremost, we need to have agriculture at the table. Their input will allow us to establish effective policies that combat climate change and support farm incomes.

Our farmers, our ranches are a vital part of the fabric of rural life and our rural economy. Their value cannot be measured in profit margins alone. I know there is no single solution, but I look forward to this conversation today and hearing more about how this subcommittee can work together to help farmers diversify and increase their on-farm income, better manage their risk, and strengthen our rural economy.

With that, I will ask my ranking member, Senator Hoeven, to offer his opening remarks.

OPENING STATEMENT OF SENATOR JOHN HOEVEN

Senator HOEVEN. Thank you, Madam Chairman. Good to be here with you.

And Senator Tester, good to see you this morning, and I hope you did your rain dance once again because we sure need moisture up our way.

And of course, I want to thank and welcome Brian Carroll for being here in person to testify. He is the director of Grand Farm Education and Research Initiative, located in Fargo, North Dakota, and Brian and the team at Grand Farm are working on cutting-edge precision Ag.

The goal is actually to have a working farm that is all precision Ag, all driven by technology. In essence, autonomous farming, just to show what can be done, and it is really remarkable what they are doing. So for him to be here and talk about precision Ag I think will be very beneficial for the committee.

Our committee has worked very hard to support our farmers and ranchers, and really over the last 3 years, when we have faced the trifecta of bad prices, problems with the trade agreements, and bad weather, have done a lot to keep the farmers and our ranchers in the game. And it looks like our trade agreements helping to create more opportunities overseas and find prices improving, we are hoping to get into a better cycle.

But at the same time, we want to do anything and everything we can to help our farmers and our ranchers, and I am always fond of saying, and I always will be, every single American benefits every single day from good farm policy. Because our farmers and ranchers raise the lowest-cost, highest-quality food supply in the history of the world, and that benefits every American every day. So good farm policy benefits every American every day.

And it is truly an honor and a privilege work on behalf of our farmers, and I look forward to working with the chairman and the members of this committee to do just exactly that.

So, once again, thank you, Brian, for being here today, and thank you, Madam Chair. And I will turn it back to you.

Senator BALDWIN. Thank you, Senator Hoeven.

I want to remind all of our witnesses today and committee members to please mute your microphone if you are not speaking.

And with that, again, a warm welcome to both our virtual guests, witnesses, as well as Mr. Carroll, who is here in person. And I would like to start off the testimony with Mr. Davon Goodwin.

Please, Mr. Goodwin, go ahead with your opening statement.

SUMMARY STATEMENT OF DAVON GOODWIN

Mr. GOODWIN. Thank you.

Good morning, Committee Chair Senator Tammy Baldwin and Ranking Member John Hoeven, the rest of the committee and staff. Senator Baldwin, thank you specifically for inviting me to bring the young farmer voice to this important conversation on diversifying farm income.

My name is Davon Goodwin, and I produce Muscadine grapes, blackberries, fruit juice, and mixed vegetables on 42 acres at OTL Farms in Laurinburg, North Carolina. I am also the director of the Sandhills AGInnovation Center, a food hub in Ellerbe, North Carolina, that is working to reinvigorate the local farm economy and support the next generation of farmers.

I serve as the board president of the National Young Farmers Coalition because the organization helped me to find my voice and provide essential community while starting out as a young farmer. I also serve on the USDA Beginning Farmer and Rancher Committee.

I grew up in Pittsburgh, Pennsylvania, but have rooted myself in North Carolina for over a decade now. I hold a bachelor's degree in biology, with a concentration in botany, from the University of North Carolina at Pembroke. While in college, I enlisted in the Army Reserve, where I served 6 years and deployed to Afghanistan.

August 31, 2010, my truck hit an IED. From the blast, I broke my L1 and L2 in my lower back and suffered a traumatic brain injury. I received a Purple Heart for my service. Farming saved my life. Once you put your hands in the dirt, you will never be the same again. Soil has a healing component that is almost indescribable.

I started farming on leased land, but they wouldn't offer me a long-term lease. I planted grapes on a property that I will never get to harvest. Leasing land is precarious, especially for perennial agriculture such as grapes, where you don't see fruit until year number four.

I knew that I needed to purchase my own land. I couldn't invest in fruit trees and grapevines without the security that I would be able to harvest when ready.

When I started out farming, no one told me my student loan debt would have such a hurdle to getting land. But the reality is that my student loans were standing in the way of my land purchase. Bankers told me that I did not have enough farm income to purchase farmland. The only way I could get a loan would be to have an off-the-farm job.

So I took the job at the Sandhills AGInnovation Center to save money and focus on reducing my debt. I even delayed marrying my wife until after purchasing my farmland because of her \$70,000 student loan debt that would have further exacerbated my high debt-to-income ratio. The barriers to farming became not just financial, but personal.

In 2019, I was able to purchase 42 acres of land in Laurinburg, North Carolina. Land is fundamental, but land is just the beginning. Farming is a capital-intensive undertaking. You need land, as well as tractors, equipment, plants, and inputs. Having an off-the-farm job has been essential to me capitalizing the farm, but it also keeps me away from the farm for 40 to 60 hours a week.

I am in one of the poorest counties in the State of North Carolina, but that is the only place where I was able to find affordable farmland. Because of this, I am several hours from more lucrative markets like Charlotte or Raleigh.

But I got into farming to serve my community. Local food builds local resiliency. The COVID-19 pandemic proved to us when our national food distribution network failed us, the local farmer guaranteed access to their community. That is why I am interested in growing our markets here in the southeast area of North Carolina and using value-added products like juice, jellies, and preserves, to reach our communities abroad and in our State.

But this local infrastructure needs Government investment. Programs like the Local Agriculture Market Program support local and regional markets that are critical infrastructure to young farmers like me. Providing grants to producers and State and local organizations via the Farmers Market and Local Food Promotion Program is building stronger local and regional markets. I hope this program improves to ensure more accessibility and participation for small farmers and beginning producers, as well as small processors and distribution centers like the Sandhills AGInnovation Center. I ask you to increase the funding for FMLFPP and VAPG.

Grape season lasts 6 weeks, but juice lasts for almost 2 years. A production facility on-farm would increase the productivity and diversify my farm income. Unfortunately, there are barriers for a young farmer to access the Value-Added Producer Grant because there is a match requirement that is out of reach for me at this point.

Farming is a risky undertaking. We must decrease the risk for new entrants into agriculture. You shouldn't have to bet your life on the farm.

The most important risk management tool on my farm is crop diversification. The reality is with climate change intensifying, diversification of crops will save the family farm.

Investing in young farmers and farmers of color. Young people and people of color want to farm. We must invest in their operations and ensure they have access to programs designed to help them. When you are allocating money, please invest in the Beginning Farmer and Rancher Development Program, which provides competitive grants to nonprofits and universities for beginning farmer training opportunities.

Current funding only allows 25 percent of applicants to be funded, and I know from my work with the National Young Farmers Coalition that many projects are not submitted because of the match requirement.

The Outreach and Assistance for Socially Disadvantaged and Veteran Farmers, also known as the "2501 program," that provides Federal grants to organizations that work with farmers of color and veterans like me must also be funded to the maximum permissible levels. This program is particularly important as we consider the history of discrimination at USDA and the current reality that 95 percent of our farmers are white. Adding veterans to the 2501 program spreads the funding too thin.

When I first visited FSA, I wanted to farm. The loan officer told me that perennials will not be something they will fund because of the risk. We need to improve the cultural competency of USDA and be prepared to talk to black farmers, young farmers, and those who are starting diversified businesses.

The USDA Microloan, offering up to \$50,000 at 1 to 2 percent interest rate, is perfect for me as a beginning farmer. The application is very intimidating. In a 2017 National Young Farmers Coalition survey, 40 percent of farm owners reported that USDA applications are too burdensome. I would like to see the USDA modernize their services and put the application process online for quicker turnaround as well.

In conclusion, the work that I do is not just farming, but advocating for other small farmers and beginning farmers like me.

Thank you for listening and hosting this important hearing. I appreciate the opportunity to highlight my farming experiences and the challenges that affect farmers of color just like me.

[The statement follows:]

PREPARED STATEMENT OF MR. DAVON GOODWIN

Good Morning Committee Chair Senator Tammy Baldwin and Ranking Member Senator John Hoeven, the rest of the Committee and Staff. Thank you for this opportunity to share my experiences as a young farmer, director of the Sandhills AgInnovation Center in Ellerbe, North Carolina, and Board President of the National Young Farmers Coalition. Senator Baldwin, thank you specifically for inviting me to bring the young farmer voice to this important conversation on diversifying farm income.

My name is Davon Goodwin and I produce muscadine grapes, blackberries, fruit juice, and mixed vegetables on 42 acres at OTL Farms (Off the Land Farms) in Laurinburg, North Carolina. I am also the director of the Sandhills Ag Innovation Center, a food hub in Ellerbe, North Carolina, that is working to reinvigorate the local sustainable farm economy and support the next generation of farmers. I serve as Board President of the National Young Farmers Coalition because the organization helped me find my voice, share my story, and provided essential community while I was starting out as a young farmer. I also serve on the USDA Beginning Farmer and Rancher Committee.

I grew up in Pittsburgh, Pennsylvania, but have rooted myself in North Carolina for over a decade now. I hold a B.S. degree from University of North Carolina at Pembroke where I studied Biology with a concentration in botany. While in college, I enlisted in the Army Reserve where I served for 6 years and was deployed to Afghanistan. My truck was hit by an IED (Improvised Explosive Device). From the blast, I broke the L1 and L2 in my back and suffered a traumatic brain injury. I received a Purple Heart for my service. But after the bomb went off, I thought I wouldn't be able to finish college. I had no reason to live. I was on many drugs to treat my injuries, and developed narcolepsy, a chronic sleep disorder characterized by overwhelming daytime drowsiness and sudden attacks of sleep. Thankfully, I found the stamina to finish my degree. And because I saw agriculture in my community, I thought that this could turn out to be a viable option for me in the future.

Since I couldn't get a job due to my narcolepsy, I volunteered on farms. The owner of Fussy Gourmet Farms in Raeford, North Carolina took a chance on me and offered me a farm manager position even though I didn't have experience in production agriculture.

Farming saved my life. Once you put your hands in the dirt, you'll never be the same again. Soil has a healing component that is almost indescribable.

I served as farm manager for 4 years before starting my own grapes at Fussy Gourmet Farms. But unfortunately, they wouldn't offer me a long-term lease. I planted grapes on that property that I will never get to harvest. Leasing land is precarious, especially for perennial agriculture such as grape production where you don't see fruit until year four. I looked for leases on different properties, but they would only offer a 1 year lease. Because long-term leases like 10–20 years were not available in my area, I knew that I needed to purchase my own land. I couldn't invest in fruit trees and grapevines without the security that I would be on the land when it was time for harvest.

When I got started in farming, no one told me my student loans would be such a hurdle. No one talks about student loans at a farm meeting. But the reality is that my student loans were standing in the way of my land purchase. Bankers told me that I didn't have enough farm income to purchase a farm. That the only way I could get a land loan would be to have an off-farm job. So, I left Fussy Gourmet Farm and took a job at the Sandhills AgInnovation Center to save money and focus on reducing my student debt. I even delayed marrying my wife until after purchasing my farmland because her \$70,000 in student loan debt would have further exacerbated my high debt to income ratio. The barriers to farming became not just financial but personal.

In 2019, I was able to purchase 42 acres of land in Laurinburg, North Carolina. Land is fundamental, but land is just the beginning. Farming is a capital-intensive undertaking—you need land as well as tractors and equipment, plants and inputs. Having an off-farm job has been essential to capitalizing the farm, but it also keeps

me away from the farm for 40–60 hours a week. Farming only in the evenings and weekends holds my farm business back from its full potential and takes a toll on my mental and physical health.

ACCESS TO MARKETS

I'm in one of the poorest counties in North Carolina, but that's the only place I was able to purchase land. Because of this, I'm several hours from the more lucrative markets of Charlotte and Raleigh. But I got into farming to serve my local community: to build community resilience, provide economic development and employ local people, and give our community access to healthy foods they've never had access to before. Local food builds local resiliency. The COVID-19 pandemic proved that to us. When our national food distribution networks failed us, the local farmer could guarantee access to food for their community.

That's why I'm interested in growing our market opportunity here in South-eastern North Carolina and using value-added products to help our juice reach schools and community centers. But this local food infrastructure needs government investment.

Programs like the Local Agriculture Market Program (LAMP) support local and regional markets that are critical infrastructure to young farmers like me. Providing grants to producers and state and local organizations via the Farmers Market and Local Food Promotion Program (FMLFPP) is building stronger local and regional markets. I hope this program improves to ensure more accessible participation for small and beginning producers, as well as small processors and distribution centers like Sandhill AgInnovation Center. I ask you to increase funding for FMLFPP and VAPG.

Value-Added Production has been critical to the success of my farm. Grapes last for six weeks after harvest but the juice lasts for 2 years. We wait 9 months to get a profit from this crop, so by making a value-added product of juice, we are able to make the income last longer. The value-add has allowed us to engage with more buyers. A production facility on-farm would increase productivity and revenue diversification, and the Value-Added Producer Grant (VAPG) could make that dream a reality. But unfortunately, there are barriers for a young farmer to access the program. There is a match requirement that is out of reach for me, and often the application is open during the growing season when I don't have the time to complete the significant application. The paperwork is just too big of a barrier for a small operation like mine. I ask that you consider additional funding for this program, paired with requirements for USDA to review how they're ensuring this program is accessible to new and beginning farmers.

DIVERSIFICATION AS RISK MANAGEMENT

Farming is a risky undertaking. When I tell the banks about my farm and desire to provide for my local community, they ask me if I'm willing to take a gamble on that. We must decrease risk for new entrants to agriculture. You shouldn't have to bet your life for the farm.

The most important risk management tool on my farm is crop diversification. We have to diversify so we can spread our risk out over the entire farm. I should point out that one of the reasons for that is that in North Carolina, Muscadine grapes are not insurable with the Risk Management Agency in my county and the Non-insured Crop Disaster Assistance Program (NAP) does offer lower premiums for me because I'm a beginning farmer, a qualifying veteran, and a Black farmer, but it's another bill that I can't afford. Whole Farm Revenue Insurance is better designed for more established farmers.

The reality is that with climate change intensifying, diversification of crops/products will save the family farm. My farm is about an hour and a half from the ocean. When hurricanes come, they wreak havoc on the farm. Our grapes ripen during hurricane season. If we have nothing but grapes out there and a hurricane comes through, we're in serious trouble. Crop diversification is a way to make farming less risky. More diversification lets me sleep better at night.

INVESTING IN YOUNG FARMERS AND FARMERS OF COLOR

If we can't make agriculture more viable for young people, then we cannot guarantee the future of agriculture in this country. If we need 100,000 farmers over the next 10 years to replace our aging farmer population, we'll need to address the barriers that young farmers face. Young people and people of color want to farm, we must invest in their operations and ensure they can access programs designed to help them.

When you're allocating money, please invest in the Farming Opportunities Training and Outreach (FOTO). The Beginning Farmer and Rancher Development Program (BFRDP), provides competitive grants to nonprofits and universities for beginning farmer training opportunities. Current funding allows only 25 percent of applicant projects to be funded, and I know from my work at the National Young Farmers Coalition that many more projects are not submitted because of the matching requirements and onerous application.

