HOWARD MARKLEIN
STATE SENATOR • 17TH SENATE DISTRICT

May 1, 2019
Senate Committee on Agriculture, Revenue & Financial Institutions
Testimony on Senate Bill (SB) 186 – Dairy Innovation Hub

Thank you committee members for hearing Senate Bill 186 (SB 186), which allocates $7.9 million to create a *Dairy Innovation Hub* at UW-Madison, UW-Platteville, and UW-River Falls.

Wisconsin's $43 billion dairy industry is in tough shape. Our farmers are struggling with consecutive years of low milk prices and increasing operational costs. Even though times are tough, Wisconsin is known internationally as a dairy superpower. However, we are beginning to slip as our focus and investment in dairy innovation has declined over the last 10 years.

To maintain a viable and profitable dairy industry, the Department of Agriculture, Trade, and Consumer Protection (DATCP) and the University of Wisconsin System created the Dairy Task Force 2.0 last session. The *Dairy Innovation Hub* legislation before you today is one of the key recommendations of the Dairy Task Force 2.0 and was recommended on a 27 to 1 vote.

In order to reinvest in, and reprioritize, dairy innovation, SB 186 appropriates $7.9 million annually to fund a *Dairy Innovation Hub* at UW-Madison, UW-Platteville, and UW-River Falls. This investment represents less than 0.02% of Wisconsin's dairy economy. UW-Madison will receive 52% of the money, while UW-Platteville and UW-River Falls will each receive 24%.

The *Dairy Innovation Hub* investment will attract world-class researchers and will support focused research by faculty, staff, graduate and undergraduate students in four sectors:

1. Steward Land and Water Resources
2. Enrich Human Health and Nutrition
3. Ensure Animal Health and Welfare
4. Grow Farm Businesses and Communities.

It is important to point out that the *Dairy Innovation Hub* is not about increasing production. We are already really good at this. Instead, we will be dedicating the same caliber of effort, research and innovation we have given to production to new priorities.

Dairy Innovation Hub research will address water quality issues, develop new and unique dairy products, examine new, non-food uses for dairy products, apply dairy research to real-life issues, open new markets for Wisconsin dairy products, and actively deploy research discoveries to the dairy industry.

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Each campus will be given flexibility to use the funding in their own way to achieve the goals of the *Dairy Innovation Hub*. This can include hiring faculty and staff researchers, empowering students to conduct research, and providing support for research facilities and infrastructure.

In order to ensure UW-System accountability, SB 186 includes a reporting requirement that requires the Board of Regents to provide an annual report to the Agriculture Committee in each house of the legislature outlining the accomplishments of the *Dairy Innovation Hub.*

Finally, funding for the *Dairy Innovation Hub* must only be used for that purpose. Money cannot be shifted to or from other programs to pay for the *Dairy Innovation Hub* or cut the funding for the *Dairy Innovation Hub.*

SB 186 is supported by the Wisconsin Dairy Business Association, the Wisconsin Farm Bureau Federation, UW-Madison, UW-Platteville, and UW-River Falls, and many other agricultural organizations.

Overall, I am confident that this recommendation from the Dairy Task Force 2.0 is a strong, powerful step toward real results that will help the dairy industry and agriculture overall. We are often asked to "do something" about the ag-industry crisis and SB 186 has real potential to answer this call.

Thank you again for allowing me the opportunity to testify in support of this bill, and I welcome any questions.

THE UNIVERSITY of WISCONSIN MADISON

Senate & Assembly Hearing on the Dairy Innovation Hub (SUPPORT)
Testimony provided by
Dr. Scott A. Rankin, University of Wisconsin-Madison
College of Agricultural and Life Sciences, Food Science Department
May 1, 2019

Senator Marklein and members of the Senate Committee on Agriculture, Revenue and Financial Institutions,

I am grateful for the opportunity to speak in favor of Senate Bill 186 designed to enable the formation of the Dairy Innovation Hub. My name is Scott Rankin. I am a faculty member at the University of Wisconsin-Madison and chair of the Department of Food Science. Comprised of engineers, microbiologists and chemists, our department has a century-plus old heritage of creating impactful outcomes for the dairy industry including the discovery of the Babcock milkfat test, the founding of the Wisconsin Center for Dairy Research, stewardship of Babcock Dairy plant, the mentorship of thousands of our youth many of whom occupy key leadership positions, and a host of other advancements that help make Wisconsin dairy products such as cheese, ice cream and butter as wholesome and valuable as they possibly can be.

I invite you to reflect upon the challenges that our dairy industry and dairy farm families are facing and to consider what investments can be made to realize a bright future through the opportunities that the Dairy Innovation Hub is designed to achieve. I invite you to envision a multi-campus community of dedicated, world-class individuals whose task it is to develop highly skilled dairy leadership from the coming generations and to create and implement the future scientific discoveries that will enable dairy foods to remain a vibrant and relevant component of a healthy, growing world market and economy. One current example of such a design is our partnership with chemical engineers and economists on campus working to convert relatively low value components of milk, such as lactose, into globally important compounds. Such novel compounds are used in a host of manufacturing applications and are orders of magnitude more valuable than native lactose. I am convinced that such a design, amplified and formalized through the Dairy Innovation Hub, holds tremendous promise.

My hope is that some years from now, we will reflect upon the creation of the Dairy Innovation Hub and be proud of what was achieved: the groundbreaking discoveries made, the pioneering leaders developed, the partnership of leading scientists with our greater dairy community and this very public model of Wisconsin-authored and achieved innovation and success. A colleague of mine has a statement on her business card, reflective of her motivation as an instructor of our youth, that states, "I touch the future." In that spirit, I invite you to similarly *touch the future* by enabling the creation of the Dairy Innovation Hub. I thank the committee for taking the time to consider this important bill and am happy to take any questions.

