

# Wisconsin Agricultural Education and Workforce Development Council Annual Report



July 1, 2022-June 30, 2023



September 29, 2023

To Governor Tony Evers  
Members of the Legislature  
Secretary Randy Romanski, Department of Agriculture, Trade, and Consumer Protection  
State Superintendent Jill Underly, Department of Public Instruction  
Secretary Adam Payne, Department of Natural Resources  
Secretary and CEO Missy Hughes, Wisconsin Economic Development Corporation  
President Jay O. Rothman, University of Wisconsin System  
President Morna K. Foy, Wisconsin Technical College System  
Chancellor Jennifer L. Mnookin, University of Wisconsin-Madison  
Chancellor Tammy Evetovich, University of Wisconsin-Platteville  
Chancellor Maria Gallo, University of Wisconsin-River Falls  
Chancellor Thomas Gibson, University of Wisconsin-Stevens Point  
Dean and Director Karl Martin, University of Wisconsin-Madison Division of Extension

The Department of Workforce Development (DWD) is pleased to present the following report on the goals and activities of the Wisconsin Agricultural Education and Workforce Development Council for state fiscal year 2023. This report also includes reviews of agricultural education programs provided by Wisconsin's educational systems and institutions: the Wisconsin Department of Public Instruction, Wisconsin Technical College System, University of Wisconsin System, and University of Wisconsin-Madison Division of Extension.

Agriculture is a significant driver of the state's economy, employing nearly 12% of the state's workers and generating revenues of more than \$100 billion per year. Competition for workers is strong statewide and agriculture is no exception. Going forward, promoting these employment opportunities and working with partners to develop career pathways will be essential to attract young talent and maintain a thriving agricultural sector. DWD welcomes the recommendations of the Wisconsin Agricultural Education and Workforce Development Council as the agency continues to build and strengthen Wisconsin's workforce for the 21st century and beyond.

The Council's diverse expertise and knowledge of agricultural education, agricultural and natural resource industries, and agricultural workforce development needs are key to ensuring a bright future for agriculture in Wisconsin. The Council and DWD look forward to continuing to advise and assist state agencies, educational institutions, and the Wisconsin Legislature on matters related to agricultural education and workforce development.

Sincerely,



Amy Pechacek, Secretary-designee  
Department of Workforce Development

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## Introduction

Pursuant to Wis. Stats. s. 106.40(5), this report provides updates on the goals and activities of the Wisconsin Agricultural Education and Workforce Development Council (WAEWDC, or the Council) for state fiscal year (SFY) 2023. In addition, under Wis. Stat. s. 106.40(4), the Wisconsin Department of Public Instruction, the Wisconsin Technical College System, and University of Wisconsin System and Extension shall prepare an annual review of the agricultural education programs under their purview. This report also includes the reviews of agricultural education programs provided by Wisconsin's educational systems and institutions.

### Agriculture in Wisconsin

Thanks to Wisconsin's fertile soil, favorable climate, abundant fresh water, and capable labor force, agriculture is a critical industry in the state, providing essential products for people within the state and beyond its borders. The agricultural industry in Wisconsin is extensive, diverse, and increasingly technologically sophisticated, employing more than one in nine of the state's workers and generating revenues over \$100 billion per year.<sup>1</sup> In order to maintain the financial and environmental sustainability of the state's agricultural industry, Wisconsin's workforce will need to be prepared to meet to the new challenges and opportunities that are sure to arise with the rapidly changing economic, environmental and technological landscape we inhabit.

As the state's license plates proudly proclaim, Wisconsin continues to earn its reputation as "America's Dairyland." Wisconsin leads the nation in cheese production, producing one quarter of all the country's cheese.<sup>2</sup> The productivity of Wisconsin's dairy farms is on the rise, even as the number of dairy cows has remained relatively constant, at about 1.2 million.<sup>3</sup> Milk production per cow has increased significantly, to more than 2,100 pounds for 2022, up more than 300 pounds per cow over the past decade.<sup>4</sup> Overall, dairy production and processing contributes more than \$45 billion in revenues and accounts for more than 157,000 jobs in Wisconsin.<sup>5</sup>

The state's agricultural reputation may be dominated by the dairy industry, but the sector is highly diverse, with thousands of farms, food processing plants, and agribusinesses of all types. In addition to leading the nation in cheese production, Wisconsin ranks first in the production of cranberries, snap beans, corn for silage, goat milk, ginseng, and mink pelts. The state also ranks among the top five for potatoes, carrots, oats, green peas, sweet corn, tart cherries, and maple syrup.<sup>6</sup> While other products may not top state rankings, they are no less significant to the state's agriculture. Wisconsin produces and processes large quantities of beef, chicken, pork, eggs, honey, soybeans, pumpkins, and other agricultural goods.<sup>7</sup>

In addition to various products, Wisconsin is also a leader in agricultural quality. Building on its strength in farm diversity, Wisconsin has become a leader in organic farming, ranking second in the nation in terms of the number of certified organic farms.<sup>8</sup>

The goods produced by Wisconsin's farms are enjoyed by Wisconsinites as well as people throughout the country and around the world. In 2022, Wisconsin exported a record high of \$4.22 billion in agricultural and food products to 142 countries, an increase of 7% or nearly \$280 million in value compared to the year before.<sup>9</sup> The Wisconsin Initiative for Agricultural Exports aims to boost the export of dairy, meat, crop, and other agricultural products by 25% by June 2026 through a combination of trade promotion activities, grants, and training programs to businesses looking to expand their markets.<sup>10</sup>

### WISCONSIN'S AG SUCCESSES

- **No. 1 in cheese production,**
- **A leader in organic farming, ranking second in the nation in terms of the number of certified organic farms,**
- **No. 1 in the production of cranberries, snap beans, corn for silage, goat milk, ginseng, and mink pelts,**
- **Top five for potatoes, carrots, oats, green peas, sweet corn, tart cherries, and maple syrup,**
- **Ag employs more than one in nine of the state's workers,**
- **Ag generates Wisconsin revenues over \$100 billion per year.**



While market demand supports distribution of Wisconsin's agricultural goods both near and far, the state continues to work actively to build resiliency across the food supply chain. Wisconsin's Department of Agriculture, Trade and Consumer Protection (DATCP) helps facilitate connections among producers, processors and local institutions through its Farm to School program and provides grant funding through the Buy Local, Buy Wisconsin program to help Wisconsin's agricultural businesses process, market, and distribute goods to consumers throughout the state.<sup>11</sup> For businesses that make products using ingredients sourced within the state, DATCP provides the Something Special from Wisconsin™ label to certify the product's Wisconsin origin and help it stand out on the shelves.<sup>12</sup>



Agriculture is an increasingly technologically sophisticated industry, with technologies such as robotics, digital sensors, satellite imagery, and GPS playing an increasingly large role in modern farming practices.

Precision agriculture methods also play a growing role in the management of crop and livestock production. The approach relies on close measurement and control of farm inputs and outputs, often at the granular geographic level and over time, along with sophisticated data analysis to maximize farm efficiency and minimize waste.<sup>13</sup> As of 2021, 15% of the state's farmers reported using precision agricultural practices to manage their crops or livestock.<sup>14</sup> Expanding precision agriculture and other new technological advances will require an increasingly sophisticated workforce to implement and maintain.

Wisconsin's agricultural industry continues to innovate and adopt new practices and technologies to produce better products and improve the efficiency and sustainability of production. The UW System has built the Dairy Innovation Hub to support research and development in the dairy industry. The Hub has funded and fostered over 130 projects, including projects to help monitor and improve the health of cattle, advance automation in the milking process, and reduce farm waste.<sup>15</sup>



Managing the environmental impacts of all this agricultural activity is critical for both the environment itself as well as for the people who work on it. Farmers are actively involved in conserving the state's land and water resources and are deeply invested in the environmental sustainability of the land from which they derive their livelihood. To improve the state's soil and water quality, DATCP has implemented the Producer-Led Watershed Protection and Commercial Nitrogen Optimization grant programs, which help support soil and water conservation efforts in the state. DATCP has also partnered with the U.S. Department of Agriculture to mitigate the cost of planting cover crops, a practice that can reduce soil erosion, attract pollinators, and reduce the need for chemical fertilizers.

As with businesses across sectors, Wisconsin's agricultural businesses are struggling to find well-qualified workers to fill available jobs.<sup>16</sup> The state's agencies and educational institutions are rising to meet the challenge, ensuring that students and job seekers have the knowledge and skills they need to confidently pursue careers in agriculture.

Thanks to the work of the Wisconsin Department of Public Instruction (DPI) and teachers throughout the state, more than 50,000 students from grades 5-12 were able to take at least one agricultural course in public school, while over 25,000 students were also members of the National FFA Organization, exposing students to the possibility of a career in agriculture. Students leaving school with an interest in agriculture have many career paths that they can explore with the help of DPI's Pathways Wisconsin resource, which highlights numerous careers in the sector, while identifying jobs that are expected to grow in the years ahead.<sup>17</sup>

The Wisconsin Technical College System and University of Wisconsin System are both leaders in training students for work in the agricultural industry. In the 2021-2022 school year, about 2,000 students were enrolled in one of the Wisconsin Technical College System's 69 Agricultural and Natural Resource programs, while the UW System had more than 3,500 undergraduate and graduate students enrolled in one of its Agriculture, Food and Natural Resource programs. More detailed information on the role of public institutions in agricultural training is detailed below.