The Outreach and Assistance for Socially Disadvantaged and Veteran Farmers and Ranchers Grant Program (also known as the "2501 Program") that provides Federal grants to organizations that work with farmers of color and veterans like me must also be funded to the maximum permissible levels. This program is particularly important as we consider the history of discrimination at USDA and the current reality that 95 percent of farmers are white.

Other USDA programs, like Rural Development grants and funding for the USDA Rural Development, need further investment. Our rural communities are slipping away, and we need further investment to prevent school closings and consolidation because of population decrease. Invest in young farmers like myself so that we are able to return to these rural communities, especially in the South that has been left behind since the Civil War and where hundreds of Black farmers have lost their land and livelihoods. If we don't invest in thriving rural communities and make farming viable business, Black farmers will continue to decline. That is why we also need funding and administration action on enacting the 2018 Farm Bill Relending Program to Resolve Ownership and Succession in Farmland. This fund would help cover legal costs and succession plans to secure land ownership by farmers of color. To stem the tide of land falling out of the ownership of farmers of color, and to resolve heirs property challenges, I ask you to fund this program generously and to hold USDA accountable to implement it.

ACCESS TO CREDIT AND USDA

When I started farming, I asked other farmers how they could afford to do this work. I was told not to use USDA programs at all, that I could get myself into trouble working with USDA. But USDA loans are low-interest and are meant for farmers who can't get credit with traditional banks. When I first went to FSA and said I wanted to farm, the loan officer said, "We will never fund perennials, that's not going to happen." There was a lack of understanding about non-traditional operations. They were used to financing hog and chicken farmers. We need to improve the cultural competency of USDA staff so that they are prepared to talk with Black farmers, young farmers, and those starting diversified and non-traditional businesses.

For years, I tried to use alternatives to USDA loans. I've used Kiva loans and GoFundMe, but there is a limit to crowdfunding. The company Steward approached me to offer me financing but at a 7 or 8 percent interest rate. The USDA Microloan, offering up to \$50,000 at between 1–2 percent interest rate is perfect for me as a young farmer, but the application is too intimidating. The National Young Farmers Coalition found in a 2017 survey that 40 percent of farm owners found USDA applications too burdensome.¹ I would like to see USDA modernize its services and put the application process online. Quicker turnarounds are also needed.

As I mentioned earlier, student loan debt is a huge barrier for young farmers accessing credit to build their farm businesses. Our monthly student loan payment is \$1,000. That could be an equipment payment or another land payment. My wife is a nurse, and we're committed to the health of our community. We're not looking for a handout, but an acknowledgement of this commitment to our community and to our public service. Another aspiring farmer in my community said he could never farm because of his student loan debt. If young people are saddled with student loans, how will we replace our aging farm population?

COOPERATIVE EXTENSION AND TECHNICAL ASSISTANCE

Another primary support to my farm business is having technical assistance from my local Cooperative Extension. I talk to Extension on a daily basis. Funding for Cooperative Extension has stayed relatively flat over the last 10 years, and should match the investment made to the Agriculture and Food Research Initiative (AFRI) that provides competitive research, education, and extension grants. This on-the-ground assistance is a lifeline for my farm and countless others.

¹Ackoff, S., Bahrenburg, A., Shute, L., 2017. Building a Future With Farmers: Results and Recommendations From the National Young Farmer Survey: https://www.youngfarmers.org/wp-content/uploads/2019/03/NYFC-Report-2017_LoRes_Revised.pdf

CONCLUSION

As I look back at my journey in agriculture, it has been one of struggle and perseverance. When I drive through my rural community all I see is farms disappearing left and right, and I often ask myself where this country will be if we lose our small farmers. There is no shortage of young farmers committed to guiding agriculture into the future, but we must invest in their success. The work that I do is not just farming but advocating for other small and beginning farmers like me. I thank you for listening and hosting this important hearing. I appreciate the opportunity to highlight my farming experiences and the challenges affecting young farmers of color like me.

Senator BALDWIN. Thank you so much, Mr. Goodwin, and thank you for your service.

Next I am going to call upon Dr. John Lucey, who is the director of the Center for Dairy Research.

Welcome, Dr. Lucey.

STATEMENT OF JOHN A. LUCEY, PH.D., DIRECTOR, CENTER FOR DAIRY RESEARCH

Dr. LUCEY. Thank you, Chair Baldwin, Ranking Member Hoeven, Senators/subcommittee members.

Hello, my name is John Lucey, and I am a professor at the University of Wisconsin-Madison and director for the Center for Dairy Research, the CDR.

The CDR was founded in 1986 and supports the U.S. dairy industry with training, technical support, and applied product research. The CDR is the largest dairy food center in the U.S. and annually works with over 300 dairy companies. The center was set up as a partnership between dairy farmers, the cheese industry, and the university and is proud to be largely dairy farmer funded.

The CDR has played an integral role in growing the Wisconsin cheese sector, which, in 2019, produced more than 818 million pounds of specialty or value-added cheese. Last year, CDR trained more than 60 percent of all winners at the World Championship Cheese Contest, and the new \$72 million CDR facility, which is under construction, was made possible by a partnership between the university, State of Wisconsin, and the dairy industry.

In 2019, the Dairy Business Innovation Initiatives was launched as part of the 2018 farm bill by Senator Baldwin and others. The objectives of this initiative are to establish regional centers that would support dairy businesses and farmers with the development, production, marketing, and distribution of dairy products. The program includes direct grants to dairy businesses and dairy farmers to support creating specialty products.

The CDR, in partnership with the Wisconsin Cheese Makers Association, was named by the USDA as one of those three centers after a competitive selection process. The other centers are in Tennessee and Vermont. We work closely with these two other centers in this initiative.

We call our center the Dairy Business Innovation Alliance, or the DBIA, and we support the Upper Midwest States of Illinois, Iowa, Minnesota, South Dakota, and Wisconsin. And we have collaborators in each of the States' Department of Agriculture that assist the DBIA. We had over 40 letters of support from various dairy organizations and dairy companies across our region.

Our overall goal is to improve the profitability of dairy farmers and small dairy businesses. The initial grant to establish the DBIA

in 2019 was for \$460,000, and the current award is for \$6.13 million over a 3-year period.

There are three overall objectives of the DBIA. One, to increase on-farm diversification. Two, to create more value-added dairy products, such as specialty cheese. And three, to encourage more exports of dairy products. And we deliver on these objectives by two parts. One, technical assistance. And secondly, direct grants to businesses.

Rebekah Sweeney of the Cheese Makers Association will be talking about the DBIA business grant programs coming up. These grants are at least 50 percent of the total value of each award we get.

This past year, the DBIA has provided free entrepreneurial webinars to a total of 563 attendees that were dairy farmers, farms-to-producers, and other small dairy businesses. The focus of these webinars is to identify and share the local, State, and Federal resources, expertise, connections, and technical assistance; and to help individuals develop and implement their own ideas.

Our dairy farmers are experts in areas like cow management, sustainability, animal health, nutrition, et cetera, but need our help and support to learn how to successfully make and market dairy products. This past year, we provided a series of these eight webinars under the title of “Let’s Get Started,” and those webinar topics are listed in your materials.

These topics cover the broad range of issues or challenges facing farmers that want to start their own on-farm dairy product manufacturing business or expanding their own small business. These webinars are available on demand for everyone on the DBIA website.

This website also holds recorded interviews with farmers and processors that share their own experiences, lessons learned, and real-life success stories. The DBIA is expanding its webinar program this year to provide more in-depth training that will help dairy businesses expand their knowledge base as they look to commercialize their ideas and grow their businesses.

The DBIA also supports several technical staff at CDR that work directly with dairy businesses to help them diversify and to develop value-added products such as specialty cheese and new dairy beverages. Those dairy businesses will have access to expertise in product development as well as licensed facilities at CDR to make small batches or prototypes for consumer testing. These are critical factors in the successful development of new value-added dairy products.

The DBIA is also looking at additional cheese opportunities in international markets. To help our industry develop cheeses that will meet the taste and texture required by overseas consumers, we will first generate market intelligence and consumer analysis for these key export markets. Currently, the U.S. dairy industry exports only about 6 percent of total cheese production. We believe there is significant room to grow cheese exports.

The goat and sheep cheese industry is a small, but growing sector in the U.S. It is dominated by small artisan-sized businesses. To help grow this sector, the DBIA will identify import substitution opportunities by analyzing the characteristics of imported sheep

and goat cheeses and then assisting artisans in the development of equivalent or superior domestic versions.

I truly believe this initiative provides dairy farmers that wish to diversify with the relevant technical and business advice, as well as financial grants to support our new or expanded dairy businesses. This initiative is very timely with the serious challenges that U.S. dairy farms have faced in recent years.

As someone who grew up on a dairy farm, strengthening dairy farms is something that I am passionate about, and I thank you for supporting this initiative and welcome any questions you might have.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF DR. JOHN LUCEY

Thank you, Chair Baldwin, ranking member Hoeven, and Senators/subcommittee members.

Hello, my name is John Lucey and I am a professor at the University of Wisconsin-Madison and Director of the Center for Dairy Research (CDR). The CDR was founded in 1986 and supports the US dairy industry with training, technical support and applied product research. The CDR is the largest dairy foods center in the US and annually works with over 300 dairy companies. The Center was set up as a partnership between the dairy farmers, cheese industry and the University, and is proud to be largely dairy farmer funded. The CDR has played an integral role in growing the Wisconsin cheese sector, which in 2019 produced more than 818 million pounds of specialty, or value-added, cheese. Last year CDR trained nearly 60 percent of all winners of the World Championship cheese contest. The new \$72 million CDR facility was made possible by a partnership between the University/State of Wisconsin and the dairy industry.

In 2018, the Dairy Business Innovation Initiative was launched as part of the 2018 Farm Bill, by Senator Baldwin and others. The objectives of this initiative are to establish regional centers that would support dairy businesses and farmers with the development, production, marketing and distribution of dairy products. The program includes direct grants to dairy businesses and dairy farms support for creating specialty products. The CDR, in partnership with the Wisconsin Cheese Makers Association (WCMA), was named by the USDA as one of these centers after a competitive selection process. The other centers are in Tennessee and Vermont. We work closely with the other two centers in this initiative. We call our center the Dairy Business Innovation Alliance (DBIA) and we support the upper Midwest states of Illinois, Iowa, Minnesota, South Dakota and Wisconsin (we have collaborators in each State's Department of Agriculture that assist the DBIA). We had over 40 letters of support from various dairy companies and dairy organizations across our region. Our overall goal is to improve the profitability of dairy farmers and dairy businesses. The initial grant to establish the DBIA in 2019 was for \$460,000 and the current award is for \$6.13M over a three-year period.

The three overall objectives of the DBIA are:

- a) To increase on-farm diversification
- b) To create more value-added dairy products, such as, specialty cheeses
- c) To encourage more exports of dairy products

We deliver on these objectives by: (a) technical assistance and (b) direct grants to businesses.

Rebekah Sweeney of the WCMA will be talking next about the DBIA business grant program (these grants are at least 50 percent of the total value of each award).

This past year the DBIA has provided free entrepreneurial webinars to a total of 563 attendees that were dairy farmers, farmstead producers and other small dairy businesses. The focus of these training webinars is to identify and share the local, State and Federal resources, expertise, connections and technical assistance to help individuals develop and implement their own ideas. Our dairy farmers are experts in areas like cow management, sustainability and animal health/nutrition but need our support to learn how to successfully make and market dairy products. This past

year we provided a series of eight webinars (called Let's Get Started). These webinar topics included:

- Introduction to the DBIA (“who we are and how we can help”)
- Business Planning (“how to setup a business”)
- Marketing and Branding (“what to sell to consumers”)
- Product Development (“making a new food product”)
- Regulatory Issues (“getting your plant inspected and licensed”)
- Food Quality and Safety (“making safe, high quality products”)
- Economic Development Financing (“getting financial assistance”)
- Exporting Dairy Products (“how to export my products”)

These topics cover the broad range of issues or challenges facing farmers that want to start their own on-farm dairy product manufacturing or expanding a small business. These webinars are available on-demand for everyone on the DBIA website, <https://www.cdr.wisc.edu/dbia>. This website also hosts recorded interviews with farmers and processors that share their own experiences, lessons learned and real-life success stories. The DBIA is expanding its webinar program to provide more in-depth training that will help dairy businesses expand their knowledge base as they look to commercialize their ideas and grow their businesses.

The DBIA also supports several technical staff at CDR that work directly with dairy businesses to help them diversify and to develop value-added products, such as, specialty cheese and new dairy beverages. Thus, dairy businesses will have access to expertise in product development, and licensed facilities to make small batches or prototypes for consumer testing. These are critical factors in the successful development of new value-added dairy products.

The DBIA is also looking at additional cheese opportunities in international markets. To help our industry develop cheeses that will meet the taste and texture required by overseas consumers, we will first generate marketing intelligence and consumer analysis for key export markets. Currently, the US dairy industry exports only about 6 percent of total cheese production. We believe there is significant room to grow cheese exports. The goat and sheep cheese industry is a small but growing sector in the US, dominated by small artisan-sized businesses. To help grow this sector, the DBIA will identify import substitution opportunities by analyzing the characteristics of imported sheep/goat cheeses and assisting artisans in development of equivalent, or superior, domestic versions.

I truly believe this initiative provides dairy farmers that wish to diversify with the relevant technical and business advice, as well as financial grants to support a new/expanded dairy business. This initiative is very timely with the serious challenges that US dairy farms have faced in recent years. As someone who grew up on a dairy farm, strengthening dairy farms is something that I am passionate about. I thank you for supporting this initiative and welcome any questions that you might have.

Senator BALDWIN. Thank you, Dr. Lucey.

Next I would like to turn to Ms. Rebekah Sweeney, communications, education, and policy director at the Wisconsin Cheese Makers Association.

**STATEMENT OF REBEKAH SWEENEY, COMMUNICATIONS, EDUCATION,
AND POLICY DIRECTOR, WISCONSIN CHEESE MAKERS ASSOCIATION**

Ms. SWEENEY. Thank you so much, Chair Baldwin, Ranking Member Hoeven, and all of the members here today.

I am Rebekah Sweeney, and I serve as communications, education, and policy director for the Wisconsin Cheese Makers Association.

Since 1891, WCMA has served as an advocate, networking hub, and trusted provider of information and education for dairy product manufacturers. Today, our organization has grown to represent nearly 700 companies and cooperatives nationwide, including more than 300 sites across 33 States where dairy products are made from fresh milk or are processed and marketed. In addition, hun-

dreds of member companies supply goods and services to our global industry.

Our members range from artisans with just a few employees supporting their work to multinational corporations employing tens of thousands of people. Our members fulfill an essential mission, providing consumers with delicious, nutritious dairy foods—cheese, butter, yogurt, and their ingredients. Our members take great pride in being dependable partners to their farmer patrons and also premier employers in their communities.

We are here today to talk about strategies to strengthen rural America, and the dairy businesses WCMA serves are a key component to that discussion. America's dairy industry anchors rural counties and small towns with more than 3 million jobs, delivering \$159 billion in wages and \$620 billion in overall economic impact nationwide.

Despite those impressive numbers, you know the struggles of the dairy industry even prior to the pandemic. There are just 32,000 dairy farms in the United States today, less than half of what we had two decades ago. Volatile prices for milk and dairy commodities have challenged farms and dairy processors to remain profitable.

Chair Baldwin knows this all too well. The dairy farm losses in Wisconsin, America's dairyland, they have been significant. We have seen declines in the number of dairy farms of 15 percent in just the last 2 years. That decline, that issue is a major motivation for her work to create the Dairy Business Innovation Initiatives.