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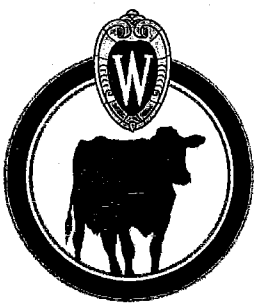

DEPARTMENT OF
DAIRY SCIENCE
University of Wisconsin-Madison

Public Hearing on the Senate Bill 186 – Dairy Innovation Hub (SUPPORT)
Committee on Agriculture, Revenue and Financial Institutions
Testimony provided by
Dr. Kent Weigel
University of Wisconsin-Madison College of Agricultural & Life Sciences
May 1, 2019

Members of the Committee,

Thank you for the opportunity to testify in support of the Dairy Innovation Hub. My name is Kent Weigel, and I am chair of the Departments of Dairy Science and Animal Sciences at UW-Madison. In this role, I oversee the research, teaching, and outreach activities of approximately twenty-five faculty members, fifty academic staff, sixty graduate students, and two hundred and fifty undergraduate students who seek to improve the health, welfare, and production efficiency of dairy cattle and other agricultural animals, as well as the sustainability and profitability of Wisconsin's farms and agribusinesses.

As you know very well, dairy farming is vital to Wisconsin's economy, and particularly to the families and communities of rural Wisconsin. For more than a century, Wisconsin has been synonymous with dairy farming and dairy products. Discoveries at UW-Madison have transformed the ways farmers feed, breed, and care for their animals, as well as the ways they plant and harvest their crops and tend to their land. Faculty and staff of UW-Madison, UW-River Falls, and UW-Platteville have educated thousands of young men and women who have achieved great success and provided key leadership in their roles as dairy farmers, veterinarians, nutritionists, technical consultants, engineers, food scientists, and countless other types of industry professionals.

In spite of these historical achievements, we find ourselves at a crossroads. Dairy farmers are fighting to save businesses that have been in their families for generations, while the expectations of neighbors, consumers, and the general public regarding the ways they manage their animals and steward the environment are higher than ever.

This legislation will position Wisconsin's colleges of agriculture, and the students and stakeholders they serve, for a bright and productive future. It will allow us to recruit, train, and hire exceptionally talented young men and women, from wherever they may come, to lead our state's flagship industry in 2030 and beyond. It will build capacity in research, teaching, and extension and strengthen the linkages between our campuses. Unlike competitive grant funding, for which my colleagues have been very successful in attracting funds for projects that have a defined and limited scope, these funds can be used flexibly to address our most critical, emerging challenges

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and opportunities, giving us the ability to respond with the necessary research more quickly and creatively. It will foster entrepreneurship, and it will provide holistic solutions to our toughest challenges. And most importantly, it will keep Wisconsin's farms, cheese plants, and other dairy-related agribusinesses one step ahead of their domestic and international competitors, through innovative discoveries and novel strategies, practices, and protocols.

This legislation will bring world-class researchers, including graduate students, postdoctoral research associates, visiting scientists, and university professors, to Wisconsin and equip them with the resources they need to tackle the most complex challenges and opportunities we face today, as well as those that will arise tomorrow, next year, and twenty years from now. The funding you provide will be targeted specifically to achieve four key objectives: 1) reducing the impact of dairy farming on our land, air, and water resources; 2) enhancing the nutritional value, convenience, and appeal of milk, cheese, yogurt, ice cream, and other dairy products; 3) improving the health, welfare, and production efficiency of dairy cattle and other agricultural species, and 4) fostering the growth of dairy-related agribusinesses to help our rural communities thrive.

My sincere thanks to Senator Marklein and Representative Tranel for introducing this bill, as well as all of their co-sponsors in the Senate and Assembly. This legislation will have a transformational impact on our dairy farming, dairy foods, and broader agricultural programs at UW-Madison, UW-River Falls, and UW-Platteville, while serving our students and stakeholders throughout the State of Wisconsin. Thank you for taking the time to consider this legislation. I would be happy to answer questions.

THE UNIVERSITY of WISCONSIN MADISON

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Senate & Assembly Hearing on the Dairy Innovation Hub (SUPPORT)
Testimony provided by
Dr. Troy Runge
University of Wisconsin-Madison College of Agricultural & Life Sciences
May 1, 2019

Members of the Senate and Assembly,

Thank you for the opportunity to testify in support of the Dairy Innovation Hub. My name is Troy Runge, and I am the chair of the Biological Systems Engineering Department at UW-Madison. In this role, I oversee the research, teaching, and outreach activities of approximately 15 faculty members, 10 academic staff, 30 graduate students, and 220 undergraduate students.

My department's mission is to help create the systems that supply the world's food and energy needs for a sustainable tomorrow. More specifically we are engineers that innovate on agricultural equipment and natural systems. Being in Wisconsin and holding to the Wisconsin Idea nearly all of our faculty and staff have some aspect of their research, teaching, extension and outreach work related to the dairy industry.

Before coming to UW Madison I worked in the private sector as a researcher and engineer. Before that I was a dairy farmer, having been raised on a family farm in Northcentral Wisconsin. Through these experiences I have learned of the importance of the dairy industry to our state, and the importance of innovation to any industry. These two truths are why I am excited about this legislation, which will bring world-class researchers to Wisconsin and charge them with innovating in 4 key areas for the dairy industry including reducing environmental impacts, enhancing dairy products, improving our state herds, and fostering the growth of related businesses, all of which should help our rural communities thrive.

My department works in all 4 of these areas, ranging from research from dairy forage to animal waste. Or in other words from the cow's "front end" to her "back end". This work affects more than dairy producers or even the dairy industry, but every citizen of our state and one could argue globe. You see the dairy industry can have a profound impact on the environment, both good or bad, depending on how the flow of water, carbon and nutrients are managed. As an example and an area of innovation need for the dairy industry, phosphorous in animal waste has gone from a vital fertilizer, to a major pollutant in Wisconsin waters. My department and others are working in this area, but more work and resources are needed to create better systems to enhance farm profitability while protecting our state's groundwater, rivers, and lakes.