Wisconsin's Department of Workforce Development (DWD) administers several apprenticeship programs to give people access to on-the-job training in the agricultural sector. DWD offers 11 career pathways for Youth Apprentices (YA) in the Agriculture, Food and Natural Resources career cluster. In 2022-2023, there were 1,045 Youth Apprentices in that program area, up more than 250% from a decade before.<sup>18</sup> Building on the state's strength in organic farming, the department has administered a Registered Apprenticeship program for Organic Vegetable Farm Managers. Since the program started in 2019, more than two dozen apprentices have been enrolled. DWD administers several other apprentice programs related to agriculture including apprentice programs for arborists, environmental systems technicians, and heavy equipment operators.<sup>19</sup>



## About The Wisconsin Agricultural Education And Workforce Development Council

After several years of inactivity, the Council was reformed in 2020 under Gov. Tony Evers' leadership to serve a key role in Wisconsin's economic and workforce development efforts. Under the guidance of DWD leadership, the WAEWDC continued to build on its progress throughout SFY2023 and advanced its work to fulfill its purpose and functions, under Wis. Stats. s. 106.40(2) to:

1. Increase the hiring and retention of well-qualified employees in industries related to agriculture, food, and natural resources.
2. Promote the coordination of educational systems to develop, train, and retrain employees for current and future careers related to agriculture, food, and natural resources.
3. Develop support for employment in fields related to agriculture, food, and natural resources.
4. Recommend policies and other changes to improve the efficiency of the development and provision of agricultural education across educational systems.

In addition, the Council provides advice and assistance to state agencies, educational institutions, and the Wisconsin Legislature on matters related to agricultural education and workforce development. The Council also focuses on the integration of agricultural education and workforce development systems through the coordination of programs, the exchange of information, and the monitoring and evaluation of programs. In addition, the WAEWDC helps attract, develop, and retain the superior workforce required to grow Wisconsin's production in agriculture, agribusiness, food, and natural resource sectors.

## Council Membership

WAEWDC is a function of DWD and consists of state agency secretaries (or their designees) from DWD, the Department of Agriculture, Trade, and Consumer Protection (DATCP), Department of Public Instruction (DPI), Wisconsin Economic Development Corporation (WEDC), and Department of Natural Resources (DNR); as well as the following appointees, pursuant to Wis. Stats. s. 15.227(15):

- ◆ President (or their designee) of the University of Wisconsin System;
- ◆ Director (or their designee) of the Wisconsin Technical College System;
- ◆ Chancellor (or their designee) from UW-Extension – now known as the dean/director of the UW-Madison Division of Extension;
- ◆ A member chosen jointly by the dean of the College of Agricultural and Life Sciences of the University of Wisconsin-Madison, the dean of the School of Veterinary Medicine of the University of Wisconsin-Madison, the dean of the College of Business, Industry, Life Science, and Agriculture of the University of Wisconsin-Platteville, the dean of the College of Agriculture, Food, and Environmental Sciences of the University of Wisconsin-River Falls, and the dean of the College of Natural Resources of the University of Wisconsin-Stevens Point to represent the colleges and school;
- ◆ A technical college district director appointed by the director of the technical college system;
- ◆ A technical college dean with authority over agricultural programs appointed by the director of the technical college system;
- ◆ Members of the legislature: two senators and two members of the assembly representing the standing committees on education and agriculture;
- ◆ Public member representatives appointed by the Secretary of DATCP to serve three-year terms:
  - Two representatives:
    - General agriculture,
    - Agribusiness; and
  - One representative
    - Wisconsin Association of Agricultural Educators,
    - Environmental stewardship interests,
    - Businesses related to natural resources,
    - Businesses related to plant agriculture
    - Landscaping, golf course, greenhouse, floral, and related businesses,
    - Food product and food processing businesses,
    - Businesses related to animal agriculture,
    - Businesses related to renewable energy,
    - Agricultural communication interests,
    - Businesses providing engineering, mechanical, electronic, and power services relating to agriculture,
    - Board of agriculture, trade, and consumer protection; and
- ◆ Public member representatives appointed by the State Superintendent of DPI to serve three-year terms:
  - One teacher who teaches classes in science, vocational technology, business, math, or a similar field,
  - One school guidance counselor,
  - One school board member,
  - One school district administrator.

## WAEWDC membership for SFY2023 is as follows:

Chair: **Sara Schoenborn**, Genus plc

### Executive Committee:

**Gwen Boettcher**, DeForest School District

**Dr. Greg Cisewski**, Northcentral Technical College

**Jeff Edgar**, Silver Creek Nurseries, Inc.

**Erik Huschitt**, Badger State Ethanol

**Betsy Leonard**, designee on behalf of the president of the Wisconsin Technical College System

**Paul Palmby**, Seneca Foods

**Amy Pechacek**, Secretary, Department of Workforce Development

**Randy Romanski**, Secretary, Department of Agriculture, Trade and Consumer Protection

**Sharon Wendt**, designee on behalf of the State Superintendent, Department of Public Instruction

### Members at Large:

**Joan Ballweg**, 14th Senate District, Senate Agriculture & Tourism Committee Chair (appointed January 2023)

**Kevin Bernhardt**, University of Wisconsin-Platteville

**Gary Besaw**, Menominee Indian Tribe of Wisconsin

**Monica Gahan**, Vincent High School of Agricultural Sciences

**Tom Gillis**, Wisconsin Corn Growers Association

**Bob Hagenow**, Rio Community School Board

**Ben Huber**, Insight FC Cooperative (appointed May 2023) / **Daniel Smith**, Cooperative Network (April 2023)

**John Jagler**, 13th Senate District, Senate Education Committee Chair

**Pete Kondrup**, Westby Cooperative Creamery

**Corey Kuchta**, Wisconsin Public Service

**Larry Lee**, Brownfield Ag News

**Miranda Leis**, Wisconsin Farm Bureau Federation; CROPP Cooperative /Organic Valley

**Scott Loomans**, designee on behalf of the Secretary, Department of Natural Resources

**Karl Martin**, Dean & Director, UW Madison Division of Extension

**Shelly Mayer**, Dairy farmer/PDPW

**Dr. Micheal Orth**, UW - River Falls Deal of the College of Ag, Food & Environmental Science (appointed June 2023) / **Dale Gallenberg**, UW – River Falls (retired October 2022)

**Sam Ridders**, designee on behalf of the Secretary/CEO, Wisconsin Economic Development Corporation

**John Rosenow**, Rosenholm Wolfe Dairy Farm/Cowsmo Compost

**Jill Runde**, McFarland School District

**Nick Stadnyk**, Rusk County Land & Water Conservation Department

**Jason Wood**, Southwest Technical College

**Jeffrey Wright**, Sauk Prairie School District Superintendent (appointed May 2023) / **Jeff Eide Blair-Taylor**, School District Superintendent (retired June 2022)



## Summary Of The Council's Activities – SFY2023

In SFY2023 (July 1, 2022 – June 30, 2023), continuing to build on a strong foundation, the WAEWDC focused on advancing its purpose and goals. In brief, during SFY2023, the Council:

- ◆ Re-adopted its statement of purpose.
- ◆ Identified vacancies in the Council membership and appointed new members to fill existing vacancies.
- ◆ Held four hybrid (in-person and virtual) meetings and started the practice of holding in-person meetings at different locations throughout the state to highlight successful agricultural programs and initiatives.
- ◆ Developed and approved the first set of bylaws for the Council since its inception.
- ◆ Solidified administrative framework and organizational structure to improve efficiencies for Council operations going forward.
- ◆ Elected new executive officers to provide additional leadership to further advance the Council's mission.
- ◆ Reviewed and reconstituted the three subcommittees to continue advancing the primary goals of the Council.
- ◆ Welcomed partners and agricultural education and industry stakeholders to deliver presentations to help the Council reflect on the status of agricultural education in Wisconsin, particularly its role in encouraging future generations to pursue careers in agriculture and natural resources.

In August 2022, the Council reviewed and approved its SFY2022 Annual Report which summarized how the Council planned to achieve its three primary goals and included reviews conducted by educational institutions and systems. Council members from educational institutions and systems (DPI, WTCS, and the UW System) provided high-level overviews of their reviews of the status of agricultural education in Wisconsin. The Council also chose to add a new element to the report so the report would contain updates from the affiliated state agencies on their roles and activities related to agricultural education and workforce development.

Additionally, the Council brought forward a recommendation to pursue statutory changes to Wis. Stat. ss. 15.227(15)(a)7., 106.40(4s)(c), and 106.40(5) to clarify the membership description of the dean of the University of Wisconsin-Madison Division of Extension so that it is consistent with the University of Wisconsin System's restructuring approved by the Higher Learning Commission in June 2018. That recommendation was introduced in the Legislature in April 2023 as 2023 Assembly Bill 169/Senate Bill 163. The Council also recommended and approved that the Council remain in place with its current structure and continue to carry out its functions as defined in state statute.

At its quarterly meeting in November 2022, the WAEWDC reinforced the need for Council bylaws and agreed to modify the purpose of one of the subcommittees to focus on developing bylaws and structural procedures for Council operations. The previous goal for that subcommittee that was centered around branding, marketing, and outreach was absorbed by the other two subcommittees as it related to their existing efforts. The agreed upon goals of the WAEWDC for SFY2022:

- Goal 1:** Support agricultural education instructors and find effective ways to reach every student to highlight the opportunities available in agriculture in a positive, purposeful way.
- Goal 2:** Partner with DPI to embrace and promote the development of a statewide agriculture pathway.
- Goal 3:** Develop and establish bylaws and organizational framework for the WAEWDC for approval by the Council.



