

# 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.*

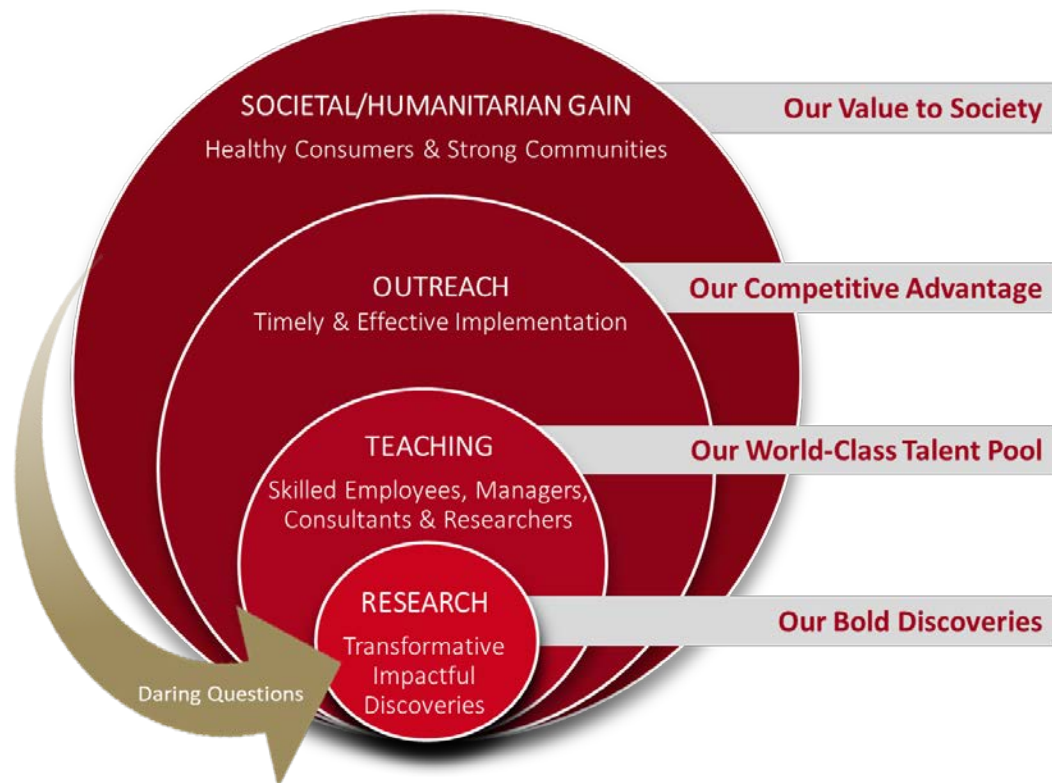
*Research allows us discover solutions that keep us ahead of our challenges, and we need the best minds and facilities to carry out research that will drive Wisconsin's dairy industry for another century.*

## 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)<sup>1</sup>

(4) UW-Madison CALS  
 UW-Platteville  
 UW-River Falls

**3 Research Fellowships for Existing Faculty** (\$75K/yr)<sup>2</sup>

UW-Platteville & UW-River Falls

**3 Post-Doctoral Research Fellows** (\$480K/yr)<sup>3</sup>

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)<sup>4</sup>

**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)<sup>1</sup>

(5) UW-Madison CALS  
 UW-Platteville  
 UW-River Falls

**3 Research Fellowships for Existing Faculty** (\$75K/yr)<sup>2</sup>

UW-Platteville & UW-River Falls

**3 Post-Doctoral Research Fellows** (\$480K/yr)<sup>3</sup>

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)<sup>4</sup>

**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)<sup>1</sup>

(4) UW-Madison CALS  
 (2) UW-River Falls

**3 Research Fellowships for Existing Faculty** (\$75K/yr)<sup>2</sup>

UW-Platteville & UW-River Falls

**3 Post-Doctoral Research Fellows** (\$480K/yr)<sup>3</sup>

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)<sup>4</sup>

**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)<sup>1</sup>

(3) UW-Madison CALS  
 (2) UW-Platteville  
 UW-River Falls

**3 Research Fellowships for Existing Faculty** (\$75K/yr)<sup>2</sup>

UW-Platteville & UW-River Falls

**3 Post-Doctoral Research Fellows** (\$480K/yr)<sup>3</sup>

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)<sup>4</sup>

**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%)

<sup>1</sup> includes startup funds to build research program

<sup>2</sup> includes release time and project supplies & expenses

<sup>3</sup> includes funding for research supplies & expenses

<sup>4</sup> includes summer salary, lab supplies, student scholarships