I have witnessed incredible progress from those already involved with the dairy industry in both production methods and products, but I believe we will need significantly more innovation if we are going to keep Wisconsin's dairy industry healthy. The investment into the UW system and its colleges of agriculture is not what is was in the past and correspondingly it has become more difficult to innovate in this space. An infusion of resources by this legislation can provide a much needed investment into the faculty, scientists and students at UW - Madison, UW - River Falls, and UW - Platteville.

Is this a good investment? I sincerely believe so. In my department, student numbers have tripled in the last decade demonstrating a strong interest in this area. Most of these students are from Wisconsin, with many from a farming or rural background that want to stay and work in our state after graduation. The students are attracted to technology of the agricultural industry and connect with its core mission of feeding the world in a sustainable manner. From on-farm robotic machines, artificial intelligence for nutrient management decisions, and advanced waste processing operations, the dairy industry is going "high-tech" and we want Wisconsin to continue to be a leader. New faculty and scientists in Wisconsin will help innovate in these areas, training students, bringing in external grants, and supporting new businesses.

In closing, I believe this legislation is critical to support the agricultural programs at UW-Madison, UW-River Falls, and UW-Platteville. In supporting these programs, we will in turn support the dairy industry which is critical to the State of Wisconsin.

Finally let me express my gratitude to Senator Marklein and Representatives Tranel, Summerfield, Tauchen, and Zimmerman for introducing this legislation and to the members of the assembly and senate for their consideration. Thank you for your time and please let me know if you have any questions or comments.

DEPARTMENT OF
DAIRY SCIENCE
University of Wisconsin-Madison

Senate & Assembly Hearing on the Dairy Innovation Hub (SUPPORT)
Testimony provided by
Dr. Heather White
University of Wisconsin-Madison College of Agricultural & Life Sciences
May 1, 2019

Good morning Committee Members,

Thank you for this opportunity, I am honored to testify today in support of Senate Bill 186. My name is Heather White and I am an Associate Professor in the Department of Dairy Science in the area of nutritional physiology. Through my research and teaching, I train, mentor, and interact with graduate and undergraduate students, as well working with producers and professionals across the dairy industry.

I, like many others in the dairy industry, was first attracted to the state of Wisconsin for the rich agricultural heritage and excellence in dairy cattle production. The concept of the Wisconsin Idea is epitomized by the strong connection between University of Wisconsin faculty and staff and producers within the state. Upon starting at the University of Wisconsin-Madison, several of my research projects took me to privately-owned dairy farms as a part of my sample collection. Through this, I saw how the farms use my research to improve their operations. My teaching on campus also brought realizations that my students were from the farms I had visited and would return to those farms, to a sector of the Wisconsin dairy industry, or continue on for further education. The realization that I was becoming even a small part of the intricate balance of this state-wide legacy was both empowering and humbling.

At the University of Wisconsin-Madison, our impact on the state's dairy industry is two-fold. First, we are performing research to provide new solutions to dairy producers, nutritionists, and veterinarians. The research in my laboratory focuses on improving animal health and feed efficiency. For example, roughly half of dairy cows develop sub-clinical ketosis after calving which costs the producer around $290 per case. While we know that early detection and treatment can reduce the negative impacts, the detection methods are expensive and laborious. In addition to studying ways to prevent onset of sub-clinical ketosis and other disorders, my lab developed less-intensive and more cost-effective diagnostic tools and worked with producers and industry groups to improve implementation of these tools. Together, these are reducing costs and improving animal health. We also research ways to improve nutrient utilization and feed efficiency. Feed costs represent half of the cost of milk production and overfeeding some nutrients, while limitations in others exist, represents inefficiencies and unnecessary waste. Working to understand and improve nutrient utilization allows us to aid in efficient milk production while minimizing feed input and waste excretion. By tackling these "big issues" we can get useable answers for producers.

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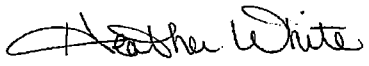
Our second primary output is achieved through our teaching efforts. We train individuals that will return to farms or enter the industry with some form of higher degree. I interact with undergraduate and graduate students daily, either in the classroom or in a research setting and because those of us teaching are also leading research projects, our students are constantly exposed to the latest and greatest in our respective fields. What does this mean for the industry? It means that students going to a farm or to industry are equipped with the most current scientific knowledge and know where to access future findings. We also train producers and industry professionals through extension programs and through industry organized professional education efforts. Through these programs, world-renowned researchers communicate their research findings directly to producers, nutritionists, veterinarians, and professionals across the state, who can implement the research findings.

Investment in the Dairy Innovation Hub Bill will support increased research and teaching in dairy science. There is a demand for more teaching, of students, producers, and professionals, and there are countless intriguing and impactful research questions which cannot be answered due to limited resources. This investment will allow us to better serve the State's dairy industry, increasing the impact we can have and provide critically needed support in terms of research and education in a time when we could potentially have a greater impact than ever before.

Thank you for your time and your support of the bill. I would be happy to answer any questions.



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UW Dairy Innovation Hub

Wisconsin became America's Dairyland because Governor W.D. Hoard asked daring questions and enlisted University of Wisconsin scientists to develop technologies and practices that would make Wisconsin's dairy industry the envy of the world. We must enable our farmers to stay one step ahead by asking daring questions and combining talent with technology to develop innovative solutions that will meet tomorrow's marketplace demands, both locally and globally.