The Council has three subcommittees to focus on initiatives and complete the work necessary to achieve each of the three goals. The membership for the three WAEWDC subcommittees is listed below:

Goal 1 Subcommittee	Goal 2 Subcommittee	Goal 3 Subcommittee
Co-Chair – Betsy Leonard	Chair – Sharon Wendt	Chair - Paul Palmby
Co-Chair – Greg Cisewski	Kevin Bernhardt	Gary Besaw
Gwen Boettcher	Jeff Eide	Dale Gallenberg
Jeff Edgar	Monica Gahan	Bob Hagenow
Tom Gillis	Shelly Mayer	Pete Kondrup
Erik Huschitt	Sec. Amy Pechacek	Larry Lee
Corey Kuchta	Deputy Sec. Sam Ridders	Scott Loomans
Miranda Leis	Sec. Randy Romanski	Karl Martin
Jill Runde	Sara Schoenborn	John Rosenow
Sara Schoenborn		Sara Schoenborn
Jason Wood		Daniel Smith
		Nick Stadnyk

“The agricultural industry relies on a trained, skilled workforce on farms, in processing plants, and through related businesses. This training starts in the classroom with excellent agricultural educators, quality agricultural curriculum, and enthusiastic agricultural students. The Wisconsin Agricultural Education and Workforce Development Council is committed to considering challenges and developing opportunities to ensure a strong agricultural workforce into the future,” said DATCP Secretary Randy Romanski.

By the end of SFY2023, the chairs of the three subcommittees were pleased to report the following workgroup activities:

- ▶ **Goal 1 Subcommittee** – Identified two actionable items to help support instructors and highlight the opportunities available in agriculture.
  1. The subcommittee will create a visual for use by faculty at all levels and a handout for students to see what, when, and where there are agricultural educational opportunities. This will support instructors by building a pipeline of students.
  2. The subcommittee started an assessment of middle school, high school, and post-secondary institutions to understand where students are introduced to agricultural education, what continuing opportunities they have, and areas for improvement.

The subcommittee is making progress on its goal and has gathered input on recommendations for ways to support agricultural education instructors and conduct outreach to get more students interested in agriculture opportunities. The subcommittee plans to reconvene to discuss how to proceed with the recommendations and develop a strategy to distribute the information.

- ▶ **Goal 2 Subcommittee** – The subcommittee served a vital role in the development and publishing of a statewide agriculture pathway. Not only were members of the subcommittee asked to be a part of the Statewide Agriculture Career Pathway group, but they also served as reviewers of the final draft prior to publishing. The pathway provides a transparent way to illustrate the multiple career opportunities in agriculture, and the types of courses and experiences that would prepare students for these high skill, high wage, and in demand career areas.

Now that the statewide agriculture career pathway has been developed, it has been published for regional adoption and in turn local implementation. The implementation of career pathways will ensure students have access to the components of the agriculture career pathway. These components include opportunities to take a sequence of aligned agricultural courses, earn an agricultural industry-recognized credential, and enroll in a dual college credit agriculture course as well as potentially participate in an agricultural work-based learning experience and the National FFA Organization.

The career pathway not only provides opportunities for students to be best prepared to enter or advance within an occupation, but it also enhances the size and quality of the workforce. For additional information on the Agriculture Career Pathway please visit: <https://dpi.wi.gov/pathways-wisconsin/agriculture-food-and-natural-resources>.

- ◆ **Goal 3 Subcommittee** – The subcommittee led the efforts to develop bylaws and establish the governance structure for the WAEWDC. After months of development, review, and deliberation the subcommittee developed draft bylaws that were presented to the WAEWDC Executive Committee. The Executive Committee voted to recommend approval of the bylaws by the full council, and the bylaws were unanimously approved by the WAEWDC at its quarterly meeting in May 2023.

In addition to the development and work of the three subcommittees, the WAEWDC also used meetings to receive updates about programs, initiatives, and opportunities across the state that connect agricultural education and agricultural workforce development. This included the following formal presentations and report outs:

- A presentation from the Farming for the Future Foundation (FFTF) about how the group is carrying out the mission "to educate current and future generations about agriculture innovation and sustainability" with a focus on "the other side of the plate" in the world's food supply chain. FFTF explained the need to reconnect people to modern agriculture due to the loss of personal connections to family farms from previous generations. FFTF leaders provided details about their approach to address this issue including building the Farm and Food Exploration Center as a place for people to discover agriculture and the creation of an education outreach program to develop agriculture centered lesson plans that can be incorporated into classrooms.
- An overview of the School for Agriculture and Environmental Studies (SAGES), which is a project-based, public charter school offering four-year-old kindergarten through grade six. Council members learned about SAGES' agricultural and environmental infused curriculum that places an emphasis on project-based learning and offers students the opportunities to partner with community members and businesses.
- The University of Wisconsin – River Falls Humane Handling Institute provided an update to the Council on the development of its program to improve and refine the ability of meat industry personnel to comply with the Humane Slaughter Act. This work is possible due to Governor Evers' investment of federal funding into the Meat Talent Development Program. The courses offered in this program include animal welfare and handling from farm through transport, livestock receiving and lairage, effective and humane restraint and stunning, stunning equipment operation and maintenance, and building a robust systematic approach to animal welfare.
- UW – River Falls also provided an update to the Council on the High School Meat Science Curriculum program which offers opportunities for potential members of the workforce to explore the benefits a career in the meat industry has to offer. The program includes a 10-day module for Wisconsin high school agriculture and education programs that incorporates prepared course content, hands-on laboratory activities, and the opportunity for interested agricultural educators to apply for a grant of basic, small-scale meat processing equipment. At the time of the presentation, the High School Meat Science Curriculum was a pilot program with the goal of the program becoming available in all Wisconsin schools in 2023.
- A presentation on the Wisconsin Farm Bureau Federation – Agriculture in the Classroom program and the logic model for agricultural literacy curriculum. Council members heard examples of efforts currently underway to unify Wisconsin's Ag Literacy efforts by creating/curating a curriculum that supports core content, engages educators and volunteers by meeting them where they are at both figuratively and geographically, collaborating with like-minded organizations on Ag Literacy outreach efforts, and identifying methods to increase program credibility among teachers, volunteers, and students. The Council discussed the challenges and impediments that are hindering the program such as the lack of qualified instructors and licensing difficulties, as well as other challenges faced by teachers especially in the agricultural education area. The Council agreed this topic could be further explored by one of the subcommittees.



- An update on the recent work and accomplishments of the UW Dairy Innovation Hub. The Dairy Innovation Hub represents a \$7.8 million per year investment by the State of Wisconsin that harnesses research and development at UW–Madison, UW–Platteville, and UW–River Falls campuses to keep Wisconsin's \$45.6 billion dairy community at the global forefront in producing nutritious dairy foods in an economically, environmentally, and socially sustainable manner. The Dairy Innovation Hub explained to Council members how this investment is used to bring a positive impact to Wisconsin dairy through building research capacity, recruiting top talent, innovative research and engaging in outreach and instruction.
- A report from Easterseals Wisconsin about the group's mission to educate high school students with disabilities about the vast agricultural opportunities in Wisconsin as well as provide fun activities while building knowledge about the growing agricultural industry. Easterseals Wisconsin described efforts to achieve their primary goal "to engage students to want to learn more about a position with an agricultural business through participating in a job shadow or a short-term work experience"; and their work with DWD's Division of Vocational Rehabilitation through the FARM Program to provide individualized, on-farm vocational rehabilitation services.

As the Council continues to hear from educators and industry experts about the opportunities and needs of agricultural education and agricultural workforce development, the WAEWDC and its subcommittees will move forward with further implementation of its goals in SFY2024.

"The Council has had a tremendous year of learning, exploring, and planning for the future of Wisconsin agriculture and agricultural education," said WAEWDC Chair Sara Schoenborn. "It is a privilege to serve alongside such a diverse group of leaders – each one committed to the activities of the Council and to providing increased and enhanced educational opportunities and a stronger, better industry for future agricultural leaders."



## State Agency Highlights - SFY2023

### Department Workforce Development

DWD is committed to efficiently delivering effective and inclusive services to meet Wisconsin's diverse workforce needs and advocates for the protection and economic advancement of all Wisconsin workers, employers, and job seekers. DWD envisions a thriving Wisconsin economy in which:

- All workers are treated fairly, with dignity and respect;
- Employers, government, educational institutions, and workers collaborate to ensure workforce programs meet current and future needs; and
- Every job provides the wages and benefits necessary to support workers' basic needs, invest in their future, and actively engage with their families and communities.

DWD is charged with building and strengthening Wisconsin's workforce for the 21st century and beyond. The Department's primary responsibilities include providing job services, training, and employment assistance to people looking for jobs, while also helping employers find the necessary workers to fill current job openings.

### Wisconsin Agricultural Education and Workforce Development Council

DWD continued its oversight and support for the WAEWDC, ensuring the continued growth and advancement of its purpose and goals. The WAEWDC provides advice and counsel to state agencies, educational institutions, and the Wisconsin Legislature on matters related to agricultural education and workforce development. In addition, the Council helps attract, develop, and retain the superior workforce required to grow Wisconsin's production in agriculture, agribusiness, food, and natural resource sectors. The work of the Council and its members help to build the connections necessary to ensure a bright future for Wisconsin's agricultural industry and economy.