WCMA partners with the Center for Dairy Research at the University of Wisconsin-Madison to run the Dairy Business Innovation Alliance, one of three Dairy Business Innovative Initiatives, which the U.S. Department of Agriculture funds at the direction of Congress. Our program serves dairy farmers and processors in a five-State region, including Iowa, Illinois, Minnesota, South Dakota, and Wisconsin.

Chair Baldwin first secured support for the creation of these initiatives in the 2018 farm bill, and we thank her for shepherding this concept through the legislative process and for fighting for every dollar every year since to maximize its impact for farmers and cheese makers.

You have already heard Dr. John Lucey of the CDR describe his team's work. WCMA's role is to deliver direct-to-business grants, a deliberate division of labor. As a trade association, we are not bound by grant policies like many colleges and universities requiring a significant percentage of funds be swept away to cover overhead costs.

As a result, we believe we can be particularly good stewards, cost-effective stewards of the monies that we are given, holding administrative cost to the grant side of the program to just 2.5 percent of the overall allocation for our first 4 years in operation.

The Dairy Business Innovation Alliance's targeted investments of small dollar grants are helping farmers and processors diversify their business models to become more profitable and resilient through periods of increasing volatility. In our first round of USDA funding, the Dairy Business Innovation Alliance received \$450,000

and designated \$230,000 in grants. We received 77 applications for awards, with total requests for funding topping \$1.5 million.

Through a competitive review process, we selected 13 projects for awards of up to \$20,000. Each project is highlighted in my submitted testimony, but I do want to highlight just a few now.

First is Farm Life Creamery, born of Valley Side Farm. This eighth-generation family dairy farming operation has a new farmstead creamery in South Dakota, handcrafting small-batch artisan cheese using Grade A milk from their herd. With DBIA grant monies, Farm Life Creamery is launching production of paneer, which is a value-added dairy product that enables them to process more milk and reach a brand-new consumer audience.

Triggered by the loss of markets amid the early days of the pandemic, Redhead Creamery began working with its competitors and colleagues to comingle Minnesota-made cheeses, forming full pallets to ship at reduced cost to buyers outside the Midwest. Grant monies are helping them offset the expense of some necessary updates at Redhead Creamery, updates that are going to expand their product consolidation endeavor and open new markets to small Minnesota cheese makers.

Marcoot Jersey Creamery of Illinois is using grant monies to create a new high-protein and value-added frozen sports recovery product, made with whey from the milk of their 65 Jersey cows. This family's goal is to enable the next generation of Marcoots to continue in the dairy industry.

Similarly, Gurn-Z Meadow Farm of Wisconsin, a seventh-generation family dairy farm, is using grant monies to launch a processing venture, Royal Guernsey Creamery, making value-added artisan butter with milk from their farm.

We look forward to supporting many more projects like these. In the second round of USDA funding, the Dairy Business Innovation Alliance has scaled up, and we are receiving \$6.1 million for use over a 3-year period. We are going to be distributing \$3.4 million in direct-to-business grants.

With your support, we can deliver meaningful aid to dairy farmers and processors directly, diversifying their businesses, and fortifying an essential industry, which has been in distress for years. In turn, we can preserve, protect, and enhance the quality of life in rural America.

We thank you for entrusting us with a part in that mission and for allowing us to provide an overview of our work today. I will also welcome your questions.

[The statement follows:]

PREPARED STATEMENT OF MS. REBEKAH SWEENEY

Thank you, Chair Baldwin, Ranking Member Hoeven, and Members. I am Rebekah Sweeney, and I serve as Communications, Education and Policy Director for the Wisconsin Cheese Makers Association.

Since 1891, WCMA has served as an advocate, networking hub and trusted provider of information and education for dairy product manufacturers. Today, our organization has grown to represent nearly 700 companies and cooperatives nationwide, including more than 300 sites across 33 states where dairy products are made from fresh milk, or are processed or marketed. In addition, hundreds of member companies supply goods and services to our global industry. Our members range from artisans with just a few employees to multinational corporations employing tens of thousands of people.

Our members fulfill an essential mission: providing consumers with delicious, nutritious dairy foods—cheese, butter, yogurt, and dairy ingredients. Our members take great pride in being dependable partners to their farmer patrons, and premier employers in their communities.

We're here today to talk about strategies to strengthen Rural America, and the dairy businesses WCMA serves are a key component of that discussion. America's dairy industry anchors rural counties and small towns with more than three million jobs, delivering \$159 billion in wages and \$620 billion in overall economic impact nationwide.

Despite those impressive numbers, you know the struggles of the dairy industry, even prior to the pandemic. There are just 32,000 dairy farms in the United States today—less than half of what we had two decades ago, according to the U.S. Department of Agriculture (USDA). Volatile prices for milk and dairy commodities have challenged farms and dairy processors to remain profitable.

Chair Baldwin knows all too well the dairy farm losses in Wisconsin, America's Dairyland, with the number of dairy farms declining 15 percent in just the past 2 years. That decline is a major motivation for her work, championing the Dairy Business Innovation Initiatives, which I am here to detail.

ABOUT THE DAIRY BUSINESS INNOVATION ALLIANCE

WCMA partners with the Center for Dairy Research at the University of Wisconsin-Madison to run the Dairy Business Innovation Alliance, one of three Dairy Business Innovation Initiatives which USDA funds at the direction of Congress. Our program is designed to serve dairy farmers and processors in a five-state region, including Illinois, Iowa, Minnesota, South Dakota and Wisconsin.

Chair Baldwin first secured support for the creation of these initiatives in the 2018 Farm Bill, and we thank her for shepherding this concept through the legislative process and for fighting for every dollar, every year since, to maximize its impact.

You have already heard Dr. John Lucey of the Center for Dairy Research describe the incredible work of his team.

WCMA's role is to deliver DBII direct-to-business grants to dairy farms and processors. This role for WCMA is by design: As a nonprofit trade association, we are not bound by the grant policies in place at most colleges and universities, requiring a significant percentage of funds to be swept away to cover overhead costs. As a result, we believe we are a particularly cost-effective steward, holding the administrative cost of the grant side of the program to just 2.5 percent of the overall USDA allocation for our first 4 years in operation.

SMALL-DOLLARS GRANTS MAKING A BIG DIFFERENCE

The Dairy Business Innovation Alliance's targeted investments of small-dollar grants are helping farmers and processors diversify their business models to become more profitable and resilient through periods of increased market volatility. In our first round of USDA funding, the Dairy Business Innovation Alliance received \$450,000 and designated \$230,000 for grants. We received 77 applications for awards, with total requests for funding topping \$1.5 million. Through a competitive review process, collaborating with representatives from each state department of agriculture in our region, we selected 13 projects, detailed below, for awards of up to \$20,000 for reimbursement of approved expenses.

- Bennett Valley Cheese, Gilmanton, Wisconsin -- Awarded \$16,489
Project Summary: Bennett Valley Cheese is building an artisan cheese plant and on-site storefront that sources their milk from a small Jersey dairy farm. They are making cheese curds for sale in their store, as well as in local restaurants and stores.
- Carr Valley Cheese Company, La Valle, Wisconsin -- Awarded \$16,489
Project Summary: Carr Valley Cheese Company is creating a new product line of flavored, pasteurized cheese using local sheep's milk, an endeavor that will benefit their farmer patrons and create new jobs in their processing facility.
- Country View Dairy LLC, Hawkeye, Iowa -- Awarded \$20,000
Project Summary: In response to COVID, Country View Dairy LLC, a small farmstead, family operated dairy plant, has developed individual-serving frozen yogurt treats that are sold at retail stores and from food trucks. They plan to expand the production, sales and distribution of their frozen yogurt treats through new cooperative agreements with partners and are

using grant monies to purchase a delivery cooler and design and purchase branded packaging.

- Crave Brothers Farmstead Cheese, Waterloo, Wisconsin -- Awarded \$12,500
Project Summary: Crave Brothers Farmstead Cheese of Wisconsin grew from Crave Brothers Farm, launched in 1978 as a 57-cow operation run by two brothers. Successfully diversifying their business over the past four decades, the three generations of family members now running Crave Brothers Farmstead Cheese continue to innovate for growth. The company is making use of grant monies to develop and install an innovative water use and circulation system to conserve a precious natural resource and save money. This, in turns, provides a new case study for others in industry of how more sustainable operations can also be more profitable.
- Ellsworth Cooperative Creamery, Ellsworth, Wisconsin -- Awarded \$16,489
Project Summary: Ellsworth Cooperative Creamery is researching and developing a new shelf- stable dairy product to diversify its offerings for export markets in Asia. Ellsworth endeavors to increase milk production, providing greater support for its more than 300 farmer patrons.
- Farm Life Creamery LLC, Ethan, South Dakota -- Awarded: \$16,514
Project Summary: Born from Valley Side Farm, an eighth-generation family dairying operation, Farm Life Creamery handcrafts small batch artisan cheese using Grade A milk from their Holstein herd. With DBIA grant monies, Farm Life Creamery is launching production of paneer, a value- added dairy product that will enable them to process more milk and cater to a new consumer audience.
- Marcot Jersey Creamery, Greenville, Illinois -- Awarded \$20,000
Project Summary: Marcot Jersey Creamery of Illinois is using grant monies to create a new, high protein and value-added frozen sports recovery product, made with whey from the milk of their 65 milking Jersey cows. The family's goal is to enable the next generation of Marcots to continue in the dairy industry.
- McCluskey Brothers, Hillpoint, Wisconsin -- Awarded \$15,031
Project Summary: McCluskey Brothers is purchasing new equipment designed to produce and package a new value-added dairy product—shredded organic cheese—from their grass-fed herd in its farmstead cheese plant and custom cheese conversion facility.
- Metz's Hart-Land Creamery LLC, Rushford, Minnesota -- Awarded \$20,000
Project Summary: Metz's Hart-Land Creamery, a farmstead processing operation solely using the milk from the Metz family's 220 cows, is using grant monies to purchase a cheese vat to boost cheese curd production and grow sales.
- Redhead Creamery LLC, Broton, Minnesota -- Awarded \$20,000
Project Summary: Triggered by the loss of markets amid the early days of the pandemic, Redhead Creamery began working with its competitors and colleagues to comingle Minnesota- made cheeses, forming full pallets to ship at a reduced cost for buyers outside the Midwest. Grant monies are helping to offset the expense of some of the necessary facility updates for this continuing endeavor, which promises the Minnesota cheesemakers involved a larger, more diverse and more stable consumer base for their value-added dairy products.
- Royal Guernsey Creamery LLC, Columbus, Wisconsin -- Awarded \$20,000
Project Summary: Gurn-Z Meadow Farm of Wisconsin, a seventh-generation family dairy farm, is using grant monies to launch a processing venture, Royal Guernsey Creamery, making value- added artisan butter with milk from their farm at nearby Sassy Cow Creamery. The owners' goal is to create new revenue streams to ensure their farm can continue its operations for generations to come.
- Taste and See Creamery, Boyceville, Wisconsin -- Awarded \$20,000
Project Summary: Taste and See Creamery is using grant monies to purchase a vat pasteurizer for the new on-farm creamery it is building on its grass-fed grazing dairy farm. Taste and See Creamery also plans to host dairy farm tour groups.
- Yodelay Yogurt, LLC, Madison, Wisconsin -- Awarded \$16,489
Project Summary: Yodelay Yogurt is designing and building a custom case packer, to accommodate business growth and support increased milk proc-

essing, as demand for their value-added, artisan yogurt continues to increase.

SCALING UP FOR MAXIMUM IMPACT

We look forward to supporting many more projects in the years to come. In the second round of USDA funding, the Dairy Business Innovation Alliance has scaled up, receiving \$6.13 million for use over a three-year period, and we will distribute more than \$3.4 million in grants to dairy farmers and processors.

An abundance of great ideas awaits the necessary boost those grants will provide. With your support, we can directly deliver meaningful assistance to dairy farmers and processors, diversifying their businesses and fortifying an essential industry which has been in distress for years. In turn, we have the opportunity to preserve, protect and enhance the quality of life in rural America.

We thank you for entrusting us with a part in that mission, and for allowing us to provide an overview of our work today. Now, I welcome your questions.

Senator BALDWIN. Thank you, Ms. Sweeney.

Next I want to turn to Mr. Jason Weller, the president of Truterra Land O'Lakes, Inc.

STATEMENT OF JASON WELLER, PRESIDENT, TRUTERRA LAND O'LAKES, INC.

Mr. WELLER. Good morning, Chairwoman Baldwin, Ranking Member Hoeven, Senator Tester, and members of the committee. Thanks very much for the opportunity to participate in today's hearing.

My name is Jason Weller, and I serve as a member here of the Land O'Lakes cooperative system and the lead for our sustainability business here at Land O'Lakes named Truterra. I hope I am able to convey in the next few minutes a little bit of the passion I know I have, but also my colleagues and my coworkers at Land O'Lakes, our passion on this topic in particular, and why we are passionate, in the end, is because we are a farmer cooperative.

So let me first just outline a little bit for the committee and for other attendees and for the audience about Land O'Lakes. Of course, we are a dairy food company, but we are more than a dairy food company. We are actually foundationally a dairy cooperative. We are about to celebrate our 100th anniversary. We were constituted as a creamery 100 years ago in St. Paul, Minnesota.

But beyond being a dairy cooperative, we are also an agricultural retail cooperative, a cooperative of cooperatives. We have over 800 Ag retailer cooperatives and independent retailers who are owners and members of the Land O'Lakes family.

We are also Purina. So we are the large animal nutrition business with facilities across the Midwest and across the United States providing for nutrition in products that livestock producers need to feed their growing herds and their animals.

We are also WinField United, a crop inputs and crop insights company that provides the technologies in crop inputs that the ag retailers in turn help use to ensure a productive and profitable crop production system for tens of thousands, hundreds of thousands of farmers across the United States.

And we are Truterra. Truterra is a sustainability business where we work with our member-owners across the United States to advance both farm sustainability and the sustainability of the supply chain.

Why we are passionate about this particular topic is because in the end, at the end of the day, we don't just work in rural America,

Land O'Lakes is rural America. We work out of 10,000 rural communities across the United States. We have 10,000 employees that are working in rural communities, in many cases are farmers themselves.

We have coworkers and colleagues that work in processing facilities and mills that during the midst of the pandemic still showed up to work, worked extra hours, notwithstanding the stress of their own concerns and impacts on their families, did the way we know how to do, which is to roll up the sleeves and get to work and to feed a growing world.

So we are approaching this concept on vitality really holistically, but also strategically. At a high level, we have three main strategies that Land O'Lakes is pursuing. So, first, it is about connecting rural America. Second, it is about innovating sustainability solutions. And third, it is about building public-private partnerships that co-invest in these solutions we need on the ground.

So in my testimony, I had more specific examples of the types of projects we are leading. I am going to just very briefly highlight a few of those.

So, first, connecting rural America. As, Senator Baldwin, you had in your opening remarks, it is ensuring and really finishing the job of connecting all Americans to the 21st century superhighway, like the rural electrification initiatives and its interstate highway system, seeing access to the Internet, whether you are in rural or urban America, is foundational not just to be able to access the global market, but also to ensure all Americans have access to quality of life, access to educational opportunities, access to business opportunities, access, of course, to educational opportunities.