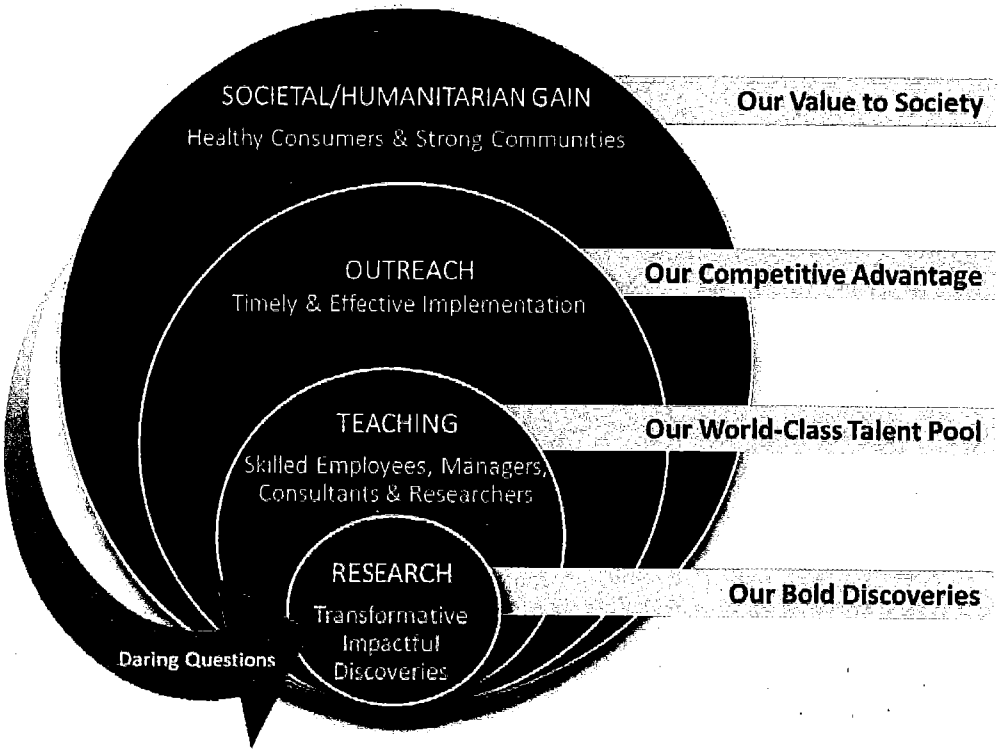
Research allows us discover solutions that keep us ahead of our challenges, and we need the best minds and facilities to carry out research that will drive Wisconsin's dairy industry for another century.

Steward Land & Water Resources

Reduce on-farm water use
Protect topsoil & improve soil health
Improve air quality & limit greenhouse gas emissions
Optimize feed efficiency & use of land resources
Develop alternative uses for farm waste
Minimize nutrient losses to lakes and rivers

Enrich Human Health & Nutrition

Design packaging for convenience & shelf life
Limit risk of food-borne illnesses
Create lactose-intolerant & allergy-free alternatives
Improve the nutritional value of milk & meat
Minimize pathogen risks in soil & water
Reduce obesity & preventable health problems



Ensure Animal Health & Welfare

Find effective alternatives to antibiotics
Monitor animal health with sensor technologies
Improve reproductive rates & replacement policies
Reduce animal stress & enhance consumer trust
Minimize risk of disease from animal contact
Deploy genomic selection for healthy animals

Grow Farm Businesses & Communities

Establish agricultural technology start-ups
Use big data to optimize dairy farm operations
Market specialty milk & meat products
Develop a skilled & tech-savvy rural workforce
Improve financial literacy & return on assets
Understand global markets & opportunities

Fueling Wisconsin's Financial Future

Research is the engine that drives the future success of the Wisconsin dairy industry. Dairy, in turn, fuels the economy of our state, contributing $43.4 billion annually, supporting local farms, allied industries and communities as well as providing tens of thousands of jobs.

This investment will have far-reaching impact. It will generate much-needed new discoveries. It will train current and future industry leaders, who will help transfer the new knowledge to our farms, dairy processing plants, watersheds and more. It will build a world-class team of collaborators best positioned to provide interdisciplinary solutions to complex challenges, by focusing on the four priority areas.

This initiative will support:

Enabling Bold Discoveries. Twenty-five faculty members in four distinct disciplines on all three UW agricultural campuses (Madison, Platteville and River Falls) will make the discoveries and attract external research funding to support those discoveries. The professors will contribute to overall talent development by teaching undergraduates, graduate students and professionals how the latest scientific advances can be applied to Wisconsin farms and supporting industries.

Building a World-Class Talent Pool. Twenty graduate student fellows will become the next generation of scientists and teachers, gaining experience in each of the four priority areas. These students will be tomorrow's industry experts and those who will teach future generations.

Sixteen post-doctoral fellows recruited from the top scientific talent in the world will come to Wisconsin as part of a prestigious cohort, to learn, study and discover at the dairy innovation hub while being immersed in our vibrant dairy landscape. These post-docs, representing priority topical areas and housed at UW-Madison, UW-Platteville and UW-River Falls, will teach current students and make discoveries in labs. They will bring fresh perspectives and energy from around the world. Following this experience, they will be well-positioned for top roles in universities or industry. This idea is modeled after the Howard Hughes Medical Institute's program that develops young medical biologists.

Advancing Our Competitive Advantage. Establishing an Advanced Dairy Management Academy will provide ongoing training and tech transfer to professionals throughout the state, continuing our commitment to the Wisconsin Idea of sharing knowledge for the benefit of mankind. It is important for this program to serve professionals at times and locations convenient to them as well as offer online training tools and platforms.

Maximizing Our Value to Society. Five staff will provide project management, grant writing assistance and other business support services to ensure scientific goals are met and that interdisciplinary teams at all three campuses coordinate their work for greatest impact.

Infrastructure support will ensure that our current students, professionals and dairy hub innovators can conduct research and learn in modern, safe facilities equal to those on Wisconsin farms and in manufacturing facilities so that technology can be transferred easily. Updating the campus infrastructure that has helped position our state as a dairy innovation leader will ensure Wisconsin can continue to attract the best talent and research grants to drive future success.