### Apprenticeship, Internships and Occupational Pathways in Agriculture

Competition for workers is strong statewide and agriculture is no exception. A total of 11.8% of jobs in Wisconsin are in agriculture, more than half of which are in food processing. There are 435,700 agriculture jobs in Wisconsin, so to help both job seekers and employers, DWD offers both youth and registered apprenticeships in agriculture. DWD currently offers Agriculture Registered Apprenticeship (RA) programs Dairy Grazier and Organic Vegetable Farm Manager career tracks. In August 2022, Governor Evers announced that Wisconsin high school juniors and seniors heading back to school this fall will have 14 new occupational pathways that local employers can support, thanks to ongoing modernization efforts by DWD. DWD's Youth Apprenticeship (YA) Program Modernization Initiative resulted in 14 new occupational pathways in which local employers can offer apprenticeship opportunities to students, including Dairy Grazier and Arborist – which is the first youth arborist apprenticeship program in the nation. Additionally, YA has an Agriculture, Food and Natural Resources (AFNR) Occupational pathway that focuses on careers in the planning, implementation, production, management, and processing of agricultural commodities and services.

DWD continues to fund the Wisconsin Fast Forward Grant Program and a portion of that funding goes to projects to support agriculture related training projects. In April 2023, Governor Evers and DWD announced more than \$1 million for UW System to connect students to internship opportunities in high-demand fields including agriculture. UW-River Falls received \$244,42 in Wisconsin Fast Forward funding to work in collaboration with industry partners and leaders to create innovative experiences in agriculture and offer paid internships for students. Through this effort, 20 students will be placed in 14-week summer internships or 28-week academic year internships and be provided a career development seminar focused on resume-building workshops and strategies for career advancement.



## Workforce Solutions Initiatives

In July 2021, Governor Evers announced a \$130 million investment into solutions to help address the state's post-pandemic workforce needs, with an additional \$28 million provided in June 2022. With funds from the American Rescue Plan Act (ARPA), the resources support connecting unemployed or underemployed workers with new opportunities while also incentivizing innovative solutions to regional workforce challenges that have been exacerbated by the pandemic. The programs include:

- **Workforce Innovation Grant Program** – The \$128 million Workforce Innovation Grant program, a partnership between DWD and WEDC, offered up to \$10 million in grants to local and regional collaborations with proposals that represented innovative thinking, data-driven planning, and leverage existing infrastructures to connect the dots for post-pandemic workforce solutions. DWD and WEDC have awarded 27 Workforce Innovation Grants. Among the recipients, four organizations were awarded grants to address childcare issues in their area, three organizations identified creative solutions to housing challenges, two offered transportation solutions, and 18 organizations offered workforce training solutions.
  - **For example**, the Wisconsin Heights School District and its partners were awarded up to \$264,000 to tackle the extraordinary teacher shortage faced by rural districts and exacerbated by the pandemic. The participating GROW school districts are "growing their own" teachers. The program begins with current high school students and continues through college. In high school, participating students take up to 12 credits through the UW-Whitewater, while also being mentored by classroom teachers at the grade level or subject area they are interested in teaching. Participating students are also eligible for scholarships to help defray college expenses. Students who receive scholarships must agree to be interviewed by one of the GROW districts, and if hired, commit to teaching for at least three years in the GROW district.
- **Worker Advancement Initiative** - A total of \$20 million of ARPA funding is going toward the Worker Advancement Initiative, which offers subsidized employment and skills training opportunities with local employers to unemployed individuals. DWD awarded grants to each of the Workforce Development Boards (WDB) around the state to provide subsidized employment and skills training opportunities to participants, including a focus on those who will be co-enrolled in Workforce Innovation and Opportunity Act (WIOA) programs. The purpose is to leverage existing resources available through the greater workforce system to connect participant job seekers more effectively to employers and allow them to obtain enhanced case management and training services. The Worker Advancement Initiative has 2,902 participants enrolled accessing over 13,700 services to date.
  - **For example**, \$1.5 million was awarded to the Western Wisconsin Workforce Development Board (WWWDB) to serve 150 participants, largely in rural Buffalo, Trempealeau, Jackson, La Crosse, Monroe, Juneau, Vernon, and Crawford counties. The WDWDB is using these funds to provide paid work experience opportunities, hard and soft skills training in in-demand jobs, on-the-job training opportunities, and enhanced supportive services, including childcare, housing, transportation, and worker stipends.
- **Worker Connection Program** – DWD awarded \$10 million for the Worker Connection Program to two workforce development areas (WDAs), which provide workforce career coaches who connect with individuals attempting to reengage in the workforce since the pandemic. WDA 2 (Milwaukee County) and WDA 5 (Florence, Marinette, Oconto, Outagamie, Menominee, Shawano, Brown, Kewaunee, Door, Manitowoc, and Sheboygan Counties) are engaging coaches to help participants identify a career pathway available in Wisconsin that offers the wages and benefits necessary to support their basic needs, invest in their future and engage with their families and communities. To date the Worker Connection Program staff have made outreach attempts to more than 712 organizations and have 1,754 participants enrolled.
  - The coaches facilitate assessments and connect participants with appropriate training providers.
  - They also assist participants with filling out any application requirements or grant requests.

The program also offers participants the opportunity to take in-demand, sector-focused training with local employers who are ready to hire. Local training opportunities are designed to focus on sector and employer needs. Employers ensure that the training meets their workforce needs and provides job opportunities to participants.

## Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has a broad mission to partner with all the citizens of Wisconsin to grow the economy by promoting quality food, healthy plants and animals, sound use of land and water resources, and a fair marketplace. To grow Wisconsin's agricultural industry, Wisconsin depends on a talented, trained, and skilled workforce. DATCP works to be an advocate for recruiting and retaining agricultural workers. This includes connecting with students, promoting agricultural career opportunities, and leveraging state and federal funding.

### Leading the Wisconsin Agriculture Youth Council

In May 2023, DATCP concluded its third year of the Wisconsin Agriculture Youth Council. The goals of the Youth Council are to highlight agricultural careers, share available resources, provide insight into policy development, and create networking opportunities. The members, who are high school seniors, hail from across the state and meet virtually each month for presentations and discussions about different agricultural topics. The speakers include DATCP staff, as well as industry leaders from a variety of fields.

Each spring, DATCP recruits for and announces the next Wisconsin Agriculture Youth Council membership. DATCP promotes the Youth Council to students with diverse backgrounds and experiences from our rural communities, urban cities, and Tribal nations. Students self-nominate for the Youth Council by submitting an application, essay, letter of recommendation, and a video. The fourth Wisconsin Agriculture Youth Council will begin meeting in September 2023.

### Developing Student Internships at DATCP

DATCP is pleased to host numerous internship opportunities for students to gain work experience, build additional skills, and increase their awareness of careers in public service. In the summer of 2023, DATCP hired a second Wisconsin Agriculture Youth Council alumni as a Limited Term Employee on the communications team to coordinate outreach at events such as the Wisconsin State Fair.

This year, DATCP also participated in the State of Wisconsin Student Diversity Internship Program, hosting nine interns through this program. These interns worked in multiple divisions including Agricultural Development, Animal Health, Agricultural Resource Management, and Trade and Consumer Protection. DATCP greatly values the students' perspectives and hopes they will consider future jobs in the department or the agriculture industry.

### Investing in the Meat Talent Development Program

DATCP continues to implement the Meat Talent Development Program to attract students to meat careers, provide financial support to students in Wisconsin meat processing training programs, support program development, and connect the meat processing industry with potential employees. This work is possible through Governor Evers' investment of up to \$5 million in American Rescue Plan Act (ARPA) funding.

In August 2022, DATCP launched [meatpathways.wi.gov](http://meatpathways.wi.gov) to highlight the variety of careers available in the livestock and meat processing industry and to share training and education opportunities for these positions. Through the Meat Talent Development Program, there is tuition reimbursement for Hazard Analysis Critical Control Points (HACCP) courses for those currently working in the meat industry. A 10-day high school curriculum has also been developed, and schools had the opportunity to apply for laboratory kits to provide hands-on experience to these students. The University of Wisconsin-River Falls also developed a Humane Handling Institute, a first-of-its-kind comprehensive training program.

The Meat Talent Development Program is strengthened by the numerous partnerships across the state including DATCP, the University of Wisconsin campuses, Wisconsin Technical College System, high schools, and meat and livestock industry. The federal dollars provided by Governor Evers have allowed technical college campuses to invest in mobile processing units and implement courses to prepare students for careers in the meat and livestock industry. DATCP believes that the template established through the Meat Talent Development Program can be a useful tool to promote agriculture career pathways into the future.

## Wisconsin Economic Development Corporation

### Office of Rural Prosperity

WEDC's Office of Rural Prosperity (ORP) seeks to foster vibrant, prosperous, and resilient rural communities across Wisconsin. In its efforts, ORP led a multi-agency effort to help identify and target assistance for the state's most environmentally vulnerable communities, and link businesses to their customers through strong digital connections. A new online directory of resources is available at [ruralwi.com](http://ruralwi.com), with lists of federal and state government programs and nonprofit providers, who support rural initiatives as well as a range of success stories illustrating the resilience and creativity of rural residents and communities.