And that is why Land O'Lakes has partnered with over 150 organizations to launch the American Connection Project, first to advocate for sound Federal policy and investments, Federal investments. Over \$80 billion are needed to finish the job to connect all Americans to the superhighway of the 21st century. But beyond advocacy, this coalition has also got to work.

So just in the last year, we collectively have turned on over 3,000 Wi-Fi hotspots in rural America to allow for families to get access to telemedicine appointments, to allow for school children to get access to schooling and online learning opportunities, and really just to be able to access the Internet.

And beyond access to the Internet, we see the need now to get past advocacy also to do what we do best and just get to work and help advance the ball here on connectivity. That is why we launched this week the American Connection Corps, which is a really innovative approach I hope to be able to get to more in my remarks.

Beyond connectivity, we are also innovating on sustainability solutions. So, Truterra, with our Ag retailer network, is partnering with our retailers and other private sector companies and public agencies to bring conservation and stewardship solutions to thousands of farmers across the United States. And we see sustainability, conservation, in addition as a new revenue source. So connecting farmers, for example, to now carbon offsets, to water quality improvement incentives, where now farmers can be com-

pensated for good environmental sustainability and now create new sources of income and revenue on their farms.

And third and final, we are taking what has now traditionally been a waste stream and a regulatory pain point for dairy producers, their manure management, and innovating and finding new, creative ways with public partners and private partners to create new sources of income, turning what is a waste stream into an income stream. Through our barn-to-bio gas project in California, we are now hoping to convert methane into compressed renewable natural gas, powering California, but also offsetting the greenhouse gas emissions from our dairy farms.

In the end, I hope to be able to convey during today's hearing that Land O'Lakes is not just a 100-year-old company. We see ourselves as 100 years young. We are thinking for the next 100 years. We are trying to come up with the innovative solutions we think will drive vitality, the economic, social, and environmental vitality that is needed in our rural communities, of course for the economic well-being of our member-owners, but also for the well-being of these communities that we believe are foundational not just to secure the future of America, but also to feed a growing world.

Thanks very much.

[The statement follows:]

PREPARED STATEMENT OF MR. JASON WELLER

Chairwoman Baldwin, Ranking Member Hoeven and Distinguished Members of the Subcommittee, I am Jason Weller, President of Truterra, LLC, the sustainability business at Land O'Lakes, Inc., one of the nation's largest farmer-owned cooperatives, and former Chief of the Natural Resources Conservation Service (NRCS) at USDA. With a cooperative footprint in more than 10,000 rural communities, I appreciate the invitation to speak about rural vitality and the opportunities for farmers to diversify on-farm income by capitalizing on and profiting from emerging markets.

As a farmer- and ag retailer-owned cooperative with deep roots across the countryside, rural vitality is an important topic to Land O'Lakes. We see the opportunity: when we invest in rural America, every American benefits. Rural communities are key to our food security—the communities where our members work and where they call home. If we want to begin to address the socio-political, economic, and environmental challenges our country is facing, we need to carefully consider how we collectively—public and private institutions—create opportunities to improve the quality of life and economic opportunities in both urban and rural America. As a farmer-owned cooperative, Land O'Lakes is keenly interested in partnering with Federal and State officials to create innovative solutions for farmers and rural communities. Land O'Lakes is focusing on these economic, quality of life, and environmental challenges by focusing on:

- Connecting Rural America with the 21st Century's superhighway, the Internet, to improve the quality of life of our farmer members and the communities where they live. But its more than just connectivity. Increased bandwidth unlocks value-added agriculture and allows farmers to access new tools and capabilities increase food production while minimizing environmental impact.
- Innovating sustainability solutions to improve both farmer profitability and environmental quality, such as reducing GHG emissions, drawing down carbon from the atmosphere, and protecting water quality.
- Building public-private partnerships at the Federal and State levels to leverage the expertise and ingenuity of our farmer network and science, and the resources of public agencies.

BROADBAND AS ECONOMIC INFRASTRUCTURE

Increasingly, the key to rural vitality is the ability to tap into technology and innovation. Bringing broadband access to rural communities is absolutely critical to the success of these communities. Rural America cannot compete on a global scale

without this access. The COVID-19 pandemic brought the digital divide to the forefront, as we all now heavily rely on high-speed Internet for critical facets of everyday life from healthcare to education, to working to entertainment. We can't leave these communities behind, and broadband must be seen as essential infrastructure, similar to roads and bridges.

Broadband is also critical to the expansion and success of improving on-farm sustainability and profitability of farmers. The accessibility and utilization of next-generation technology, supported by strong broadband connectivity is key to this success. This connectivity is essential, and currently lagging far behind. According to Federal Communications Commission estimates, more than 14 million Americans lack Internet connectivity. By some estimates, the number of Americans without access to high-speed Internet is even higher than FCC projections—experts believe the number could be twice as high. To address the connectivity gap in the near-term, Land O'Lakes, our agriculture retail-owner network and other organizations, have come together to provide free Wi-Fi access points at over 3,000 locations in 49 states to help our neighbors connect to telehealth, remote learning and other critical services during this pandemic. However, this is a short-term solution for a long-term problem.

Through our American Connection Project, Land O'Lakes along with more than 150 other partners, is advocating for Internet access for all Americans. The success of America's rural communities is inextricably linked to the security and prosperity of our country as a whole, and a robust Federal investment is imperative to help close the divide. As a coalition, we have been advocating for at least \$80 billion to connect everyone across the country, and only the Federal government can make this consequential investment. We must also fix the Federal broadband maps, which are relied upon to dole out these scarce government resources. And finally, we need to ensure coordination between government agencies as they deploy public dollars to build these essential high-speed networks.

In addition to our advocacy work with state and Federal legislators, we recognize as a Coalition that direct support to communities is needed to unlock opportunities around Internet connectivity and to close the digital divide. That's why we're excited about the launch of the American Connection Corps (ACC). ACC, launched on April 27th, 2021, is an effort to connect 50 young fellows in 12 states to their hometowns for a two-year pilot project through Lead for America's proven Homecomers model. During their 2 years as ACC Fellows, this new generation of community leaders will work to increase digital access and inclusion in their communities by coordinating local partners to access Federal and state resources for broadband access or delivering digital literacy to marginalized members of the community. Over the next several years, we hope this program will both grow significantly and provide important insights that could inform policymakers at both the state and Federal levels. The goal is to create a scalable, successful model for economic development—demonstrating one more way to make an impact in communities critical to our success as a nation.

At Land O'Lakes, we are building and executing a strategy based in precision agriculture and conservation. We know that the only way to protect water quality, sequester carbon, reduce GHG emissions and maximize farmer profitability will be through precision conservation solutions, fueled by technology. None of these advancements are possible without broadband.

Connectivity at the farm gate allows farmers to connect equipment to GPS, ensuring that their machinery is using the most efficient routes to optimize seeding and crop input applications. Connectivity enables usage of drones to scout crops and more effectively identify pest and disease outbreaks, variable rate application to reduce input use, and helps farmers connect with Farm Management Information Systems to improve the in-season management of their irrigation water and fertilizer applications. A 2019 USDA report found that 40 percent less fuel is used due to variable rate technologies, 20 to 50 percent less water is used due to precision agriculture and an 80 percent reduction in chemical application. When it comes to environmental improvements in agriculture and connectivity, they must go hand-in-hand.

LAND O'LAKES, TRUTERRA AND TRUCARBON: A FARMER-FOCUSED, PRIVATE SECTOR APPROACH

Land O'Lakes and Truterra are focused on helping farmers identify and adopt farm stewardship practices that improve their economic and environmental sustainability. This in turn helps our farmers both become more profitable individually while also competing in a marketplace that places a greater premium on sustainably grown products.

Truterra is built on the idea that farmer return on investment can generate environmental return on investment. With access to conservation expertise and the latest tools and technology, farmers can make decisions about managing their land, acre-by-acre, such as adopting minimum or no-till practices, optimizing fertilizer management, or planting cover crops, that can both maximize yields and profitability and expand stewardship.

There is a growing mainstream enthusiasm for, and embrace of, the major role that farmers and ranchers can play in mitigating and offsetting the impacts of climate change, as evidenced by the number of carbon credit-focused offerings that have launched in the past 12 to 18 months. And, we are seeing more and more disruption, volatility and demand change in traditional commodities markets, which is putting more pressure on farmers and making it tougher for them to stay in business and plan from year to year. Meanwhile, public companies are increasingly being evaluated not only on strong financial performance but on environmental, social and governance (ESG) factors.

Taken together, these factors are driving interest across the board in a new class of environmental commodities, rooted on the farm. Farmers have always responded to market demands. They will produce what the market seeks, if they can do so while remaining economically viable. As a member-owned cooperative, our challenge is to help enable farmers' role as carbon removers in the same manner we help enable them to feed, clothe and fuel our society. That is why we have been quietly building and executing a strategy based in precision agriculture and conservation since the launch of the Truterra business in 2018.

One example of how we are partnering with agriculture retailers and leveraging technology to improve profitability and stewardship is through one of our new projects in Iowa. In Dubuque County, Iowa, Truterra is working with the Dubuque Soil & Water Conservation District and one of our ag retailer partners, Innovative Ag Services, on a first-of-its-kind, pay-for-performance program. This partnership supports farmers with adopting more sustainable farming practices that can improve soil health and water quality by strategically installing new conservation in fields where farmers can make the biggest positive water quality impact. The program then financially rewards producers for measurable improvements. This is the future of agricultural conservation—one that shows agronomic and profitability benefits for producers with precision adoption of new practices, delivered through public and private partners.

TRUCARBON

Earlier this year, Land O'Lakes announced what was a natural offshoot of our sustainability business with the launch of TruCarbon. TruCarbon represents the first and only farmer-owned carbon program in the U.S. TruCarbon offers buyers carbon credits that are created using leading soil and conservation science, and precision data and verification methods. TruCarbon also maximizes the value and return for farmers with premium carbon credit value.

TruCarbon provides farmers new opportunities to be recognized and financially rewarded for their stewardship, creating new revenue opportunities for farm families as they adopt soil health practices and increasing the focus on carbon storage in crop fields. It's through innovative approaches such as this that our farmer cooperative system can help ensure that farmers' businesses are profitable, our rural communities are resilient, and the land, air and water are healthy for future generations.

TruCarbon launched with Microsoft as its first secured buyer to purchase carbon in 2021. For this initial launch, participating farmers receive \$20 per ton of carbon with payments this summer for this first tranche of credits. Qualifying farmers may be compensated for carbon sequestration retroactively up to 5 years based on the soil health practices they adopted in prior growing seasons. For maximum farmer convenience, Truterra will handle soil testing and other activities designed to ensure maximum credit quality and value.

For Land O'Lakes, TruCarbon and our Truterra business unit are part of a long-term strategy to mitigate against several risk factors that have the potential to severely disrupt the strength and viability of agriculture and agriculture businesses. This builds on efforts underway across Land O'Lakes to support and position our member-owners, farmers and ag retailers for success in this operating environment, future-proofing their businesses—and ours—while respecting their independence, privacy and their ability to make a living.

LAND O'LAKES AND CALBIO COLLABORATION

In 2018, Land O'Lakes, Inc. and California Bioenergy LLC (CalBio) launched a first-of-its-kind collaboration to support the financing, installation and management of on-farm methane digesters to generate renewable compressed natural gas ("R-CNG") fuel in California—creating an innovative farmer-led model for "barn to biogas" that can shape nationwide solutions to agricultural methane emissions reduction and unlock new revenue streams for dairy farmers.

Manure storage on dairy farms result in the release of methane, a highly potent greenhouse gas. This collaboration brings technology, operational experience and capital to help dairy farmers build digesters and methane capture projects to convert this methane to a beneficial use as renewable natural gas (RNG). As one of the nation's largest agricultural cooperatives, Land O'Lakes is uniquely positioned to tap into the potential power of California dairy farmers to generate renewable energy from farm waste. CalBio provides the expertise needed to develop, execute and manage on-farm methane digesters, as well as market R-CNG credits in California, in a manner that is cost effective for farmers. This partnership with CalBio also allows Land O'Lakes dairy member-owners in California to meet new state standards that call for a 40 percent reduction in dairy and livestock manure-related methane emissions from 2013 levels by 2030.

In December 2018, the State of California provided a grant totaling more than \$90 million to help expand interconnection pipeline needed for the project. The dairy biomethane projects are designed to send dairy biogas to a centralized processing facility where it will be upgraded to RNG and injected into the local gas utility's pipeline. The RNG is then marketed as an alternative fuel for heavy-duty trucks, buses, and eventually off-road and farm equipment.

Combined the 10 digesters in the Land O'Lakes-CalBio partnership will eliminate over 1.8 million metric tons of CO2 equivalents over 10 years. That's equivalent to the GHG emission of approximately 39K passenger vehicles per year. This partnership also provides on-farm income diversification for our members. Based on partnership type, our dairy members could see anywhere from \$50–150/cow/year based on credit sales and investments in the projects once they are fully online.

This is just one example of how innovative public/private partnerships can bring producers additional revenue, help them meet new regulatory standards, and reduce greenhouse gases.

CONCLUSION

Most U.S. farm households are unable to rely on farm income alone, turning what was once a proud way of life into a rushed part-time job. In 2018, 82 percent of U.S. farm household income came from off-farm work up from 53 percent in 1960, according to the U.S. Department of Agriculture. We must find ways to diversify farm income in new and innovative ways. We owe the men and women who are putting food on our tables at least this much for their efforts.

Senator BALDWIN. Thank you, Mr. Weller.

Next I would like to call upon Mr. Brian Carroll. Mr. Carroll is the director of Grand Farm Research and Education Initiative.

STATEMENT OF BRIAN CARROLL, DIRECTOR, GRAND FARM RESEARCH AND EDUCATION INITIATIVE

Mr. CARROLL. Madam Chairman Baldwin, Ranking Member Hoeven, and distinguished Senators, thank you for the opportunity to testify today.

My name is Brian Carroll, and I am the director of the Grand Farm Education and Research Initiative, located near—

Senator BALDWIN. I believe that your microphone might not be on.

Mr. CARROLL. Test. Maybe just a little bit closer? Okay.

Okay. Let me start over again.

Madam Chairman Baldwin, Ranking Member Hoeven, and distinguished Senators, thank you for the opportunity to testify today.

My name is Brian Carroll, and I am the director of the Grand Farm Education and Research Initiative, located near Fargo, North Dakota. It is an honor to be with you here today and tell you about

the Grand Farm and how we are engaging private companies in collaborative work to strengthen the Ag tech ecosystem in North Dakota.

In March of 2017, at 1 Million Cups Fargo, Barry Batcheller, a local entrepreneur and founder of Phoenix International, issued a challenge to our community. Batcheller challenged us to define a “major,” a specialty that attracts innovation and businesses into our area. In the following days, leaders came together and discussed how our region’s major could center around advanced technology in agriculture.

Emerging Prairie, a local nonprofit with a mission to energize communities, worked with local, State, and national leaders to define five strategic pillars: developing an advanced agriculture technology ecosystem, creating a coding and robotics school, establishing autonomous friendly policy, bringing world-class venture capital organization into the region, and developing the Grand Farm innovation site.

Our first substantial investment from Microsoft, with \$1.5 million commitment over 3 years, kicked off the development and establishment of the Grand Farm. Microsoft agrees with us that the establishment of the Grand Farm takes an entire ecosystem to initiate change and includes private companies, Government agencies, and a network of startups and entrepreneurs with a common goal and desire to find solutions for the world’s largest problems, including food insecurity.