Total Budget for Four Critical Research Areas = $7.6 million/year (assumes GPR funding w/o fringes)

UW-Madison CALS departments include dairy science, biological systems engineering, food science, soil science, agronomy, agricultural and applied economics, nutritional sciences

Steward Land & Water Resources

6 Tenure-Track Assistant Professors ($640K/yr)[1]
(4) UW-Madison CALS
UW-Platteville
UW-River Falls
3 Research Fellowships for Existing Faculty ($75K/yr)[2]
UW-Platteville & UW-River Falls
3 Post-Doctoral Research Fellows ($480K/yr)[3]
UW-Madison (3-year term)
1 Post-Doctoral Teaching Fellow ($85K/yr)
UW-River Falls (3-year term)
5 Graduate Student Fellowships ($225K/yr)
1 Grant Writer ($75K/yr)
Advanced Dairy Management Academy ($20K/yr)[4]
Research Capacity-Building Staff ($75K/yr)
UW-Platteville (40%)
UW-River Falls (60%)
Research Farms, Labs & Equipment ($250K/yr)
UW-Madison (65%)
UW-Platteville (15%)
UW-River Falls (20%)

Enrich Human Health & Nutrition

7 Tenure-Track Assistant Professors ($750K/yr)[1]
(5) UW-Madison CALS
UW-Platteville
UW-River Falls
3 Research Fellowships for Existing Faculty ($75K/yr)[2]
UW-Platteville & UW-River Falls
3 Post-Doctoral Research Fellows ($480K/yr)[3]
UW-Madison (3-year term)
1 Post-Doctoral Teaching Fellow ($85K/yr)
UW-Platteville (3-year term)
5 Graduate Student Fellowships ($225K/yr)
1 Grant Writer ($75K/yr)
Advanced Dairy Management Academy ($20K/yr)[4]
Research Capacity-Building Staff ($75K/yr)
UW-Platteville (40%)
UW-River Falls (60%)
Research Farms, Labs & Equipment ($250K/yr)
UW-Madison (65%)
UW-Platteville (15%)
UW-River Falls (20%)

Dairy Innovation Hub Administrator ($100K/yr)

Ensure Animal Health & Welfare

6 Tenure-Track Assistant Professors ($640K/yr)[1]
(4) UW-Madison CALS
(2) UW-River Falls
3 Research Fellowships for Existing Faculty ($75K/yr)[2]
UW-Platteville & UW-River Falls
3 Post-Doctoral Research Fellows ($480K/yr)[3]
UW-Madison (3-year term)
1 Post-Doctoral Teaching Fellow ($85K/yr)
UW-Platteville (3-year term)
5 Graduate Student Fellowships ($225K/yr)
1 Grant Writer ($75K/yr)
Advanced Dairy Management Academy ($20K/yr)[4]
Research Capacity-Building Staff ($75K/yr)
UW-Platteville (40%)
UW-River Falls (60%)
Research Farms, Labs & Equipment ($250K/yr)
UW-Madison (65%)
UW-Platteville (15%)
UW-River Falls (20%)

Grow Farm Businesses & Communities

6 Tenure-Track Assistant Professors ($630K/yr)[1]
(3) UW-Madison CALS
(2) UW-Platteville
UW-River Falls
3 Research Fellowships for Existing Faculty ($75K/yr)[2]
UW-Platteville & UW-River Falls
3 Post-Doctoral Research Fellows ($480K/yr)[3]
UW-Madison (3-year term)
1 Post-Doctoral Teaching Fellow ($85K/yr)
UW-River Falls (3-year term)
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Research Capacity-Building Staff ($75K/yr)
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UW-River Falls (60%)
Research Farms, Labs & Equipment ($250K/yr)
UW-Madison (65%)
UW-Platteville (15%)
UW-River Falls (20%)

[1] includes startup funds to build research program
[2] includes release time and project supplies & expenses
[3] includes funding for research supplies & expenses
[4] includes summer salary, lab supplies, student scholarships

Wisconsin Farmers Union
UNITED TO GROW FAMILY AGRICULTURE

May 1, 2019

Good Morning, Chairman Marklein and Members of the Senate Agriculture Committee,

My name is Tina Hinchley, and I am a dairy farmer and a member of the Wisconsin Farmers Union Board of Directors. I am pleased to be here today on behalf of Wisconsin Farmers Union to testify in favor of Senate Bill 186, and to support the creation of a University of Wisconsin Dairy Innovation Hub.

My family and our farm have personally benefitted from dairy-related research and outreach from the University of Wisconsin.

If we need advice, we call the Dairy Science department and they're there for us. If we have a problem with a cow, we can take it to the UW Veterinary Clinic. Our nutrient management plan incorporates SnapPlus, which was developed by soil scientists at the University of Wisconsin.

And just this past Sunday, we received a Sustainability Audit conducted by students (including my daughter) in the UW Dairy Science program. The audit evaluated how our farm is doing based on three pillars of sustainability: Economic, Environmental, and Social.

All of these resources from the University of Wisconsin have made our farm more sustainable. But I am concerned that these resources are diminishing.

My daughter Anna that I mentioned previously is a junior majoring in Dairy Science at the University of Wisconsin. Her 2020 graduating class will be the very last class of Dairy Science majors. After next year, the University of Wisconsin will no longer have a dairy science major. The impacts of this loss are being felt already. Many of the professors are retiring, and my daughter is having to go through contortions to get the classes she needs to graduate because they are simply not being offered.

We can't sustain Wisconsin's status as the Dairy State based solely on past investments. Just like running a successful farm, we have to keep re-investing in our university resources to stay up to date. Senate Bill 186 is a great way to do that.