### International Market Access Grants and Agriculture Export Collaborations

WEDC collaborates with the DATCP on export development by partnering to provide International Market Access Grants (IMAG) awards to agricultural businesses. As part of the Wisconsin Initiative for Agriculture Exports (WIAE), WEDC contracted eight agricultural company IMAG grants in SFY23. WEDC's Global Trade and Investment division and DATCP are partnering to highlight the IMAG to agricultural companies and groups around the state. Additionally, WEDC has successfully applied for and passed through funding from the Small Business Administration's STEP grant program to DATCP, which allows Wisconsin's agricultural companies to attend important trade show events and promote their unique products and services.

### Wisconsin Co-Op Feasibility Study Grant

The program was designed to support the success of current and future cooperatives by allowing them to explore all facets of their business before significant investments are made. Over \$300,000 went to developing cooperatives, assisting private businesses interested in converting to the cooperative model, and existing co-ops through 16 different projects to date.

### Fabrication Laboratory Grants

For the past six years, the fabrication laboratory grant program has supported hands-on science, technology, engineering, arts, and math (STEAM) education by assisting public school districts with equipment purchases used for instructional and educational purposes in fabrication laboratories in schools. This past fiscal year, WEDC awarded funding to 25 communities, in mostly rural areas.





## Department of Natural Resources

The Wisconsin Department of Natural Resources (DNR) employs a large, diverse workforce throughout the state who work with many aspects of the agricultural industry and lead on issues ranging from water quality to wildlife damage to the management of agricultural plastics. DNR employees have a strong customer service philosophy and attitude of helpfulness with jobs in the areas of natural resources, environmental sciences, engineering, law enforcement, business, and information technology.

### DNR Educators

Wisconsin DNR educators expose students to the sciences, conservation, and to resource professionals. DNR believes this exposure can lead people to careers related to natural resources, agriculture, and the sciences. It can also create awareness and support for wise use of renewable resources. DNR educators offer field trips to school groups, lead nature hikes, and provide programs on topics ranging from ecology, geography, wildlife biology, history, and cultural studies to all areas of outdoor recreation and outdoor skills and safety.

DNR educator positions were nearly fully staffed in 2022 – 2023. Educators have excellent coverage around the state with wildlife educators at the following five locations:

- Sandhill State Wildlife Area,
- Mead State Wildlife Area,
- Crex Meadows State Wildlife Area,
- Horicon Marsh State Wildlife Area, and
- the Milwaukee Service Centers.

Parks and Recreation has educators at Devil's Lake State Park, Rhinelander, Havenwoods State Forest, MacKenzie Center, and other parks.

The DNR has also been hiring outdoors skills trainers whose duties will include working with volunteer safety program instructors, leading safety courses when volunteers are not available, and providing support for DNR-led programs teaching people how to hunt, fish, trap, and shoot. Trainers are in Eau Claire, Fitchburg, Green Bay, Waukesha, and Spooner with support staff in Madison.

### Contributions to Rural Prosperity

Keeping communities strong and vibrant contributes to developing Wisconsin's workforce. Resulting from a focus on rural prosperity, the DNR announced a new \$10 million grant program to support the replacement, reconstruction, treatment, or abandonment of contaminated private wells. The program is based on the state's Well Compensation Grant Program and will expand eligibility beyond the current Well Compensation Program to support more private well owners and increase access to clean drinking water. With this \$10 million investment and expanded eligibility criteria, it is estimated the program could help well owners address contamination in approximately 1,036 additional wells.

The Knowles-Nelson Stewardship Fund was created in 1989 to preserve important natural communities, protect water quality and fisheries, and expand opportunities for outdoor recreation. DNR has added tie-breaker points for rural applicants in the Stewardship Outdoor Recreation Grants application for the 2023 cycle.

Finally, the DNR has published a request for proposals to provide or hire technical support to municipal applicants that need assistance with lead service line replacements (i.e., Drinking Water Program).

As always, DNR staff participated in the Farm Technology Days in Baraboo, the Wisconsin State Fair, and other events where they could provide the public information and assistance. Staff from DNR's Bureau of Community Financial Assistance played an important role at the Rural Partners Summit.

### Natural Resources Work Experience

Again in 2023, the DNR operated multiple programs that help students and recent graduates explore different careers and gain valuable experience. These programs included the State of Wisconsin Student Diversity Internship Program as well as hundreds of limited term employment opportunities.

The Youth Conservation Congress gives people under the age of 18 a resume building experience and instills a sense of civic pride and responsibility in future stewards of Wisconsin's natural resources. In 2022, 26 counties were represented, and participation included 46 youth delegates and 15 active alumni.

# Annual Agricultural Education Program Reviews

## Department of Public Instruction Review

### Agricultural Education in Wisconsin’s PK-12 Public Schools

Agricultural education continues to prepare students for careers in the agriculture industry, while developing students’ leadership skills through Future Farmers of America (FFA) and their Supervised Agriculture Experience (SAE). Today’s agricultural education departments have developed a comprehensive structure that includes areas such as biotechnology, veterinary science, alternative energy, food science, horticulture, landscaping, and so much more. With such variety, students are being prepared for a variety of careers and opportunities in agriculture.

### Program Status

- The Wisconsin Department of Public Instruction (DPI) developed the Agriculture Career Pathway at the state level and made it available for regional adoption in the spring of 2023. This pathway joins the list of other career pathways highlighting high skill, high wage, and in demand occupational areas. More information on Regional Career Pathways can be found at: <https://dpi.wi.gov/pathways-wisconsin>

- Over 25,200 agricultural education students are also members of the Wisconsin Association of FFA. The pandemic and disruption of events caused membership to see a slight decrease, but it has since seen membership increase even higher than pre-pandemic levels as the Wisconsin Association of FFA and National FFA Organization commit to in-person activities and events when possible.

Year	FFA Membership
2018-19	20,830
2019-20	21,273
2020-21	19,804
2021-22	23,179
2022-23	25,249

- Wisconsin representatives from the Wisconsin Association of FFA/DPI, Wisconsin FFA Center, Wisconsin FFA Alumni and Supporters, and Wisconsin Association of Agricultural Educators took part in a pilot collaborative offered by the National FFA Organization to investigate strategies to advance agricultural education in Wisconsin with regards to Equity, Diversity, and Inclusion. The collaborative has exposed areas of improvement and growth for Agricultural Education in Wisconsin to ensure all students have access to the opportunities available within Agricultural Education. An implementation plan is in progress to work on addressing these areas in the next two years.

- Over 53,300 students, grades 5-12 took at least one agriculture course. The table below demonstrates the enrollment breakdown by race:

Race	Enrollment
Asian	689
Black-African American	1272
Hispanic	4065
American Indian Alaskan Native	525
Native Hawaiian-Pacific Islander	46
White	45280
Two or More	1449
<b>Total</b>	<b>53,326</b>

- DPI continues to implement an agriculture/science equivalent credit process to award science credits for agriculture courses.

- The implementation of career clusters and pathways in Agriculture, Food, and Natural Resources, as well as Science, Technology, Engineering, and Mathematics, (STEM) fields, expands career development opportunities and helps transition from secondary to post-secondary education.

### Agricultural Education Challenges - Pre-K Through 12 in Public Schools

- Shrinking supply of qualified agricultural education teachers continues to be a challenge.
- Expanding agricultural education programs in Wisconsin with limited teachers.
- Expanding agricultural education programs in urban school districts.
- Sustaining rural agricultural education programs during periods of declining Pre-K-12 enrollments.
- Promoting quality curriculum and instructional facilities for an agricultural education program to meet the STEM needs.

## Wisconsin Technical College System Review

WTCS is composed of 16 individual colleges across the state making up the system enrolling more than 260,000 people each year. The colleges provide 50 campuses and facilities to meet students where they are demographically, serving every community in Wisconsin, large or small, urban or rural. The technical colleges have a long history of offering high quality programs in agriculture and natural resources, offering 500 programs awarding two-year associate degrees, one- and two-year technical diplomas, as well as short-term technical diplomas and certificates. In addition, 93% of 2021 graduate were employed within six months of graduation with 92% of alumni staying and working in Wisconsin.

The mission of the WTCS is to deliver skills training that recognizes the rapidly changing educational needs of residents to keep current with the demands of the workplace. This is accomplished through the creation of guided career pathways, dual credit opportunities for students in high school to receive college credit, workforce development, and the use of disaggregated student success data through WTCS Tableau Data Dashboards to allow leadership and faculty to create opportunities for business and industry.

Students of the WTCS may be right out of high school, or adults who never attended college or are looking for second careers or a fresh start from the justice system. They differ in (age, gender, race, and socio-economic status), and may have goals to work while attending classes such as in an apprenticeship, improve their skills for their current job, graduate from a program of study and go right out into the workforce or transfer to a 4-year college for additional education.

Programs in the Agriculture and Natural Resources Career Cluster teach the production, processing, marketing, distribution, financing, management, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, renewable energy, and other plant and animal products/resources.