Last summer, in the midst of COVID, we launched the Grand Farm test site. Working with North Dakota State University, CHS, USDA’s Agricultural Research Service, we identified several core projects. Last year, we completed over 40 projects with 9 different partners, and we were able to hold 22 outdoor events.

As the growing season begins this year, Grand Farm will deploy over 200 projects this year on over 130 acres. Our projects this summer will include precision agriculture technologies, robotics, autonomous systems, biologics, big data, satellites, Internet of Things, and connectivity solutions. The projects on the Grand Farm seek to solve the pain points of farmers throughout the region, to increase efficiency, which leads to on-farm income and reduced expenses.

Additionally, with the reopening of our region, we have 66 outdoors events planned this year, many of which will be livestreamed. We invite you and the members of the committee to participate in these events any way that you might be able to.

Since the launch of the Grand Farm initiative and with the expansion of virtual capabilities, we are tracking people from all around the world. We realize that our position as a neutral platform provides a unique place for innovators from all types of organizations to dream of the future and work together to create it.

As for this committee’s interest with regards to Department of Agriculture programs, I will highlight one opportunity. Rural Development will announce soon the Rural Innovation Stronger Economy Grant Program. The goal for this farm bill program is in strong alignment with the five strategic pillars, as it seeks to build innovation centers, which improve economic resiliency in rural America.

We intend to apply for this opportunity, and when the program is announced in the coming months, in our RISE application, we want to leverage private investments of our corporate partners and start building a long-term campus—in building a long-term campus for the Grand Farm. It is our vision to have an innovation center surrounded by demonstration fields, research plots, and creative places for start-ups and entrepreneurs to identify challenges and work collaboratively to find those solutions. In the coming months, the Grand Farm will be selecting a long-term site for the future campus.

At the heart of the Grand Farm is the idea of innovation through collaboration. It is important for us to promote innovation through our ecosystem and across the region. Grand Farm is in preliminary talks with other Midwest innovation catalyzers about building a Midwest Ag-tech innovation corridor. This corridor would facilitate communications and dialogue and allow us to work together to solve problems across the region.

We are talking with BioKansas, Wabash Heartland Innovation Network, AgriNovus, the Midwest Row Crop Collaboration, among others. We would welcome Midwest innovation catalyzers to reach out to us if they would like to participate and learn more.

In the few years since Barry Batcheller challenged the Fargo region, the Grand Farm has several key successes. Because of my short time, I will just highlight one that we are really proud of.

Since launching in April of 2020, Emerging Digital Academy has graduated 31 students over 3 cohorts and has had a graduation rate of 92 percent. Before entering into this program, these learners had an average salary of \$24,000. Upon getting their new jobs out of the program, they are now making over \$50,000. This is an exciting activity that we are focused on.

Through our collaboration with private companies, start-ups, and entrepreneurs, we continue to focus on how we can provide the most value to agriculture technology, industry, and farmers. We are discovering that the highest value is providing a neutral platform that facilitates collaboration between private industry, higher education, and Government with few to no barriers to our entry.

Thank you for this opportunity to be here today. I would be happy to answer any questions at the appropriate time.

[The statement follows:]

PREPARED STATEMENT OF MR. BRIAN CARROLL

Madam Chairwoman Baldwin, Ranking Member Hoeven and distinguished Senators, thank you for the opportunity to testify before this hearing of the Committee on Appropriations Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies about 'Diversifying On-Farm Income: Opportunities to Strengthen Rural America.'

My name is Brian Carroll, and I am director of the Grand Farm Education and Research Initiative located near Fargo, North Dakota. It is an honor to be with you today.

The Red River valley has a long history of agricultural innovation with locally grown companies like Titan Machinery, Bobcat, and Steiger Tractor Company. Building on that history of innovation, the Grand Farm accelerates the research and innovation to develop technologies of the farm of the future by producing solutions for the big challenges facing the agriculture industry. Essentially, we provide a neutral platform for projects and demonstrations that energizes collaboration among businesses, organizations, and researchers.

HISTORY OF THE GRAND FARM

In March of 2017 at 1 Million Cups Fargo, Barry Batcheller, a local entrepreneur and founder of Phoenix International, issued a challenge to our community. Batcheller challenged us to define a “major”—a specialty that attracts new businesses and innovation to their area. In the days following farm, business and civic leaders came together and discussed how our region’s major could center around advanced technology in agriculture.

Emerging Prairie, a local nonprofit with a mission to energize communities, took the lead in bringing the major for the region to life. Emerging Prairie worked with local, state, and national leaders to define five strategic pillars:

- developing an advanced agriculture technology ecosystem creating a coding and robotics school
- establishing autonomous friendly policy
- bringing a world-class venture capital organization to the region, and developing the Grand Farm Innovation Site.

Immediately following the definition of these priorities, a local farmer donated 40-acres of farmland 6-miles south of Fargo, to help launch the Grand Farm test site. A steering committee formed to guide the initiative:

- Lauris Molbert, Venture Partner, Arthur Ventures—Steering Committee Chair
- Christi Offutt, Chair of RD Offutt Co.
- Barry Batcheller, Chair of Appareo
- Tammy Miller, CEO of Border States Electric
- Jake Joraanstad, Cofounder of Bushel
- Eric Hardmeyer, CEO Bank of North Dakota
- Kevin Siffert, Founder of Fargo Automation
- Mike Derheim, Cofounder of The Nerdery & Prime Digital Academy
- Michelle Kommer, Commissioner of ND Department of Commerce
- Greg Tehven, Cofounder of Emerging Prairie

The momentum around the initiative built through the following year. In July 2018, at TEDxFargo Barry Batcheller presented a vision for creating “Robosention Valley” throughout the Red River Valley to focus on the mechanization and automation of production agriculture through the intersection of technology, innovation and research. At the same event, Brad Smith, president of Microsoft, discussed the rural digital divide, highlighting the disparity of opportunity based on geographic location and accessibility to stable, reliable, and fast Internet connectivity.

By the spring of 2019, we were positioned with land, partners and projects and Emerging Prairie welcomed Secretary of Agriculture, Sonny Perdue to Fargo, ND, to break ground on the Grand Farm Test Site. This brought national attention to the Grand Farm with several key stakeholders coming forth and the subsequent launch of several of the five strategic pillars within the next year.

Building off the growing national attention, in late 2019 Microsoft came in with a big bet by investing \$1.5 million over 3 years into the development and establishment of the Grand Farm. During the announcement Mr. Smith commented,

“Our ambition is to partner Microsoft technology, technologists, and data scientists with North Dakota farmers and entrepreneurs to build a world-class leading ag innovation center that showcases the “farm of the future.”

The partnership between Microsoft and the Grand Farm is founded on a joint focus on increasing collaboration in agriculture technology. We agree that it takes an entire ecosystem to initiate change, and that includes private companies, government agencies, and a network of startups and entrepreneurs, all with a common goal and desire to find solutions for the world’s largest problems, including food insecurity.

With this funding secured, Emerging Priairie established a separate 501(c)(3) non profit in 2020 and named it the Grand Farm Research and Education Initiative, Inc. Grand Farm’s Board of Directors are:

Prime Digital Academy
Microsoft

- Jay Schuler, Board Member, Regional Ag Entrepreneur
- Cynthia Schreiber-Beck, Board Member, North Dakota State Representative
- Mark Watne, Board Member, President of the North Dakota Farmers Union

Following 9 months of active recruitment, in March 2020, Plug-and-Play announced the launch of Plug-and-Play North Dakota. Plug-and-Play, in partnership with Bremer Bank, Microsoft Corporation, OCP Group, and CHS, expands the innovation platform and entrepreneurial ecosystem in Fargo. Plug-and-Play North Dakota engages start ups through six-month cohorts. Since its launch, 42 start-ups are engaged in the ag tech ecosystem from around the world.

April 2020, we launched the Emerging Digital Academy to address the challenge in the region of the lack of a technology workforce. The 20-week coding and software development bootcamp was launched with the support of 11 industry partners and 13 students in the first cohort. Since this launch, 31 learners have graduated the program (92 percent graduation rate), and seven learners are currently in the program's fourth cohort.

Last summer the Grand Farm Innovation Test Site continued to build momentum. Working with North Dakota State University, CHS, and USDA's Agricultural Research Service we identified several core projects for the test site and planted it to soybeans, corn, sugarbeets, sunflowers and wheat. This led to over 40 innovative, agriculture technology projects through last summer with nine different organizations and companies. Additionally, we held 22 outdoor events through the summer. The energy around the Test Site culminated in an autonomous truck demonstration in October with North Dakota Department of Transportation which brought more than 30 state legislators together to discuss autonomous technologies and future policies that may be needed.

THE GRAND FARM OF TODAY

As the growing season begins this year, Grand Farm will deploy over 200 projects on the Test Site with over 130 acres planted to soybeans, corn, rye, sugarbeets, wheat, and sunflowers. We are currently working with over 30 participating partners, which are listed in the attached slide, many of which are private companies collaborating with public and private entities to innovate together and demonstrate new ag technologies. Our projects this summer include technologies in precision agriculture, robotics, autonomous systems, biologics, big data, satellites, Internet-of-things, and connectivity solutions. Additionally, with the reopening of our region, we have 66 outdoor events planned through the summer, many of which will be streamed, to engage farmers, entrepreneurs, startup, and students of all ages.

Since the launch of the Grand Farm initiative, and with the expansion of virtual meetings through the COVID pandemic, the team has been able to meet with hundreds of organizations from around the world. We've connected with industry, higher education, research organizations, grower organizations, and government agencies. We've discovered that the Grand Farm is uniquely positioned as a neutral platform for all, providing a place for agriculture technology innovators from all types of organizations to dream of the future. As a neutral platform, Grand Farm facilitates conversations—and those conversations lead to projects and collaborations and amplification. The Grand Farm provides the agricultural technology industry connection, facilitation, and amplification.

UNITED STATES DEPARTMENT OF AGRICULTURE PROGRAMS

Several programs administered through United States Department of Agriculture are of particular interest to the Grand Farm.

The Rural Innovation Stronger Economy (RISE) grant program is in strong alignment with our five strategic pillars in its goal to provide innovation centers which improve economic resiliency. We intend to apply for this opportunity when the program is announced in the coming months.

As the Grand Farm recruits and engages the agriculture technology industry from around the world, we do so to develop technology and commercialize products in our region with the goal of producing high paying jobs and accelerating the formation of new businesses. Additionally, our Emerging Digital Academy upskills our region's workforce by providing a low-cost educational program in coding and software development. These learners graduate with the skills necessary to fill entry level software development positions.

We are planning for a grant application to this program this summer to accelerate the private investments of our corporate partners and begin building a long-term campus for the Grand Farm. It is our vision to have an innovation center surrounded by demonstration fields, research plots and creative spaces for startups and entrepreneurs to identify challenges and work collaboratively to find solutions.

Another program of interest is the Agricultural Innovation Center Program, which we envision would provide support for amplifying the applied research at the Grand Farm. We're designing our application specifically to fund projects for value-added

agriculture in our region, such as hemp, and to support the growth and commercialization of those products in our region.

In 2020, our parent organization, Emerging Prairie, was awarded a \$50,000 Rural Business Enterprise Grant from USDA Rural Development. This grant provided the funding for Emerging Prairie to establish the formal entity of the Grand Farm, to the develop and execute our initial business strategy. The foundational investment from Microsoft provided the matching funds needed for this helpful grant program.

One offering to our ecosystem that the Grand Farm is developing is a potential Start

Up Grant Support Program. This would provide support for start-ups and small businesses with applications to Small Business Innovation and Research, Small Business Technology Transfer, and the Agriculture Food and Research Initiative grant programs. These USDA programs are annually awarded and provide support to many start-ups and small businesses. Through this service, Grand Farm would provide start-ups and small businesses with a faculty member or graduate student, industry mentor, and grant training. We are currently looking at a Small Business

Administration grant opportunity to provide capital to start offering this service to start-ups and small businesses.

Additionally, although not a formal USDA program, the Grand Farm is actively involved with the Federal Communications Commission Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States.

The Secretary of Agriculture sits on the Task Force and USDA staff provide support and expertise to the Task Force. On multiple occasions our staff has reported to the task force about the future of agricultural technology and the connectivity needs of autonomous technology for the farm of the future. Many of the connectivity projects on the Grand Farm are based on challenges and interest areas those task force members identified.

REGIONAL COLLABORATIONS

The Grand Farm initiative would not be what it is today without several key supporters and regional collaborators.

THE STATE OF NORTH DAKOTA

Multiple agencies within the state of North Dakota have provided significant support to the Grand Farm, including the North Dakota Department of Commerce, North Dakota Department of Transportation, and North Dakota Department of Information Technology. Grand Farm continues to coordinate with these agencies to develop programs that support the goals of the state of North Dakota. Leaders from the State government sit on many Grand Farm task forces providing thought leadership and expertise to the initiative.

NORTH DAKOTA STATE UNIVERSITY (NDSU)

Following the launch of the Grand Farm, North Dakota State University quickly became a key partner providing thought leadership on the steering committee and the Emerging Prairie board of directors. Even as our first growing season at the Grand Farm began during the pandemic, it was a tremendous success due in part to our collaboration with NDSU. Several key projects at the Grand Farm were conducted by NDSU students, staff, and faculty members, and were amplified through industry connections, social media, articles and speaking opportunities. Key personnel currently involved are from the North Dakota Agricultural Experiment Station and the Office of Research and Creative Activities, but interest is growing to include NDSU Extension and others across the university.

UNIVERSITY OF NORTH DAKOTA

At Grand Farm's inception, the University of North Dakota invited the Grand Farm team to the Big Data, Big Ideas conference. The conversations at that conference led to the development of Project X, a project focused on traceability in agriculture.

Since then, Grand Farm has collaborated with UND's Research Institute for Autonomous Systems, Center for Innovation, and the Computational Research Center. These partnerships have led to several collaborative grant proposals focused on innovations in the autonomous industry and economic development. One such proposed collaborative program is the North Dakota Autonomous Technology

Corridor. We have a grant application under development for the Economic Development Administration's Build-to-Scale grant program that would establish a re-

gional ecosystem in autonomous technologies between Fargo, North Dakota and Grand Forks, North Dakota.

GREATER FARGO-MOORHEAD ECONOMIC DEVELOPMENT CORPORATION

Grand Farm and the Greater Fargo-Moorhead Economic Development Corporation work closely together to identify opportunities to increase economic development opportunities, bring collaboration with local companies and attract companies to the Fargo-Moorhead region. Through regular collaboration and close communication, Grand Farm and the GFMEDC are closely aligned on our goals to bring more energy to the region.

UNIVERSITY OF MINNESOTA CROOKSTON

The Veden Center of Rural Economic Development and Grand Farm worked with rural communities throughout Minnesota and North Dakota on several grant programs to support rural communities and military veterans in the agriculture industry. This partnership helped Grand Farm form early connections with rural stakeholders and provided a foundation in thought leadership about how Grand Farm could serve rural America.

GROW NORTH

Grow North is an organization based in Minnesota focused on creating an interconnected, sophisticated, invested, and accessible ecosystem for Minnesota's entrepreneurs and innovators across food and agriculture. There were many synergies identified with their work and Grand Farm and work has begun on working together on growing the ecosystem and introducing companies to new work.