I'd like to specifically address one of the priority areas included in this legislation, and that is Enriching Human Health and Nutrition through dairy consumption. I am

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especially passionate about this topic, because I see the need for this on a weekly if not a daily basis. At our farm, in addition to milking 226 cows and farming 2,300 acres, we also offer dairy farm tours to families and school groups. Thousands of visitors tour our farm each year. I witness firsthand that kids, and their parents, need more education to know that dairy products are wholesome and nutritious. Unfortunately, there are a lot of other food and beverage products in the marketplace competing with dairy products for consumers' attention, many of which have huge advertising budgets but are much less nutritious than dairy products. We need good research into new products that will keep dairy competitive in the marketplace.

In closing, on behalf of Wisconsin Farmers Union, I would like to thank Senator Marklein and all of the cosponsors of this bill for your efforts. I am happy to answer any questions you might have.

Wisconsin Farm Bureau Federation
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Senate Committee on Agriculture, Revenue and Financial Institutions
May 1, 2019
Testimony on Senate Bill 186
Dairy Innovation Hub

Good morning Chairman Marklein and members of the Committee. Thank you for giving me a few minutes this morning. I'm here today to talk about the Dairy Innovation Hub as a dairy farmer and vice president of the Wisconsin Farm Bureau.

Wisconsin's dairy industry contributes $43 billion to our state's economy. To put that into perspective Florida's citrus contributes $9 billion to their economy, Idaho's potatoes contribute $7 billion to their economy and Maine's lobsters contribute $1.5 billion to their economy. But it's not just dollars and cents. The impacts are far greater, touching almost every community throughout Wisconsin. For example, on my farm 62 percent of my expenses are spent within 15 miles of the farm. Multiply that by the 8000 plus dairy farms in the state and that is quite an impact. Wisconsinites are cheeseheads because we are proud of our dairy heritage.

Wisconsin is a global leader in dairy. To continue being that leader we need innovative research that provides the solutions that address today's concerns and will meet tomorrows market place demands. We need investment in human capital. We need a partnership between the three agricultural campuses (Madison, River Falls and Platteville). This is something that has never been done before, but as the world leaders we absolutely must enhance our system and lead. This critical investment in people and research will attract bright minds to make bold discoveries that will touch every aspect of the dairy industry, from field to fork and beyond.

Multiple times, I have been the recipient of research and technological advancements that have come from the UW system. Researchers have helped me improve my herd reproductive rates and the overall health of my animals. *(pull out cell phone)* Today, I can monitor my cows' rumination every minute because of the recommendations from UW researchers. This gives my team at the farm the ability to attend to the needs of each cow individually and in real-time. Our team can adjust rations at every feeding to maximize health and production while controlling costs. This is efficient. UW researchers have also helped to design a ventilation system for my youngstock barn. The result was a significant improvement in the health of the calves, lowering antibiotic use, increasing rate of gain and therefore allowing me to become more efficient.

As technology continues to improve, dairy farmers need advancements in animal monitoring, genomics, effective alternatives to antibiotics, reducing animal stress all in an effort to improve our farms as well as build and enhance consumer trust.

As you know farmers wear many hats. Beyond managing and caring for animals, farmers by nature are also stewards of the soil and water. But we need renewed ideas to continue to improve our practices. With innovation we can continue to decrease water usage, protect topsoil, develop alternatives in

manure handling and minimize nutrient losses. We need bold new discoveries to help farmers implement the highest standards in stewardship and animal health while simultaneously developing a skilled, tech-savvy rural workforce (something else farmers are very good at).

The Dairy Innovation Hub will help us meet future market demands. Research is needed to determine future consumer trends for convenience, packaging and new products as well as address how we enhance healthy and nutritious food for school children that they want to eat. Dairy must be part of that discussion because we have a lot to offer. Dairy must address issues such as improving product shelf life, creating allergy-free alternatives, improving general nutrition and helping find an answer to reduce obesity. That all takes research and breakthrough discoveries that will regenerate consumption, both locally and globally for our nutritious dairy products. All of this must occur simultaneously while building trust and transparency with consumers.

Dairy farmers are highly invested in our communities and our state. **Please invest in us.** The $7.9 million needed annually for the Innovation Hub is just 0.02% of the contributions the dairy industry makes annual to our state economy. It is an investment in people and an investment in rural Wisconsin. Please support the UW Dairy Innovation Hub to help revitalize Wisconsin's dairy industry so my fellow farmers and I can continue to be world leaders for agriculture for decades to come.

Kevin Krentz
Vice – President
Wisconsin Farm Bureau Federation

Senate Committee on Agriculture, Revenue and Financial Institutions
May 1, 2019
Testimony on Senate Bill 186
Dairy Innovation Hub

Good afternoon, Chairman Marklein and members of the committee. My name is Janet Clark and I am a 3rd generation dairy farmer and Farm Bureau member from Fond du Lac County. Thank you for taking the time to listen to my testimony today.

The world is changing fast and agriculture needs to stay ahead of the changes that are happening. What used to take 20 years for our industry to change and innovate, now happens in just a few years. When it comes to dairy, Wisconsin is where the world comes to do business. We need to continue to be the catalyst of the dairy industry. Wisconsin is the state that drives the dairy industry.

The Dairy Innovation Hub is a proposal for funding of $7.9 million/year to support research on three of our University of Wisconsin System campuses; UW Madison, UW River Falls and UW Platteville. The research positions housed on these campuses will benefit dairy but will also benefit all Ag commodities in Wisconsin: water, soil, human health and our rural communities. This funding will bring the best and brightest researchers to Wisconsin. Again, Wisconsin needs to remain the place where the world comes to do business.

We need to continue to have bold new discoveries to answers tomorrow's problems. I am asking for your support of the UW Dairy Innovation Hub. This funding NEEDS to happen with this biennial budget. It will take years for my industry to see the benefits of this research. I am a 3rd generation dairy farmer that is raising the 4th generation. I want my children to have the opportunity to be part of the dairy industry. For the future of my family farm and many others, please support the UW Dairy Innovation Hub.