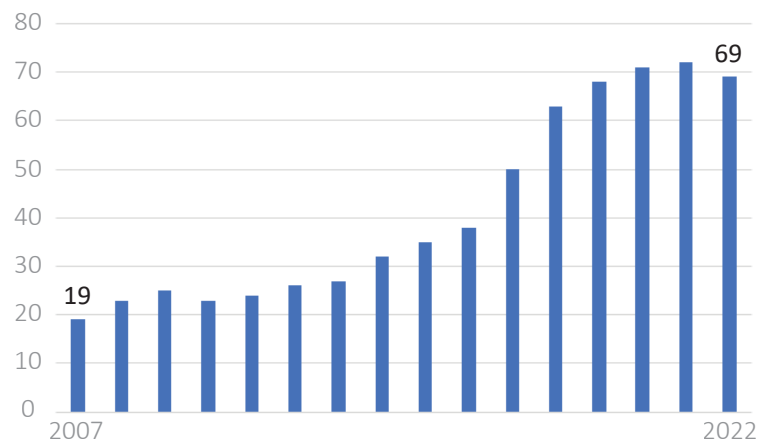
Pathways in the cluster include:

- Agribusiness Systems,
- Environmental Science Systems,
- Food Products and Processing Systems,
- Power, Structural, and Technical Systems, and
- Plant Systems.

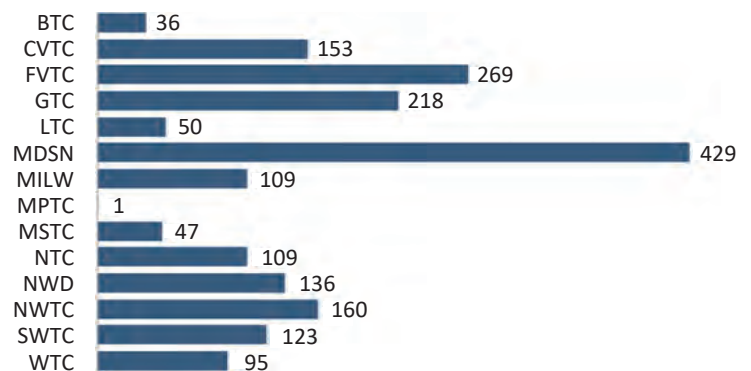
In the 2021-2022 school year, approximately 2000 students were enrolled in 69 agriculture and natural resources programs. **(Figures 1 & 2.)**



\*Figure 1. 2022 WTCS Agriculture Programs with Enrollments

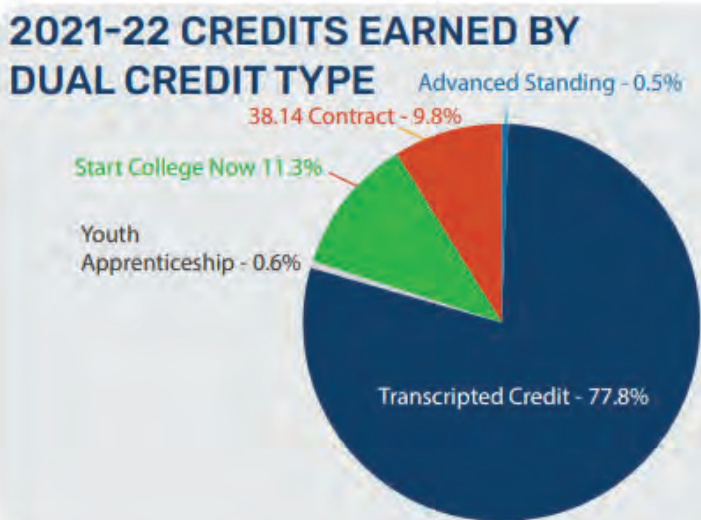


\*Figure 2. 2022 Program Student Headcount by District

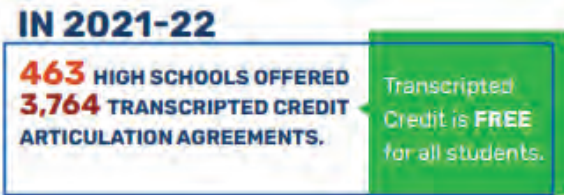


In high schools throughout the state, students may take advantage of dual credit opportunities. Dual credit is earned for a selection of high school courses that allow students to simultaneously earn both high school and college credit. Over the last five years, there has been striking growth in the number of students earning WTCS dual credit and the number of credits earned. Researchers have identified numerous advantages in earning dual credit, including cost savings, early entry to career pathways, decreased college remediation, reduced time to degree completion and stronger postsecondary outcomes. Students can get a jump-start on their post-secondary education by taking courses such as Animal Science, Greenhouse Management and Plant Science. Dual credit opportunities include contracted services, Start College Now, Youth Apprenticeship and transcribed credit. **(Figure 3.)** During the 2021-2022 school year, 463 high schools offered 3,764 transcribed credit articulation agreements. **(Figure 4.)**

\*Figure 3. WTCS Transcribed Credit Opportunities



\*Figure 4. WTCS Transcribed Credit Opportunities



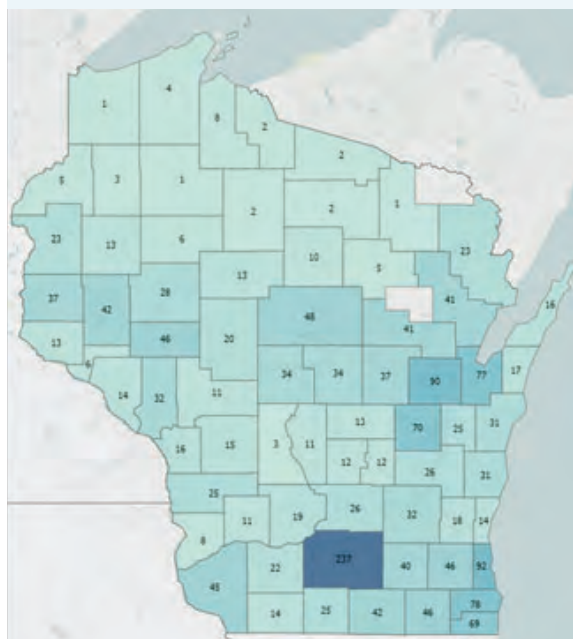
\*Figure 5. WTCS Graduate Outcomes for 2022 Agriculture Program Graduates

Graduates	
% Employed	98%
% Employed Related	79%
Median Annual Salary of Employed Related	\$45,756

The Wisconsin Technical College System conducts graduate follow-up surveys six months after graduation on graduate’s success rate finding employment as well as median starting salary. For WTCS agriculture programs, the 2022 survey indicated that 278 out of 453 graduates responded to the survey. Of this group, 98% were employed within six months of graduation with 79% working directly in an agriculture-related field. These numbers show the excellent employment opportunities for technical college graduates. **(Figure 5.)**

In 2022 every county in the State of Wisconsin was represented by a student(s) enrolled in agricultural programming through one of Wisconsin’s technical colleges. **(Figure 6.)**

\*Figure 6. WTCS Student County of Residence



## University of Wisconsin System Review

### Agricultural Education in Wisconsin's Public Universities

The University of Wisconsin System, along with the Department of Public Instruction, Wisconsin Technical College System, and the UW-Madison Division of Extension, are educational institutions with a mission to train the next generation to meet the many agriculture-related challenges and create a thriving agricultural industry both in Wisconsin and beyond. The UW System brings new, innovative, and world-class research to the table along with degree programs and service opportunities for four-year undergraduates and graduate students.

Baccalaureate programs that prepare students for professional careers in agriculture and natural resources are offered by UW-Madison College of Agricultural and Life Sciences (CAL S); UW-Platteville School of Agriculture (SOA); UW-River Falls College of Agriculture, Food and Environmental Sciences (CAFES); and UW-Stevens Point College of Natural Resources (CNR).

Career pathway opportunities include Agribusiness Systems, Agricultural Education & Agricultural Studies, Animal Systems, Environmental Services, Food Products and Processing, Natural Resources, Plant Systems, and Power, Structural and Technical Systems. Recruiting and educating students for these professions is vital to the growth and vitality of the Wisconsin economy.

New degree programs (**Figure 7.**) are continuously created to meet the new challenges and needs in the industry, including recent additions of Environmental Engineering and Engineering Technology at UW-River Falls; Dairy Science at UW-Platteville; and Global Health at UW-Madison.

\*Figure 7. UW Program Additions

Institutions	Program Name	Term Launched
UW-River Falls	Environmental Engineering	Fall 2020
UW-River Falls	Engineering Technology	Summer 2022
UW-Platteville	Dairy Science	Fall 2016
UW-Madison	Global Health	Fall 2020

There are significant challenges as well. The Wisconsin workforce is aging, birth rates are declining, the number of high school graduates is declining, and participation rates of high school students going to college is falling.<sup>20</sup> Academic areas and programs across the system experienced decreased enrollments in 2022 compared to the previous two years, a situation that was exacerbated by the COVID-19 pandemic. Enrollments decreased 4% overall with all academic clusters seeing decreased enrollment except Natural Resources with a 7% gain and Biology and Life Sciences with a 1% gain. See **Figure 8** below for more enrollment data.

\*Figure 8.