BIOKANSAS

Through conversations with Biokansas, a nonprofit focused on the life science ecosystem in Kansas, it was recognized that there were opportunities to amplify the work being done in both ecosystems. Just yesterday we co-hosted a virtual event that featured the Lieutenant Governor of Kansas and the Commissioner of the North Dakota Department of Commerce discussing work being done in each state. It showcased four startups and four established companies, highlighting the innovative work they're doing in ag tech and life sciences. By jointly amplifying the innovative work in both states we hope to build continued connection, identify and build on synergies in the two ecosystems and continue to highlight the innovation happening across the Great Plains.

MIDWEST AGTECH INNOVATION CORRIDOR

At the heart of Grand Farm is the idea of innovation through collaboration and the importance of promoting innovation in our ecosystem and across our region. Grand Farm is in preliminary talks with other Midwest innovation catalyzers about building a Midwest AgTech Innovation Corridor to facilitate communication and dialogue to work together across the region. We have initial interest from BioKansas, MBOLD, Grow North, Wabash Heartland Innovation Network, AgriNovus, Aglaunch, Agriculture Utilization Research Initiative, and the Midwest Row Crop Collaborative.

And we offer the invitation to other Midwest innovation catalyzers to reach out to us if they would like to learn more.

SUCCESS STORIES

In the few years since Barry Batcheller's challenge to the Fargo region, the Grand Farm initiative is grateful to report several key success stories.

EMERGING DIGITAL ACADEMY

Since launching in April 2020, Emerging Digital Academy (EDA) has graduated 31 learners over three cohorts and has had a graduation rate of 92 percent. Before entering the program, these learners had an average salary of \$24,460—upon placement into jobs, these learners have an average salary of \$52,000. All learners from the first two cohorts who actively sought jobs found employment. This transformation is life changing, as highlighted by this learner from the first cohort:

"Receiving a scholarship to EDA was a turning point in my life. Had I not received the scholarship, I would not have been able to afford the academy. EDA took me from my lowest point of my life 9 months ago, to the peak I'm at now. I have secured a reputable position with a company I previously would've only dreamed of

working for. My perspective on life has changed and I'm excited to see where my new career path leads me."

Emerging Digital Academy has been supported by the private sector, with seven Founding "Forever" Partners (Microsoft, Scheels, Bushel, OnSharp, Fueling Our Future, Sycorr, and CoSchedule) and four Academy Supporters (Codelation, Stoneridge Software, AT&T, and Network Center). This support has extended beyond launch, with many of these partners hiring learners who have graduated from the program. The steering committee supporting the development and launch of Emerging Digital Academy included:

- Byron Snider, Board Chair, SIS-Leader, Scheels
- Nathan Joraanstad, Director of Engineering, Bushel
- Taya Spelhaug, TechSpark Manager, Microsoft
- Kelly Dawson, Senior VP—Human Resources, Border States Electric
- Katie Bjornson, Technology Solutions Provider, Sanford Health
- Darin King, Vice Chancellor of IT, North Dakota University System
- Kirk Anton, Senior Sales Manager, Heat Transfer Warehouse
- Gary Inman, IT Manager, Bell Bank
- Staci Holzheimer, University & Student Development Coordinator, Bank of ND

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION AUTONOMOUS TRUCK LAUNCH

On October 6, 2020, Grand Farm hosted the launch of an autonomous truck developed through a collaboration between Kratos Defense and North Dakota Department of Transportation (NDDOT) to increase safety for NDDOT employees. The development of this autonomous truck technology was achieved through a grant provided by the Federal Highway Administration's Accelerated Innovation Deployment (AID) program.

Following this launch, Grand Farm worked within the AgTech ecosystem to identify agricultural challenges where this autonomous technology could be adapted for immediate impact. These stakeholder conversations identified substantial workforce shortages in the sugarbeet industry. This identified challenge led to facilitated conversations between Kratos Defense, American Crystal Sugar, Transystems, and CHS. Just this week, executives visited Fargo to continue planning for a pilot of an autonomous truck during the Fall 2021 sugarbeet harvest.

TRACEABILITY IN AGRICULTURE

Following the Big Data, Big Ideas conference with the University of North Dakota in September 2019, Grand Farm began engaging stakeholders such as Microsoft and USDA's ARS in discussions to understand traceability and blockchain in agriculture. These conversations identified gaps in the pre-competitive space around blockchain and traceability. On February 26, 2021, Grand Farm held a virtual Blockchain in Agriculture event. This event gained global attention, with over 550 attendees registering from 20 countries. From the energy created from the Blockchain in Agriculture event, a steering committee was formed which further identified how Grand Farm could provide the most value and build on this momentum around this identified challenge.

GROWER PAIN POINT REPORT

At Grand Farm's Grower Roundtable in 2020, a collection of growers and industry professionals gathered at the Grand Farm Test Site to discuss pain points facing growers. From crop and soil management to data visualization to autonomous systems and the farm of the future design, 23 pain points were identified and outlined in a report that published in the Future Farmer magazine. In 2021, there are plans to continue this investigative work with growers.

ECONOMIC DEVELOPMENT

Grand Farm has worked closely with Greater Fargo-Moorhead Economic Development Corporation and North Dakota Department of Commerce to bring innovation to North Dakota. Grand Farm meetings regularly with these organizations to discuss and compare organizations being engaged. This has resulted in joint announcements as companies come to North Dakota or release products. On September 30, 2020, Trilogy Networks made their announcement that they would be engaging with North Dakota to research, test, and implement their cloud network platform:

“We’re excited to partner with Grand Farm, the Greater Fargo-Moorhead Economic Development Corporation, and the North Dakota Agricultural Experiment Station to add the critical connectivity element to their amazing ecosystem. We’re already seeing the value of edge computing capabilities at our Farm of the Future series pilot project. Bringing this technology to Grand Farm wtl allow us to support and scale precision agriculture applications to advance the autonomous farm. Collaborations with ecosystem partners like Grand Farm wtl allow us all to deliver on the promise of precision agriculture.—George Woodward, Chief Executive Officer, Tnfogy Networks.”

GLOBAL RECOGNITION

Partnerships with industry and higher education often lead to unique opportunities to engage a global audience. One such partnership was with Agronomeye, an augmented reality company from South Australia. The large-scale project completed at the Grand Farm led to a joint presentation between Agronomeye and Grand Farm, with Stu Adams, Co-Founder of Agronomeye, and Dr. William Aderholdt, Director of the Grand Farm Program Management Office. This presentation was viewed by a global audience, drawing tens of thousands of impressions in the first month—most of these impressions were from outside the United States.

ENGAGING K-20

One of the exciting roles Grand Farm has had is engaging K-20 students in thinking about the future of agriculture technology. Since launch, Grand Farm has hosted club events, tours, and facilitated projects with industry. Liberty Middle School’s science fair team, Team CO2, expressed interest in tile drainage systems, Grand Farm was able to connect the team directly with Ellingson Companies, one of the largest tile drainage companies in the United States, and the largest in the Red River Valley.

Liberty Middle School was the 1st Place Winner for North Dakota of the U.S. Army Educational Outreach Program’s STEM-In-Action Grant, providing them funding to create a “iron-enabled biochar design was created to be attached to a drain tile pipe and filter phosphorus from the runoff water passing through.”

THE FUTURE OF THE GRAND FARM

Through our collaborative work with private companies, start-ups and entrepreneurs, we continue to focus on how we can provide the most value to the agriculture technology industry and farmers. We are discovering that our highest value is providing a neutral platform focused on facilitating collaboration between private industry, higher education, and government, with few to no barriers of entry to the conversation.

Over the past couple of months, Grand Farm has found a unique opportunity to energize conversations around hot topics in agriculture, such as traceability and blockchain, and now under development, a virtual event focused on carbon. Our facilitation brings together both the ecosystem building efforts and innovative projects of the Grand Farm, resulting in a prime environment for catalyzing solutions.

In the coming months, Grand Farm will be selecting a long-term site for our future campus that will provide expanded space for projects and demonstrations, connection to thought leaders in agriculture technology, and amplification through speaking opportunities and networking events.

CONCLUSION

In conclusion, we want to emphasize today for the subcommittee that the entrepreneurial spirit is alive and well in rural America and that programs like the soon to be announced RISE program will strengthen entrepreneurs across the nation, and hopefully in the Fargo region.

I’d like to thank the distinguished members of this subcommittee for your continued support of entrepreneurs, including farmers and ranchers, as you consider ways to promote the diversification of on-farm income. I would be happy to answer any questions at the appropriate time.

Senator BALDWIN. Thank you, Mr. Carroll. And I want to thank all of our witnesses for excellent testimony.

We are now going to begin a round of questions. I am going to yield my time at first to Senator Tester, who has to shortly run for another hearing. And so, please begin.

Senator TESTER. You are very kind, Madam Chair. Thank you very much.

And it is always good to see you, Senator Hoeven.

I thank all the witnesses. I am going to start with you, Jason Weller.

I am in production agriculture myself, and I can tell you in my small community in north central Montana, there were a lot of co-ops around coming out of the 30s, 40s, 50s, and 60s. In the '70s, they started to disappear. So congratulations on your 100 years.

The question I have for you is you guys obviously have been very successful using the cooperative model. How come we don't see more cooperatives today?

Mr. WELLER. That is a conversation, Senator Tester that may take a little bit more than 7 minutes. I think in the end, I would like to start with what is the value of the cooperative system and what we see it enables. And it really, as a farmer and producer, you understand this, it is where we can come together as farmers and as small rural businesses in rural America.

And collectively, together, whether through services to help the farmer, the dairy producer, be successful, but also on the marketing side. Where, together, when we form a cooperative, we can create additional economic value, access to market, but also services to produce the food and the dairy products and protein.

At the same time, in balance, the cooperative system, the cooperative model, respects the primacy and the privacy, the independence of that family farm or that retail business in rural communities and allows them to make the decisions that work best for their farm or for their business. And that is what we try always to hold in balance.

The cooperative system is definitely under stress, and I think it is more representative of the stress the agriculture industry has experienced certainly over the last decade. And like in dairy farming, like in row crop production, we also see this in ag retail where there is consolidation, where efficiencies of scale, unfortunately being to access the market and be able to produce effectively and have a return to at least get through to the next season, it requires increasingly because of the downward pressures of commodity prices, but also the upward pressures of increasing crop input prices with the costs. Those pressures that a family farm would experience are the same pressures that an Ag retail, whether it is an independent retailer or a cooperative, is experiencing.

Senator TESTER. So let me ask you this, though. Is there anything we can do at the Federal level to encourage people to utilize the cooperative model?

Mr. WELLER. So one thing, from my experience, Senator Tester, is to see the cooperatives that are there today, and there are still hundreds of cooperatives that are among the world's best in agronomy and services for agriculture. And what has been amiss, I think, for some, particularly in the policy arena, but as speaking from experience in the conservation arena and the public sector, oftentimes they get missed. And they have a vital role of providing services to the farmer.

Instead of seeing them out there as a private sector entity, they need to see them as a potential partner and collaborator, to provide

technical assistance for conservation to adopt, to help be a conduit to build communities and projects around innovation in Ag technology, to see them as a node, like we are trying to do at Land O'Lakes, for access to the Internet and to other innovation technologies, as demonstration and trial locations that fully demonstrate innovation technology for farmers to adopt.

Senator TESTER. Okay. Thank you.

Mr. Carroll, thank you for being here today. I think there is incredible opportunity in precision Ag, there is no doubt about it.

I am a small farmer in north central Montana, and last spring, just for fun, I called up to see what an Autosteer for my tractor would cost—\$15,000 to \$20,000. And I got two tractors.

So I had to make the decision in my mind whether turning around and looking where the drill was on the furrow and maybe overlapping once in a while or making a skip once in a while was worth that \$20,000. It is a small farm. Most of my neighbors are 5 or 10 times bigger than I am. They have got Autosteer on their tractor.

What are you doing? Because we are talking about rural America drying up and consolidation and people going out of business. And by the way, the dairy industry is the tip of that spear. But what can you do, doing really good work in precision Ag, which is really important. But if you can't afford it, it doesn't do you a damned bit of good. What are you doing in the affordability realm?

Mr. CARROLL. I think there are two elements to that question. First, we want to drive technology to solve solutions. So the first way that you do that is by bringing the grower right in the middle of the innovation. So at the Grand Farm, a big part of what we do is we bring the grower right onto the farm and listen. Understand what those pain points are and then bring private companies, innovators, collaborators, and research organizations together to solve those. As that happens, we get this feedback loop between the grower and the innovators and the technologists in which we are creating solutions that are more specific to the problems that are being solved.

I think over time, as we bring more automation online and we have the ability to do these things, it is going to bring the size of the equipment down. It is going to make it much more affordable. But also the application of that equipment is going to be designed around specific challenges.

Senator TESTER. Well, I would just say this, and like I said, I think precision Ag is where it is at. But I would like to have you keep it in the front of your head the affordability angle. I am probably too old to be able to go down the technology line, but the truth is, is that if it is not affordable, you can do the best research in the world.

And Microsoft is being—and by the way, I need to commend you. I asked my staff member to find out where you guys are getting your money, and if you are getting it from Microsoft, I think that is good. It is better than getting it from one of the consolidated groups that control agriculture a lot more. So just keep affordability in mind.

I could ask this questions, this next question—I will be very brief—to either Lucey or Sweeney, and I am going to go with Dr.

Lucey really quick. As I said, dairy farms closing up has been kind of the tip of the spear in production agriculture. These guys have been put under pressure. These family dairies, they are just having a hard time surviving, and it is damned hard work. Being a dairy operator is probably the hardest work in agriculture, in my opinion.

We have a bunch of folks who live in cities now, and not many of them have a connection to the farm anymore. We have seen people move away from cow's milk and go to a different kind of liquid that is made with rice or soy or, God knows, probably have some made with wheat, I don't know.

But how important is it to have the connection with the consumer that seems to be gone in this world we have today? I am talking about the farmer's direct connection with the consumer. My dad used to always joke people think milk comes out of a carton. It doesn't. It comes out of a cow.

Can you add some light on how important that connection with the consumer is, Dr. Lucey.

Dr. LUCEY. Yes, Senator Tester. As I mentioned in my remarks, I grew up on a dairy farm. So I guess there is not as many people anymore that grew up on a dairy farm or dairy farm communities. And that, unfortunately, is a trend that continues. So this gap between people who grew up on farms or farm communities and know where our food like dairy products and milk comes from and those that don't is going to get wider over time.

So I think education is important, and I think also making the connection back to the fact that it is not just about the products that we get from it, like milk, but it is the farm story as well and making sure that we understand that the farmers are there to be stewards of the land. And I think that is a message that resonates, too, with millennials and others as well.

But I think it is basically an education effort, and I think you brought up about people looking at other products, other beverages and things like that. I think it is important to really talk about what is the nutrition of those and the naturalness of those, and I think those are messages that I know some of the manufacturers of dairy products are looking at, trying to make sure that people don't forget these products have been around for a long time. They are made by very simple types of processes.

But there is always new types of products that will come on and compete, I understand. But talk about the nutrition and value and wholesomeness is very important.

But I think we do have to emphasize and educate people, and it has got to be an essential step for us. I am a university professor, and many of my students in my freshman classes that come in—and even here in Wisconsin don't know where our products come from and have all kinds of interesting stories and misconceptions about it.

I think we have got to continue to give factual, science-based answers to those. And it is not just about dairy, but it is about animal treatment and sustainability. There is a whole bunch of topics that they are interested, but I think we have got to continue to communicate those as a group and as an academic, but also across all our dairy and Ag sectors as well. We can't ignore it.