Janet Clark
Fond du Lac County 3rd generation Dairy Farmer and Farm Bureau member

DBA

DAIRY BUSINESS ASSOCIATION | DAIRY FORWARD

Testimony in Support of SB 186, funding for the Dairy Innovation Hub
Senate Committee on Agriculture, Revenue & Financial Institutions
Wednesday, May 1, 2019

My name is John Holevoet and I am the director of government affairs for the Dairy Business Association. I want to thank Chairman Marklein and the rest of the committee for the opportunity to address you today. I want to urge your support for SB 186, which would provide funding for the Dairy Innovation Hub.

This concept is an investment in dairy research at three UW campuses in Madison, Platteville and River Falls. These are the three campuses traditionally associated with agricultural education and research. The hub concept would encourage collaboration between campuses, colleges and departments. This type of interdisciplinary research is critical because important research ideas often transcend the scope of a single discipline. Collaboration is key to pushing fields forward and reducing the time necessary for scientific discovery and the introduction of spinoff technology into the marketplace.

The hub initiative would also be a chance to strengthen ties between the land-grant university, UW-Madison, where research has traditionally been focused, and two comprehensive campuses. Our comprehensive campuses are generally thought of as teaching institutions. That is valuable, but it is also important to expose their students to research opportunities. Additionally, the regional connections that our comprehensive campuses have make them a natural partner for local farmers looking to measure their environmental impact and test the effectiveness of conservation practices on similar soils and topography. For example, as southwestern Wisconsin continues to look at the impact of agriculture on water quality, Pioneer Farm and researchers at UW-Platteville are better positioned than anyone else to test the impact of different practices on both surface and groundwater.

The University of Wisconsin System is a global leader in dairy research, and we want to leverage this asset to preserve our leading position and help the industry weather these challenging economic times. The university has already produced research that has dramatically improved the way we raise and feed our cattle. The focus of this research will go beyond those topics to the next key issues. This funding will allow us to find solutions to challenges we face in the areas of land and water stewardship; human health and nutrition; animal welfare; and strengthening our rural communities.

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The hub will attract the world's best research talent to our state. The state's annual investment would be $7.9 million, which is less than 0.02% of the nearly $44 billion the dairy community generates each year for our state's economy. The impact of the hub will also benefit constituencies well beyond just dairy or agriculture. Our hope is that the $7.9 million investment we make will be offset by new grant money from the federal government and private foundations to help fund this important research. Indeed, the hub is designed to help spur and secure that type of external funding.

Some of this research also has potential to result in spin-off businesses to further diversify the state's dairy and agribusiness economy. This is precisely the type of cluster-driven development that has been repeatedly shown to be the most effective form of economic development. State involvement makes the most sense and has the best chance for success when it is focused on further expanding existing economic strengths. Dairy and agriculture are among the state's strongest existing clusters. A modest investment in these areas will pay significant dividends back to the state economy and state budget. I hope you will vote to support SB 186 and the investment it would make in the future of Wisconsin and our state's dairy community.

DBA

DAIRY BUSINESS ASSOCIATION | DAIRY FORWARD

Testimony in Support of SB 186, funding for the Dairy Innovation Hub
Senate Committee on Agriculture, Revenue & Financial Institutions
Wednesday, May 1, 2019

My name is Cody Carpenter. I farm with my family southeast of Darlington, Wisconsin. I want to thank Chairman Marklein for the chance to speak to you today about SB 186 and the Dairy Innovation Hub. I also want to thank him for his leadership on this issue and for authoring this legislation.

Our family understands the importance of ag education in our state. I am glad to see that our state senator feels the same way. Each year, we partner with our neighbors and friends to bring area fourth graders to a dairy farm, so they can learn firsthand about the work we do. We also have been very engaged with FFA. My dad, my brothers and I were all president of our local chapter in high school. I went on to UW-Madison, where I earned a degree in Dairy Science. My brother Colton went to UW-Platteville, where he earned a degree in Animal Science with an emphasis on dairy. If my sister ends up at UW-River Falls, we'll be a full Dairy Innovation Hub family.

Our dairy, Redrock View Farms, takes its name from the distinctive geology of our home in southwestern Wisconsin. We are connected to the land and want to be good stewards. My family has been very involved with LASA, the Lafayette Ag Stewardship Alliance. LASA is a farmer-led watershed initiative that is proactively working on conservation in our county. Our members come in all sizes and include dairies, other livestock farms and crop operations. This diverse group is dedicated to continuous improvement.

One of the reasons these farmer-led groups are so beneficial is that they provide a real-world laboratory to test different conservation practices and see how effective they are in addressing resources concerns in different parts of our state. We have partnered with UW-Platteville to help us do that work. Dennis Busch, the research manager at Pioneer Farm, is an advisor to LASA's board. Pioneer Farm is also a member of the group. Even before LASA was formed, Dennis was involved with Pioneer Farm's Wisconsin Agricultural Stewardship Initiative research activities. That initiative is a statewide collaboration between farmers, the government and the UW System that seeks to enhance the environment while also helping farmers' bottom lines. This is exactly the type of work we should be supporting in Wisconsin if we want to see long-term, measurable improvements in water quality.

Pioneer Farm is already set up to conduct edge-of-field monitoring to research how we can mitigate runoff concerns. They are also well positioned to help with the next stage of research on how to best safeguard groundwater quality in the region. This work is needed now. The great news is that we can make it a reality through a modest investment in existing programs and institutions. The Dairy Innovation Hub is that investment.

This connection between LASA and UW-Platteville is great, and, thankfully, it is not unique. A similar group of farmers, the Western Wisconsin Conservation Council, is working to promote conservation and improve water quality in St. Croix County and the surrounding area. They have partnered with faculty and students at UW-River Falls to do water quality monitoring and research. This research partnership gives the local farming community valuable insight into the work they are doing, it provides students with hands-on research experience and it helps to advance water quality goals shared by the entire community.

This is not a partisan issue. People of all political persuasions want clean water and success for the dairy community. These two goals can coexist, and the Dairy Hub is one way to help further both of those goals. Please show your support for our dairy farmers and clean water by supporting this important legislation.