Academic Program	UW Institution	Upperclass Undergraduate Fall Enrollment			Graduates		
		2021	2022	% Chng	2021	2022	% Chng
<b>Career Cluster: AGRICULTURE, FOOD AND NATURAL RESOURCES</b>							
<b>Agribusiness Systems</b>							
Ag Management	UW-Madison	31	33	6%	31	11	-65%
Agribusiness	UW-Platteville	98	66	-33%	42	63	50%
	UW-River Falls	87	69	-21%	55	48	-13%
Ag & Applied Economics	UW-Madison	31	34	10%	14	16	14%
<b>Totals</b>		<b>247</b>	<b>202</b>	<b>-18%</b>	<b>142</b>	<b>138</b>	<b>-3%</b>
<b>Agricultural Education &amp; Agricultural Studies</b>							
Ag Education	UW-Platteville	33	32	-3%	15	11	-27%
	UW-River Falls	45	36	-20%	22	20	-9%
Ag Marketing Communications	UW-River Falls	106	102	-4%	49	46	-6%
Ag Studies	UW-River Falls	10	5	-50%	7	7	0%
<b>Totals</b>		<b>194</b>	<b>175</b>	<b>-10%</b>	<b>93</b>	<b>84</b>	<b>-10%</b>

Academic Program	UW Institution	Upperclass Undergraduate Fall Enrollment			Graduates		
		2021	2022	% Chng	2021	2022	% Chng
<b>Animal Systems</b>							
Animal Science	UW-Madison	76	71	-7%	27	27	0%
	UW-Platteville	62	61	-2%	39	27	-31%
	UW-River Falls	365	317	-13%	144	155	8%
Dairy Science	UW-Madison	27	18	-33%	17	17	0%
	UW-Platteville	21	13	-38%	9	14	56%
	UW-River Falls	47	41	-13%	29	25	-14%
<b>Totals</b>		<b>598</b>	<b>521</b>	<b>-13%</b>	<b>265</b>	<b>265</b>	<b>0%</b>
<b>Environmental Service Systems</b>							
Community & Envir Sociology	UW-Madison	42	31	-26%	19	18	-5%
Conservation/Land Use Planning	UW-River Falls	66	58	-12%	24	27	13%
Environmental Science	UW-Madison	139	160	15%	50	44	-12%
	UW-River Falls	23	15	-35%	10	8	-20%
Geology	UW-River Falls	15	12	-20%	8	7	-13%
Reclamation, Envir & Conservation	UW-Platteville	18	13	-28%	8	11	38%
Resource Management	UW-Stevens Point	162	125	-23%	60	85	42%
Sustainable Management	UW-River Falls	24	13	-46%	5	5	0%
<b>Totals</b>		<b>489</b>	<b>427</b>	<b>-13%</b>	<b>184</b>	<b>205</b>	<b>11%</b>
<b>Food Products &amp; Processing Systems</b>							
Food Science	UW-Madison	53	42	-21%	23	24	4%
Food Science & Technology	UW-River Falls	17	19	12%	12	6	-50%
<b>Totals</b>		<b>70</b>	<b>61</b>	<b>-13%</b>	<b>35</b>	<b>30</b>	<b>14%</b>
<b>Natural Resource Systems</b>							
Fisheries & Water Resources	UW-Stevens Point	107	100	-7%	54	41	-24%
Forestry	UW-Stevens Point	140	154	10%	67	55	-18%
Forest Science	UW-Madison	15	12	-20%	7	6	-14%
Paper Science	UW-Stevens Point	40	36	-10%	4	8	100%
Wildlife	UW-Stevens Point	187	217	16%	61	64	5%
Wildlife Ecology	UW-Madison	59	70	19%	20	20	0%
<b>Totals</b>		<b>548</b>	<b>589</b>	<b>7%</b>	<b>213</b>	<b>194</b>	<b>-9%</b>
<b>Plant Systems</b>							
Agronomy	UW-Madison	10	14	40%	6	4	-33%
Crop & Soil Science	UW-River Falls	29	28	-3%	17	13	-24%
Entomology	UW-Madison	13	16	23%	7	7	0%
Environmental Horticulture	UW-Platteville	22	13	-41%	7	6	-14%
Horticulture	UW-Madison	30	31	3%	9	9	0%
	UW-River Falls	27	22	-19%	15	14	-7%
Landscape Architecture	UW-Madison	34	39	15%	14	9	-36%
Plant Pathology	UW-Madison	7	9	29%	8	1	-88%
Soils	UW-Madison	3	5	67%	2	1	-50%
Soil & Crop Science	UW-Platteville	40	25	-38%	16	20	25%
Soil Science	UW-Stevens Point	40	35	-13%	20	21	5%
<b>Totals</b>		<b>255</b>	<b>237</b>	<b>-7%</b>	<b>121</b>	<b>105</b>	<b>-13%</b>
<b>Power, Structures &amp; Technical Systems</b>							
Ag Engineering & Technology	UW-River Falls	22	16	-27%	15	13	-13%
Environmental Engineering	UW-River Falls	2	5	150%	0	0	N/A
Biological Systems Engineering	UW-Madison	136	96	-29%	60	59	-2%
<b>Totals</b>		<b>160</b>	<b>117</b>	<b>-27%</b>	<b>75</b>	<b>72</b>	<b>-3%</b>


**Agriculture, Food and Natural Resources Totals**
**2,561**
**2,329**
**-9%**
**1,128**
**1,093**
**-3%**

Academic Program	UW Institution	Upperclass Undergraduate Fall Enrollment			Graduates		
		2021	2022	% Chng	2021	2022	% Chng
<b>Career Cluster: BIOLOGY &amp; LIFE SCIENCES</b>							
Biochemistry	UW-Madison	433	404	-7%	172	145	-16%
Biology	UW-Madison	913	906	-1%	340	346	2%
Genetics	UW-Madison	227	234	3%	107	89	-17%
Global Health	UW-Madison	164	255	55%	1	22	2,100%
Life Sciences Communication	UW-Madison	129	128	-1%	59	46	-22%
Microbiology	UW-Madison	162	136	-16%	72	65	-10%
Nutritional Sciences	UW-Madison	154	138	-10%	65	54	-17%
★ <b>Biology &amp; Life Sciences Totals</b>		<b>2,182</b>	<b>2,201</b>	<b>1%</b>	<b>816</b>	<b>767</b>	<b>-6%</b>
★ <b>Agriculture, Food and Natural Resources plus Biology &amp; Life Sciences Totals</b>		<b>4,743</b>	<b>4,530</b>	<b>-4%</b>	<b>1,944</b>	<b>1,860</b>	<b>-4%</b>
<b>Career Cluster: VETERINARY MEDICINE (Professional Practice)</b>							
★ <b>UW-Madison Veterinary Medicine Totals</b>		<b>381</b>	<b>382</b>	<b>0%</b>	<b>100</b>	<b>88</b>	<b>-12%</b>

UW System is responding to the enrollment challenges. The UW System’s new strategic plan for 2023-2028,<sup>21</sup> approved by the Board of Regents in December 2022, includes an initiative to “provide support for the universities to drive enrollment to meet the needs of the state and the knowledge economy.” A key component of this strategy is to grow the number of graduates from UW System universities to 41,000 each year by 2028 – a 10% increase over current numbers. By aiming for these enrollment metrics, UWS hopes to increase enrollment at all institutions, including in our agriculture and natural resource colleges, to meet workforce demands.



### Agricultural Employment Opportunities

The agriculture industry both nationally and globally is a multifaceted, large, complex, and growing industry. The trend toward fewer but larger commodity farms, more specialty farms, shifts from labor to technology, the importance of trade, and growing worldwide demand for food continue. Challenges continue as well, including farm income, policy, impacts from geopolitical events, supply chain constraints, labor shortages, price volatility, adopting and keeping up with new technology, farm transitions, rising interest rates, and climate change, among others.

Wisconsin is a major agricultural state, ranking 12th nationally in food, forestry, and agricultural exports and first in the export of specialty cheeses, ginseng roots, prepared/preserved cranberries, mink, bovine semen, prepared/preserved sweet corn, and sausages. As America’s Dairyland, agriculture contributes \$45.6 billion to the Wisconsin economy. The state also leads the nation in production and processing of 626 million pounds of snap beans, 160 million pounds of carrots, and 109 million pounds of green peas. Wisconsin is third in the nation for potato production.

All this economic activity takes people – farmers, feed mill operators, dairy equipment manufacturers, veterinarians, lenders, consultants, contractors, milk haulers, cheese plant employees, and more. Wisconsin agriculture and associated industries provide 435,700 jobs, or 11.8%, of the state’s employment and contribute \$104.8 billion annually to the state’s economy.<sup>22</sup>

Nationally, the career outlook remains strong for new college graduates possessing baccalaureate and graduate degrees in agriculture. According to the U.S. Department of Agriculture’s National Institute of Food and Agriculture (NIFA),<sup>23</sup> U.S. college graduates can expect approximately 59,400 job opportunities annually between 2020 and 2025, which is a 2.6% increase from the previous five years. The NIFA report provided the following statistics of jobs, types of jobs and expected graduates.

	Number of Jobs 2020-2025	Percent of Total Agriculture Jobs	Number of Graduates 2020-2025	Percent Expected from FARNRE <sup>1</sup>	Percent Expected from Allied Fields of Study
Management and Business	24,700	42%	25,700	61%	39%
Science and Engineering	18,400	31%	17,100	54%	46%
Food and Biomaterials	7,900	13%	7,900	92%	8%
Education, Communication and Government Service	8,400	14%	8,700	47%	53%
<b>Total</b>	<b>59,400</b>	<b>100%</b>	<b>59,400</b>		

<sup>1</sup>Food, agriculture, renewable natural resources, and environment

The need to assure a well-trained workforce to sustain the next generation of food, agriculture, natural resources, and human sciences workforce is both a Wisconsin and national priority. In announcing the recent program “From Learning to Leading: Cultivating the Next Generation of Diverse Food and Agriculture Professionals Program,” U.S Department of Agriculture Secretary Tom Vilsack stated, “We need to ensure our youth have the education and training they need to accelerate the development of an agricultural system that is climate-smart, sustainable, profitable and equitable.”<sup>24</sup>





## UW Madison – Division of Extension

The following are impacts and outcomes from the University of Wisconsin-Madison Division of Extension's Agriculture Institute.