Senator TESTER. Thank you, Madam Chair.

Senator BALDWIN. Thank you, Senator Tester. Senator Hoeven.
 Senator HOEVEN. Thank you, Madam Chair.

And actually, I will follow up on a question that Senator Tester started with because I think it is right on the mark. You know, when you look at the cost of equipment now for our farmers, it is just unbelievable. And so it seems to me that he is making a good point in terms of what some of the things that you are doing there at Grand Farm, obviously there is a lot of them. But to try to make precision agriculture not only highly effective, but more available for farmers across the board, not just the big, really sophisticated operator. And farming and ranching has become a very complex, sophisticated business.

So talk a little bit more about how you are going to make this precision—these applications in precision Ag more affordable. So it is not only making them better, right, it is making them more affordable so everybody can use them.

And I think of Jake Joraanstad and Bushel and how that company is linking the farmer directly to the grain elevator with their handheld, and that is something that everybody can have, very affordable. So, I mean, seems like that should be a big part of what you all are doing there at Grand Farm.

Mr. CARROLL. Yes, thank you, Senator, for the question.

And what I would say is, as we think about the Grand Farm and bringing all of our partners together, new business models will start to emerge. And one that is really exciting for me is farming as a service.

There is an organization called Sabanto that is providing services to farmers on demand, almost like an Uber for farm equipment. And as you start thinking about that and you start thinking about the implications, this could bring down the cost structure. It could be much more specific, but it also can bring other farmers into the industry that had not considered that before.

I have the advantage, my father-in-law is a farmer in southern Minnesota. I am able to use his equipment. And because I can use his equipment, it gives us an opportunity to do things at a low cost. And I think that the future of innovation and technology could see an impact of that in different markets that we are just imagining right now will start to emerge.

Senator HOEVEN. What is most helpful to you now in terms of—as you guys ramp up, get things going, you are off to a fabulous start. What is most helpful to you?

Mr. CARROLL. The biggest help for us is if you think Microsoft was our first big partner, and that multiplied to nine partners last year. Now we are at 37 partners. We expect to be over 50 partners by the end of the summer, and our hopes is to have over 100 partners.

And those partners are the organizations that we will start to work with, collaborate, and look at how we can apply technology to solve these specific grower pain points. And so, to me, the ability to move the partnership model, bring more people into this ecosystem, connect with people that want to solve problems is what has me most excited.

Senator HOEVEN. So I am going to start with you on this next question, but then it is for really each member of the panel to re-

spond to as well. We talked about some of the USDA programs and their efforts to help in rural America. But one of the criticisms of Government programs is they tend to be siloed and overly bureaucratic.

Touch on that. What can we do to make sure that these programs actually are usable to you and to others that are working not only in agriculture, but rural America?

Mr. CARROLL. I would just identify a couple ones. If you think about our strategy that we have within the Grand Farm specific around building ecosystems, the code school, the collaboration, those types of language, that type of help could help us identify where we could apply and where that information would be really valuable.

And as we think about solving problems and as we heard from the other testimony, we are doing similar types of things. And our ability to tailor some of that towards those activities would be extremely helpful.

Senator HOEVEN. Okay. And I would ask that for the other witnesses as well, and we could kind of go in the order that you gave testimony, here we go. Start with Mr. Goodwin.

Mr. GOODWIN. Yes, Senator. I think one of the biggest things that actually as a young farmer and a farmer of color is when I look at FSA, especially here in the State of North Carolina, there is a level of cultural competency that needs to be dealt with within USDA. Also we understand, we know there are discriminatory practices over the years, but when I looked at the application for a microloan, which I was told it would take 1 to 2 weeks, it is daunting.

And the fact that when you go in the office, a lot of the loan officers are not diverse as to their production style. And so when you are looking for funding, and the funding is hard to get, and USDA may be the only one of the outlets, it is hard to fill out that paperwork.

And so, on the one hand, the USDA says they are there for beginning farmers and farmers of color, but it doesn't look like it translates over. And so it is very, I think, endemic, but it is also one of the factors I think leaves a lot of young farmers not to want to get in the business because when you are starting out as a young farmer, and I am a first-generation farmer, land, equipment like you are speaking about, it is costly.

And so I think that the more streamlined we can make these programs and the more that USDA can understand that everybody is not maybe a row cropper or large-scale poultry or swine operator, that helps get some of these applications processed in a much quicker manner so that it doesn't take me 6 months to a year to get my money when I need it now.

Senator HOEVEN. That makes sense. Dr. Lucey.

Dr. LUCEY. I would say under this DBIA program, I have to say that we have worked very well with our USDA reps on dealing with any questions, concerns on the administration of this project. I would bring up two kind of—if you talk about kind of frustrating bureaucratic things related to the overall topic we talked about this morning is modernizing our standards of identity for dairy products is a big topic that I know the industry struggles with, but we also

struggle with it at the university because it becomes a barrier to innovation.

So the language prohibits a lot of companies or restricts a lot of companies to actually take on technologies that Europeans, the New Zealanders, the Australians can all readily use, but our manufacturers and co-ops feel very restricted with it because it doesn't include that language and those standards. And modernizing those, it just seems to take a lot of time because of the bureaucratic process. I will just give you my two cents on it as an academic looking at the innovation side.

And the other aspect to look at is we get a lot of research funding that comes from dairy check-off programs. But I think now, as we look broadly towards the future, can we use those kind of programs to look at utilizing dairy wastes, our co-products, and what could those co-products be made into?

Right now, there are some restrictions to be able to make them into nonfood materials, and I think that would be helpful for us because I think the farm sector is seeing it, too, with manure and other kind of waste materials that they are dealing with. We need to find some value-added use in it. Perfect, if it is food. But if it is a chemical and a valuable thing we can sell, all the better. At the end of the day, all of it returns value back to the farmer.

And those are two kind of issues that are affecting us all the ways back up to the innovation. I will let Rebekah talk more broadly about issues that she sees from the industry side.

Senator HOEVEN. Okay. Ms. Sweeney.

Ms. SWEENEY. Well, thanks for the question. I first want to say that we all know USDA has very powerful tools to help the industry advance and also to sustain food supply chains through moments of crisis. And I think that we saw that very clearly this past year through the COVID-19 pandemic. It was a major shock to the food and dairy community, of course, as it was to everyone.

And our dairy processors and farmers, they saw very significant and very abrupt changes in their markets. And we saw restaurants shut down, schools close, travel, tourism stop. We saw disruptions in our exports. And triggered things like the benchmark price for mild cheddar dropped to lows that it hadn't seen in decades.

So what happened in this crisis is USDA had the ability to step in and to create some stability and also support those facing food insecurity by marrying both producers and processors with those in need through nutrition programs. And I think that as the pandemic continues and as people continue to see economic disruption in their own lives, it is incredibly important that this committee and that the Federal Government as a whole continue to invest in nutritional assistance programs that make sure that we address the needs of those who are hungry and also sustain the industry and make sure that there is a viable future for all.

I think that sometimes those nutrition assistance programs leave out some of our artisans and small manufacturers, and so it is also important that we create opportunities perhaps through the States to make sure that local food producers can also have opportunities to sell to their local markets. I think that there is tremendous opportunity in that.

Beyond that, I would just say kudos and thanks to USDA for making the Dairy Business Innovation Initiatives a very easy process for those of us who are running programs. Completely accessible and nothing but great things to say about the staff and their partnership.

Thank you.

Senator HOEVEN. Mr. Weller, I guess, your turn. You might specifically reference the conservation programs, just based on your background, and making sure that the conservation programs help our farmers and don't create undue burdens.

Mr. WELLER. Thank you, Senator Hoeven.

Yes, this specifically is my background, having been an employee of USDA and an employee of NRCS. I would like to also just expand and agree very strongly with Ms. Sweeney, first thank USDA and NRCS. And also this committee, the investments this committee makes in the NRCS conservation program, but also broadly, the programs and the authorities of the Department foundational to this entire conversation we are having today, particularly on the conservation front.

Whether it is through the Title II programs to other innovative authorities and foundational technical assistance programs of NRCS, we wouldn't be having a conversation about sustainability, around carbon credits, around the science of helping dairy producers address their waste stream if it wasn't for NRCS and for the conservation authorities of USDA.

To your specific question, I think the good news is there are already authorities that Congress has provided USDA, and they have within the conservation programs unique authorities that USDA, to their credit—NRCS specifically are really starting to push the boundaries on and innovate on, like through the Regional Conservation Partnership Program. And there is authority tucked in the farm bill called Alternate Funding Arrangement, AFA, for those on the committee that have kind of locked out on this. And USDA, to their credit, are really pushing out and trying to experiment new ways to deploy the capital, financial capabilities of NRCS, and to really partner with both nonprofit, for-profit, and public agencies out on the ground to help farmers.

But I think really at the core of this is this committee's encouragement in maybe setting the expectation. There need to be also some cultural hinges, and some of the other witnesses have already kind of touched upon this.

But specifically, speaking from an Ag retailer/cooperative perspective, there are already hundreds, if not thousands of other professionals out in the field today, working one-on-one with producers, whether they are dairy farmers, row crop producers, specialty crop producers. And these professional agronomists and advisers have the training and expertise, and I think culturally USDA needs to get increasingly comfortable and see this as an additional resource, an additional channel that connect to their existing customers, but also to reach out perhaps to new farmer customers that the USDA does not do business with today.

And so I think USDA could really be more aggressive and more assertive in trying to reach out and meaningfully engage the infrastructure already in place today that works every day of the year

with farmers to be successful, and that is where I think this committee can help by encouraging and oversee a more holistic and strategic approach to USDA's deployment of assistance.

Senator HOEVEN. Thank you. Madam Chair, sorry about going over my time. But thank you to all the witnesses.

Senator BALDWIN. I want to start with a question for Mr. Davon Goodwin. Mr. Goodwin, you wear a lot of hats. You are involved in many aspects of agriculture production and assisting other producers with diversifying their operations.

As board president of the National Young Farmers Coalition, manager of Sandhills AGInnovation Center, and owner/operator of your own farm, can you briefly discuss the opportunities and challenges producers have as they look to diversify their operations and become more profitable?

Mr. GOODWIN. Yes, ma'am. Thanks for the question.

When I look at diversification, it is essential to a young farmer and a family farmer being successful. But diversification is, I would say, a gift and a curse. Obviously, the more you spread your risk out on the farm, obviously that cost goes up.

But when I look at the advantage of diversification, it is essential to us at my farm and other farms in my region because the last 4 years we have had major hurricanes that wipe us out normally. And so when I look at the intensification of climate change, it is really important to diversify my crops so I can spread my risk out over my farm.

Because when you are a first-generation farmer, you got one shot at this. There is not a lot of money to be able to fix what goes wrong a lot of times, and so I believe that the more diversified a farm can be, the better they are off. And I see a lot of my young farmer counterparts making sure that they diversify their farm in many different ways.

And one way that we do it is by the value-added products because, number one, and not just for sales of our products, but we are able to utilize our product in many different ways. And so when I look at the future and my future and at my farm, I really look at being able to have access to more capital so I am able to do more diversification because I really feel like with climate change, bearing the burden that it will bear, if we don't start looking at diversification more intensively on the farm, I think we will have more family farms go out.

Senator BALDWIN. Sticking with you, Mr. Goodwin, can you share a little bit about your experience with cooperative extension and how they are a critical, yet perhaps underfunded resource helping farmers to diversify and increase on-farm income?

Mr. GOODWIN. Yes, ma'am. Cooperative extension has been a godsend for me. They have been hand-helded me for my whole journey into farming. If it wasn't for cooperative extension I don't think I would be able to be in farming just because when you are a first-generation farmer, there is so much knowledge that you didn't come from. And so cooperative extension has been there for me from day one, making sure that I get the resources, the education, and just that person who is advocating in your corner.

Oftentimes in farming, it can be very demanding, obviously, but it can be very daunting on you, and you need that person that you

can go to in your county to be able to, if you have a problem, they are there to make sure that you are able to do soil samples, you are able to do things that can launch your farm and make it a lot more successful. And I think that if this committee could look at giving cooperative extension more funding, they would be able to work with a lot more farmers.

What we see in North Carolina is we see one agent doing multiple counties, and that is a huge disservice to them because they are not able to reach everybody. And the cuts that happen, I think if those cuts would be able to not happen and there was more funding appropriated to cooperative extension, they could do a lot more outreach than they are already able to do now.

Senator BALDWIN. Thank you.

Dr. Lucey, you have had 20-plus years of research experience, and I would like you to talk a little bit more about how the research you do translates into new opportunities for producers, in addition to all the other work we have been describing with innovation.

Dr. LUCEY. Thank you, Senator Baldwin. I guess it is always a fun thing to talk about, for university professors to talk about their research.

But I think I am very fortunate to work in the dairy foods side, where you can actually have products that people can consume and enjoy and taste. And I think if you look at some of the cool things that are going on in terms of research, I just want to give you a couple of kind of broad scopes or ideas of it.

Over the last number of years, we have focused a lot on how do we extend the shelf life of cheese? Particularly cheeses that we sell here and manufacture here in the U.S. like our mozzarellas, cheddars, things like that.

And the reason was to see if we could start to export those cheeses to the world. It is all very well and good if you make cheese here in Wisconsin and put them on a truck, and you ship them down to Chicago. That only takes hours, maybe a couple of day.

But if we were to supply cheese to the world, we have to get those products shipped to somewhere like China or Korea, we need a lot longer shelf life, maybe many months of shelf life. So we have done a lot of research here at the university looking at what processes are going on during the cheese storage and ripening that are impacting the cheese quality, such as its shreddability, melt, et cetera.

And I am happy to say that we have developed processes here at this university that can extend the shelf life and performance shelf life of things like mozzarella and maybe make it for 9 months, 12 months, where it still is perfectly suitable to go on a pizza or to be used.

And again, these are kind of the technologies that we have been looking at to slow down some of those breakdown reactions that will allow us to ship to the world. And I think we have seen that in the pandemic with the COVID issue that we have faced, a lot of people, lot of dairy plants were looking at what can we make now because the food service sector was badly, badly hit with most restaurants shut.

So we were very busy translating some of our research on shelf life extension to help them make products that could last 3 or 4 months or maybe longer so that they could get around the shut-downs that we had last year and waiting for things to open up. So being able to translate that for a completely different purpose, for the COVID lockdown, was really exciting.

Now the other things we do here a lot is we work on specialty cheese. And obviously, it is near and dear to our hearts here in Wisconsin, and we produce about 50 percent of all the specialty cheese here in the U.S. But we do a lot of research in that, looking at what is going on in the ripening processes, in the aging processes, and what kind of bacteria and flora are involved in it. So that is very exciting.

And we are able to translate that directly into the industry by our short courses. And we train over 1,000 industry attendees from Wisconsin and nearby States every year, and that is a very rapid way to get that information back out to our industry.

And there are other products we work closely on as well. I spend time also working on beverages and things like that. So we are very excited to try and innovate in new types of dairy beverages. We all know that fluid milk, our gallon jug sales are declining, and so I think we need to focus on research there. And we are doing some research on how to make new kind of dairy beverages, high protein, high calcium, low lactose, et cetera, and how to make those successfully and then, basically, see those commercialized.

So it is a very exciting field. I just tried to give you a couple of examples.

Senator BALDWIN. Thank you. I appreciate that.

Next, Senator Hyde-Smith.

Senator HYDE-SMITH. Thank you, Chairwoman Baldwin, for convening this meeting today and this subcommittee. And I certainly appreciate all the witnesses that we have that are participating today.