DBA

DAIRY BUSINESS ASSOCIATION | DAIRY FORWARD

May 1, 2019

Senate Committee on Agriculture, Revenue and Financial Institutions

Testimony on Senate Bill 186 – Establishing a Dairy Innovation Hub at UW System

Good morning Chairman Marklein and committee members. Thank you for scheduling Senate Bill 186 for this public hearing and allowing me time to present testimony in favor.

My name is Amy Penterman. I am a dairy farmer and owner, along with my husband Sander, of Dutch Dairy in Thorp. Sander, who is a Dutch immigrant, came to this country - and to Wisconsin specifically - because of our dairy reputation. Our farm has 1150 head of cattle. We own and rent 1400 acres of corn, soybeans and hay. We have 5 children ages range from 4 - 20. I am also a crop insurance agent of 22 years and work out of my home office on the farm. In addition to my farming and crop insurance business, I serve as Vice-President of the Dairy Business Association's Board of Directors and I was an active member of the Governor's Dairy Task Force. I am a representative for the state FFA Alumni Council and also serve as secretary of the Thorp FFA Alumni.

Dairy Task Force 2.0 recently made several recommendations to help improve the dairy business climate in Wisconsin. One recommendation in particular encompasses several areas of interest into one: The UW Dairy Innovation Hub. UW has long partnered with Wisconsin dairy farmers in pioneering methods of production that have helped make Wisconsin "America's Dairyland."

UW and dairy partnerships have existed throughout our state's history. The Dairy Innovation Hub will preserve Wisconsin's place nationally and internationally as the leader in dairy production and research. The program focuses on four distinct topical areas: 1) Land and Water Stewardship 2) Human Health and Nutrition 3) Animal Health and Welfare and 4) Improving & integrating farm businesses and rural communities.

The proposal adds tenure-track faculty at three UW campuses: Madison, River Falls and Platteville. There is no provision for building new facilities and funding goes almost entirely towards wages for tenure-track positions and post-doctoral fellowships to produce innovations while looking for ways dairy farmers and communities can work together to protect our natural resources. The hub's $7.9 million annual investment in Wisconsin's $44 billion a year dairy economy incorporates the university's commitment to dairy research and innovation with farmers desire to be good stewards of the land while meeting consumer demands and navigate marketplace realities both locally and globally.

Senate Bill 186 will provide a much-needed shot in the arm for Wisconsin's dairy community. The impact of The Dairy Innovation Hub will be critical to finding ways to increase demand for dairy products while developing new products for entry into a world marketplace.

Tenure-track positions and post-doctoral fellowships, established in SB 186, will create a pool of experts to ensure dairy farming practices utilize modern techniques and technological advancements to improve water quality and land management.

Again, thank you Chairman Marklein and committee members. I appreciate your time in hearing testimony today and urge your support for Senate Bill 186. You will hear from University officials and faculty members as well as other experts, responsible for implementing this program, about specific details of the proposal but I am happy to answer any questions I can.

ROB SUMMERFIELD

STATE REPRESENTATIVE • 67th ASSEMBLY DISTRICT

May 1, 2019

Senator Marklein, Chair
Senator Petrowski, Vice-Chair
Members of the Senate Committee on Agriculture, Revenue, & Financial Institutions

Testimony on 2019 Senate Bill 186
Relating to: creating and funding a University of Wisconsin Dairy Innovation Hub and making an appropriation

Dear Chairman Marklein, Vice-Chairman Petrowski, and Committee Members:

Thank you for the opportunity to provide written testimony at today's public hearing on Senate Bill 186. I appreciate your time and consideration of this legislation.

From our delicious cheeses to our refreshing milk, Wisconsin has always been known for its world-class dairy industry. However, we have been experiencing a heightened number of farm foreclosures, as well as uncertainty in the dairy market. In order for Wisconsin to both maintain our "world-class" dairy moniker, as well as curb foreclosures, we need to remain on the cutting-edge of dairy innovation.

Creating a University of Wisconsin Dairy Innovation Hub is a great step forward in addressing these concerns. By combining technology and talent at three of Wisconsin's premier agricultural universities – UW-Madison, UW-Platteville, and UW-River Falls – we can better mainstream dairy research and development to maximize its societal impact. Through this targeted investment, Wisconsin can improve its competitive advantage nationwide through widening its talent pool and using these world-class minds to learn, study, discover, and advance new ideas in America's Dairyland.

The dairy industry is a big economic driver for Wisconsin; contributing over $43 billion annually. Making sure research and development in this area is up-to-date and efficient is critical for the overall health of our economy. Thank you again.

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May 1, 2019

To: Chair, Senator Howard Marklein and members of the Senate Committee on Agriculture, Revenue and Financial Institutions

From: David Ward, Director of Government Relations and Dairy, Cooperative Network
Jennifer Wickman, Government Affairs Coordinator, Cooperative Network

Re: Support for SB 186 the Dairy Innovation Hub

Cooperative Network is a two state trade association which serves as the voice for cooperatives in Wisconsin and Minnesota. Included in our membership are dairy cooperatives which market around 80% of the milk and make close to 60% of the cheese produced in Wisconsin. Cooperative Network supports SB 186 the Dairy Innovation Hub.

The importance of dairy to Wisconsin's agricultural economy is well known but Wisconsin's dairy industry is facing challenges even when our economy is strong. The Dairy Innovation Hub will help drive the future success of Wisconsin's $43 billion dairy industry. If implemented properly the Dairy Innovation Hub will generate much-needed new discoveries. It will train current and future industry leaders, who will help transfer the new knowledge to our farms, dairy processing plants, watersheds and more.

Cooperative Network appreciates the challenging decisions that you face to meet today's problems. By supporting the Dairy Innovation Hub you will be putting Wisconsin's putting Wisconsin's dairy industry on a path to success.