And my question is for Mr. Weller. Mr. Weller, as you know from your previous role as chief of the NRSC—or I mean NRCS at USDA, the Conservation Stewardship Program provides assistance to producers in Mississippi that we have certainly taken advantage of for a long time, and it is to maintain, improve, and to adopt new conservation activities on their entire farm operation. And through the Conservation Stewardship Program, producers are able to identify and solve natural resource problems, which allows them to obtain higher stewardship levels in an environmentally beneficial way, and also it is very cost effective in most cases.

But Mississippi is one of the leading States for acres enrolled in CSP, but unfortunately, some changes to the last farm bill that limited the future enrollments. And while I know that for any changes concerning that to the CSP, it is more appropriate to discuss that with the authorizing committee in the next farm bill, but I want to take this opportunity to visit with you.

Given your previous experience as the NRCS chief, can you speak to some of the benefits of the CSP and the benefits to the producers, as well as the environment? And do you have any suggestions on how Congress could improve that program in the future so that it could provide even more innovative sustainability solu-

tions to improve both farmer profitability and environmental quality?

Mr. WELLER. Thanks, Senator.

Well, first, I want to commend the producers in Mississippi, but also my former colleagues in NRCS in Mississippi. You are exactly right. I think Mississippi really stands out not just with its delivery of the Conservation Stewardship Program, but also innovative use of other farm bill program authorities.

And in my time here at NRCS, I had a few opportunities I could visit with producers in Mississippi, and every time I visited, I was really impressed with I think the seriousness that growers and producers and land owners took their responsibility for naturally for stewardship, but also always with an eye towards productivity and profitability of their businesses. And I was proud to see how NRCS and the conservation title of the farm bill was actually providing help on the ground.

Specifically to the Conservation Stewardship Program, I think it is a really innovative approach. The types of practices and enhancements that the program supports are exactly what we have been talking about and some of the other witnesses spoke about today.

In my view and in my experience, the future of conservation and the future of agriculture must be precision. We talk about driving additional profitability. We talk about growing more with less. We talk about trying to store the carbon back in the soil, reduce emissions, and reduce loss of nutrients and sediment for crop fields. At the end of the day, we have to provide both the tools, the technical assistance, and some financial assistance to help producers install the technologies and help provide the delivery, the implementation and adoption of those practices on the ground.

And the Conservation Stewardship Program in particular is that draft horse, is that workhorse to help producers innovate and adapt and try new precision Ag technologies, as well as enhanced management systems on their soil, to drive soil health, drive nutrient management.

Specifically on innovations or new ideas on CSP, I think CSP can be and has been and even further can be a really powerful tool to drive the type of adoption of precision ag both technologies, but also the management systems that producers will need, whether you row crop, livestock, specialty crop. When we talk about unlocking new revenue opportunities around voluntary markets for environmental services like carbon storage, greenhouse gas emissions reduction, enhancement in water quality, and biodiversity, the stewardship program can be one of, if not the foundational platform to help producers install those technologies, adopt those new management systems to unlock new revenue streams.

And I think to think strategically about how USDA and its conservation programs, starting with CSP, but the other authorities, can be that installation, that transition program, like with organic transition in the soil health systems, transition into precision ag systems, that then can unlock new revenue streams and allow the private sector to then be the offtake for those new environmental commodities, that is where I think there is huge opportunity to

think strategically about the conservation title generally and CSP specifically.

Senator HYDE-SMITH. Thank you very much. Because it has really been beneficial in Mississippi, and I like your focus on trying to capitalize on that.

Thank you, Madam Chairman.

Senator BALDWIN. Thank you, Senator Hyde-Smith.

I want to stick with Mr. Weller and talk a little bit more about the TruCarbon program. It offers farmer-friendly, streamlined experience that is making it easier for producers to develop and sell carbon credits so they can focus on crop production and stewarding the land.

Can you please describe this new program and how it may be different from other carbon capture programs that are being discussed? And how can the USDA be helpful in speeding up the adoption of new conservation practices so more farmers can take advantage of new markets?

Mr. WELLER. Thanks, Senator.

So I will just briefly describe our program, and then, of course, I want to address the really important part of how USDA can be core foundational to this.

So we are very excited to begin this journey around sustainability and how conservation and enhanced management can unlock new revenue streams. So specific to carbon, we launched in February what we call TruCarbon, which is our first carbon removal offer. And we are very fortunate to have a buyer on hand who is willing to actually pay for farmers and the services they are offering through soil health practices to sequester carbon and store locked up carbon back in the ground, which is really great for crop production and for the operations and the function of the soils we need, of course, to feed our country and the world, but then also provide great environmental services like buffering a changing climate.

TruCarbon, the approach we take as a farmer co-op, start with the farmer first. We are farmer-centered. Secondly, we are a cooperative of cooperatives. So our approach is to partner with our Ag retailer cooperative owners across the United States and engage their farming network.

So it is a way through our large scale across the United States on millions of acres of crop production how can we then partner with our local owners, our local ag retailers to engage their farmers and help those farmers baseline their current practices, adopt new practices, in this case now be compensated not just for the grain production, but to double crop. In this case, the additional profit is going to be a carbon credit.

So we start with the farmer. We streamline it. We want farmers to focus on food production and maintaining the conservation. Truterra then handles a lot of the overhead complexity around the data collection, the soil testing and sampling, the third-party verification, the registration. These are all complex, sometimes onerous and costly activities but are needed to ensure the quality and the value of the credit.

Truterra and our retailer team takes on that responsibility on behalf of the farmer. And critically, we respect the privacy of the

farmer's data, and we ensure the integrity of that data so that we are helping to secure a farmer new access to market, in this case the carbon market, while also ensuring that data is used just for the carbon credit creation.

Coming to your question on USDA, a little bit in the prior conversation on CSP, when you looked at what a carbon credit entails, what we are offering today is \$20 a ton for soil organic carbon sequestration. When you do the farm math on that, that works out to be about maybe 10 bucks an acre, maybe a little more, maybe a little less.

That is not going to be, at the end of the day, why a farmer takes these practices on, particularly when you look at the upfront cost. The capital cost, the technical assistance cost, the technology cost which we talked about in this hearing that is going to be the order of magnitude higher than \$10 an acre.

And so I think where USDA can really be an accelerant and a way to expand access to install these systems, they have the power and the authorities to go and help install this infrastructure, to then unlock this new commodity opportunity and revenue stream.

But just as importantly, and it has also come to this hearing—and Mr. Goodwin has acknowledged this, and it is a really important thing we have to emphasize that we have to ensure, we must ensure that all producers, regardless of size, regardless of economic means, can access these marketplaces. Have the technical assistance, have the access to the technology, have access to the Internet, have access to the financial systems to install these practices so that whether you are on 10,000 acres, 1,000 acres, 100 acres, 10 acres, this is a new revenue income stream, and we need to ensure through USDA authorities and through their capabilities that growers of all means and backgrounds have an opportunity to this new marketplace.

Senator BALDWIN. Thank you.

Wisconsin dairy farmers have built nearly 40 anaerobic digesters. Over half of those were made possible by the U.S. Department of Agriculture's Rural Energy for America Program, otherwise known as REAP. These digesters, in my mind, are a win-win, helping farmers manage their manure and reduce methane emissions and make money while doing so.

Nationwide, we have about 270 on-farm digesters. Many are on dairy farms, but we are also beginning to see them built on swine, poultry, and beef operations. In total, I believe that 108 of these digesters received REAP grants or loans. Without those critical REAP funds, most farms simply cannot make these expensive projects work out.

So, Ms. Sweeney and Mr. Weller, starting with Ms. Sweeney, can you share with us the importance of those REAP grants for farmers, as well as for other farms—dairy farmers as well as other farms, as they look to tap into these new renewable energy markets and cut their own on-farm energy costs?

Ms. SWEENEY. Thank you, Senator Baldwin.

Of course, sustainability is on everyone's mind right now because we know that the emerging consumer cares an awful lot about how their food is made, where it comes from, and how their food impacts the world at large.

We are all aware of climate change in our daily lives, and so, I am so impressed with the dairy farmers of Wisconsin and really across the Nation in the investments that they themselves are putting forward to increase the sustainability of their operations. But it is a tremendous challenge because not only is there an initial investment, but it can also be challenging to make these projects cost effective long term.

I think about one of our members, Crave Brothers Farm and their Crave Brothers Farmstead Cheese operation as well, and they have an anaerobic digester. I have been out to see it, and it is a tremendous amount of time, effort, and money to operate in that way, but they are committed as a business model to sustainability.

In fact, one of the projects Dairy Business Innovation Alliance funded for them was another sustainability project, and that was a water recycling system. Really innovative, one of the first of its kind that makes them a little more cost effective, but also more sustainable. And they are a tremendous example, a case study really, for industry and how sustainable operations can also be more profitable.

But they are also an example of how they are partnering with the State and the Federal Government to make these projects come to life. It is hard to find those dollars, particularly in these challenging times, to move innovation forward. And so USDA, the State governments, even sometimes through the direction of Federal dollars, are tremendous partners in that effort, and I really think that that is key to making things happen at the farm level, particularly for small farmers.

Mr. WELLER. And I think—I am sorry—to build upon, I think, the public-private partnership that is a specific example. So at Land O'Lakes, we have three primary milksheds. So we have Mid Atlantic milkshed, the Upper Midwest milkshed, and we have in California our milkshed. We have a number of dairy producers in California.

And so specific to digesters, this is a story from the Land O'Lakes perspective, particularly from our dairy members' perspective, of how we can flip the script on what is traditionally a pain point, cost center, a regulatory risk into a solution, a new revenue stream, and a way to improve the operations on the dairy farm.

So, overall, our dairy members in California have installed 22 dairy digesters, manure digesters, methane digesters on the farm. But part of this, the specific example that is of a public-private partnership I really want to emphasize here, what started out as this potentially regulatory pinch or a real regulatory pain point, the State of California, trying to address its greenhouse gas emissions goals, has set out a goal to reduce methane emissions, methane being a very powerful greenhouse gas, from livestock manure, including dairy manure, by 40 percent over the next several years. By the year 2030, they want a 40 percent reduction in methane emissions.

So, in this case, we worked with the State of California. The State of California is a great partner and has made some grant funding available to install digesters, and we worked with another private entity, the California Bioenergy, LLC. So CalBio and our Land O'Lakes dairy producers are installing and building out a

network, in this case 10 methane digesters, as part of this project where it is going to be a distributed network, where we are going to be capturing that methane. And then Bioenergy, CalBio is going to be offtaking that gas, compressing it, enhancing the product in terms of cleansing it and injecting that into the local utility's natural gas pipelines, where those now thermal units can now be accessed for transportation infrastructure or energy infrastructure in California.

So this is beyond just renewable gas, it is improving the management of manure on the dairy farm and creating new revenue streams. Where that is now some significant revenue that is adding—helping the bottom line of the dairy members in what has been a very volatile, in some cases stressful dairy market. But from a greenhouse gas standpoint, this project over 10 years is estimated to capture over 1.8 million metric tons of CO₂ equivalent, which is the equivalent of taking off the roads of California almost 40,000 passenger vehicles every year in terms of CO₂ equivalent emissions. And that is just with our 10 digesters.

What unlocked this was the innovation from Land O'Lakes, innovation in terms of how we are helping our members finance it, innovative partners like California Bioenergy, and innovation through public policy and having a State partner like the State of California co-invest in the solution.

Senator BALDWIN. Thank you.

ADDITIONAL COMMITTEE QUESTIONS

I would like to thank all of our witnesses for being with us today. I think we have had a really good discussion.

And I also want to thank all my colleagues who participated today. Questions for the record are going to be due by Thursday, May 6th.

QUESTIONS SUBMITTED BY SENATOR MIKE BRAUN

QUESTIONS SUBMITTED TO MR. JASON WELLER

Question. As you know, many agricultural firms are making investments in feed and feed additives as a method to reduce on-farm emissions. However, feed additives require FDA approval, and the process can be is incredibly onerous, which can hinder innovation. Our biggest competitors are approving these products and claims within a year, but it can take several years to get through the FDA process.

What are your thoughts about the use of feed additives and the potential for farmers to capture the value of reducing the methane emissions?

Using feed additives to reduce methane emissions is a perfect example of how advancing technologies must be a part of solving the climate crisis. At Land O' Lakes, Inc. and across the dairy industry, dairy producers are interested in new approaches to feed management that can reduce enteric methane emissions and subsequently reduce GHG emissions from dairy production. Enteric methane emissions, including gas released from cow eructation, account for approximately 1/3 of an average dairy farms' GHG footprint.

New feed additives, including plant extracts, fats, oils, and other by-products, can significantly improve digestibility and redirect production pathways of enteric methane emissions. Growing research and regulatory approvals in other countries demonstrate that feed additives can reduce enteric methane emissions by 30% or even more. However, current U.S. policy prevents timely market availability, hindering widespread adoption of these products.

FDA's Center for Veterinary Medicine reviews and approves animal food ingredients to ensure their safety as they enter the marketplace, but we are concerned about the time associated with the ingredient review and approval process. In 1998, the CVM decided to use the same regulatory approval process for animal food ingre-

dients that it uses for approval of new animal drugs, including antibiotics and hormones. This means that feed additive makers are bypassing the U.S. on account of its market approval process in favor of other countries that have a more streamlined process. FDA should use their existing authority to use an alternate approval process that would allow for these feed additives—whose mode of action is solely within the digestive tract—to be regulated as animal foods rather than drugs, still ensuring their safety while avoiding the lengthy and necessary processes which animal drugs must follow.

Capturing the value of these products means that farmers will be able to use the most innovative tools available to them to improve animal health, improve environmental health, and keep themselves financially sustainable.

Question. What types of opportunities are farmers missing out on due to this regulatory barrier?

Answer. The current requirement to obtain FDA approval for feed-related animal health claims is presenting a barrier to expanded utilization of adjacent technologies, such as corn hybrids modified to incorporate amylase enzymes into the grain. There are companies developing these adjacent technologies, but not pursuing market entry due to regulatory barriers. These impediments are preventing farmers from using an “all of the above” approach to reducing their GHG footprint. Continuing the dairy industry example, dairy has committed to being net zero by 2050. This is a massive undertaking and at Land O’ Lakes, Inc. alone, we are working with very small and quite large farms to reach this goal.

To help our dairy farmers succeed, Land O’ Lakes launched our Dairy 2025 commitment, which consists of two parts:

1. Land O’ Lakes’ dairy member-owners will complete an intensive, industry-leading on-farm sustainability assessment aligned with the U.S. Dairy Stewardship Commitment. It’s a large-scale measurement project that will yield more than 250 data points per farm across Land O’ Lakes’ more than 1,600 member-dairy farms located all over the United States.
2. Second, Land O’ Lakes’ dairy farmer-members will maintain universal compliance with the National Milk Producers Federation’s National Dairy Farmers (NMPF) Assuring Responsible Management (FARM) program.

The Dairy 2025 Commitment is an opportunity for Land O’ Lakes to further demonstrate its leadership in sustainability alongside the groundbreaking work of its wholly owned Truterra business and the development of the Truterra™ Insights Engine and the TruCarbon™ Program.

SUBCOMMITTEE RECESS

Senator BALDWIN. And with that, I am going to call this hearing to a close. We are adjourned.

[Whereupon, at 11:34 a.m., Thursday, April 29, the subcommittee was recessed, to reconvene subject to the call the Chair.]