### Succession and Financial Planning to Ensure a Viable Agri-Business

Many Wisconsin farmers are approaching retirement age and are considering a succession plan (i.e., identifying those who will take over the farm's operations) to protect their farm and their legacy. UW–Madison Extension provides agriculture service providers with the resources they need to address farmers' challenges around succession planning. These resources are designed to support farmers during the succession planning process and build trusting relationships with farmers.

Extension partnered with the Wisconsin Farm Center to organize the annual Wisconsin Farm Succession Professionals Network, which provided professional development and networking opportunities to Wisconsin's agriculture service providers. Nearly 1,100 participants have attended the event in its nine-year history. Additionally, Extension partnered with Iowa State University Extension and Outreach to develop the Certified Farm Succession Coordinator (CFSC) training. Topics included managing gender and generational differences, the process of farm succession facilitation, and fair and equal distribution of assets. To date, 475 participants have completed the training; survey participants reported learning skills to facilitate and objectively navigate families' values and generational differences. In fact, 83% of participants found the training to be very valuable to their farm succession planning work. Additionally, the Cultivating Your Farm's Future workbook was made available online, and in just five months the workbook was downloaded 185 times.

### Providing Timely Research for Innovative Dairy Farming

Wisconsin's dairy industry encompasses nearly 6,000 farms across the state. These farms are continually searching for new management strategies that will help them be both innovative and better animal stewards. In response to Wisconsin dairy farmers' desire for innovative management strategies, Extension researchers and educators worked together to develop and deliver programming using a blended outreach approach. This approach includes webinars, factsheets, and popular press articles on topics such as reproduction, heifer management, forages, silage, animal care, and data management. These outreach activities helped producers think critically about their own production management decisions and what they could do differently to incorporate research findings, allowing them to be better animal stewards and become innovative farmers.

More than 850 Wisconsin dairy farmers and countless agribusiness professionals working with 7,500+ dairy cows attended webinars and/or reviewed recorded content to learn about managing heifers, using cocktail forage mixtures in dairy rations, pair-raising calves, and more. Evaluation data showed most dairy farmers ready to start pair-housing calves due to educational programs and success stories. Farmers were also interested in making additional management changes such as improving disbudding pain mitigation and realizing the importance of time of breeding based on weight – not age – in heifers for lifelong herd longevity.



## Responding to Wisconsin's Soil Health Degradation

Each acre of Wisconsin cropland is losing about 4.5 tons of soil to erosion every year, according to the 2017 National Resources Inventory by the U.S. Department of Agriculture's Natural Resources Conservation Service. At this rate, the state is losing about the thickness of a dime of soil per year, and about an inch of topsoil will be lost over 20 years. It would take 500-1,000 years to rebuild this one-inch soil loss through natural processes, which would be near impossible in agricultural production. Thinner topsoil is correlated with reduced yield and resiliency to extreme weather conditions in addition to dire environmental impacts. In response to Wisconsin's soil health degradation, Extension engaged farmers in trialing and implementing innovative practices aligned with integrated research. Practices included:

- on-farm research projects studying the use of living aisles and no-till planting strips to mitigate the impacts of intense rain events;
- a pilot research project that studied the effect of copper sulfate footbath materials application via manure on soil and alfalfa copper concentrations;
- research to better understand which species of mycorrhizal fungi could improve uptake of nutrients from the soil;
- research in vegetable pathogens to improve crop health and reduce chemical inputs and soil disturbance; and
- collaborative on-farm research on cover crops that improved understanding of how to best build soil health and protect water quality in Wisconsin.

Immediate impacts from these methods and outreach of findings included farmers gaining an increased understanding of the effects of cover crops on soil health and conservation, in addition to conventional tillage on soil structure, soil biology, and soil erosion. Farmers have increased their knowledge of best management practices such as planting cover crops and reducing tillage, cover crop species selection, timing windows balanced with crop production goals, and management considerations for successful cover crop system implementation.

## Improving the Value of Beef through Management Decisions

Wisconsin's beef cattle and calves represent the state's second-largest agricultural commodity with \$1.7 billion in cash receipts. Even though the industry is large and remains viable, market volatility has increased the need for management decisions that increase animal efficiencies, improve production, and allow beef producers to remain economically viable. Breeding decisions are the first decision that is made with an end goal of producing a fast-growing, efficient beef animal. Once born, the way calves are handled and cared for sets the stage for that animal's health and growth long-term. Once a calf is off to a healthy start, focus shifts to ensuring feed efficiency since the highest input cost for beef producers is feed. Nutritional concerns are not the only management decisions producers make that influence the beef animal – health is also a large concern that leads to management decisions surrounding biosecurity.

In response to Wisconsin beef and dairy producers' need for efficient and productive beef management decisions, Extension educators developed and delivered programming surrounding management decisions. Extension educators used a blended outreach approach that included virtual programs, budget tools, popular press articles, and in-person events. These outreach activities helped producers address concerns regarding management decisions that promoted animal production and efficiency while also reducing the cost to raise an animal for human consumption. More than 550 Wisconsin beef producers and/or agribusiness professionals representing more than 6,000 head of cattle attended live educational events and/or reviewed the recorded content to learn more about breeding decisions, neonatal calf care, feeding strategies, biosecurity measures, and more. Producers who participated indicated that they were willing to make changes to beef heifer management that will likely lead to economic benefits for the producer along with increasing lifelong herd longevity of the heifer. They also reported plans to make changes to their beef sire selection strategies due to attending educational programming.

Find more Extension impacts and resources at: <https://extension.wisc.edu/agriculture>.



## Council Recommendations

### Strategic Planning

The activities and results of the WAEWDC continue to strengthen the commitment to fulfill the purpose and the duties of the Council. All the functions, as originally identified, remain and are still necessary for Wisconsin's agriculture, food, and natural resource sectors to succeed. The WAEWDC has made great strides over the past year to further develop the knowledge of individual Council members and establish a foundational framework that will help the Council to function efficiently and advance its functions and purpose.

The WAEWDC is fortunate that its membership consists of experienced, hard-working individuals who are passionate about Wisconsin's agricultural community. They are dedicated to enhancing Wisconsin's already strong agricultural education and workforce, so that it may bring an even more positive impact to the state's economy, tradition, and future. However, for the efforts of these individuals to drive even greater results, it is crucial for their work to be aligned, coordinated, and focused on achieving common goals. For this reason, it is the recommendation of the Council to make it a priority for the next year to establish a WAEWDC strategic plan that it would implement over the course of 2025 – 2030.

The WAEWDC strategic plan will identify the key priority areas for agricultural education and workforce development in Wisconsin and establish specific goals and objectives to advance those priorities. Additionally, the strategic plan will include short, medium, and long-term action items that will outline steps the Council will take to accomplish each objective and achieve its goals through evidence-based practices and measurable outcomes.

The Council will adhere to the following key components as it develops the specific items and builds its strategic plan:

1. Council member engagement is crucial for a well-developed strategic plan and for the successful implementation of the priorities contained within the strategic plan.
2. Working groups/committees may change over time, which is why the priorities of the strategic plan should reflect the Council in its entirety.
3. The vision for the strategic plan should be set with strategic goals, objectives, and deliverables/measurements of attainment.
4. Strategic planning should include "what success looks like" with shared owners, stakeholders, and an implementation plan with set achievements.
5. Evidence-based practices should be implemented throughout the strategic plan enforcing metrics (what the Council will measure), analytical values (what the metric will tell), and data source(s) (where the data will come from).



## Council Member Approval of Activities and Recommendations

The Wisconsin Agricultural Education and Workforce Development Council SFY2023 Annual Report was distributed electronically to all Council members. Each Council member was asked to review the Annual Report, provide input, and to provide their approval or dissent of the Annual Report at the Council's September 5, 2023 meeting. No dissent or minority opinions were received. The Annual Report was approved unanimously.



## NOTES

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- <sup>4</sup> USDA. 2023 "Milk Production Per Cow, Wisconsin" United States Department of Agriculture National Agricultural Statistics Service Wisconsin Field Office. Link: [https://www.nass.usda.gov/Statistics\\_by\\_State/Wisconsin/Publications/Dairy/](https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Dairy/)
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- <sup>8</sup> Bussler, Greg. 2022. "Wisconsin Ag News – 2021 Certified Organics." United States Department of Agriculture National Agricultural Statistics Service. Link: [https://www.nass.usda.gov/Statistics\\_by\\_State/Wisconsin/Publications/Miscellaneous/2022/WI-Certified-Organic-12-22.pdf](https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Miscellaneous/2022/WI-Certified-Organic-12-22.pdf)
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- <sup>10</sup> Wisconsin Department of Agriculture, Trade and Consumer Protection. 2023. "Wisconsin Initiative for Agricultural Exports (WIAE)" Wisconsin Department of Agriculture, Trade and Consumer Protection. Link: <https://datcp.wi.gov/Pages/AgDevelopment/WisconsinInitiativeForAgriculturalExports.aspx>
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- <sup>12</sup> Wisconsin Department of Agriculture, Trade and Consumer Protection. 2023. "Something Special from Wisconsin." Wisconsin Department of Agriculture, Trade and Consumer Protection. Link; <https://datcp.wi.gov/Pages/AgDevelopment/SomethingSpecialFromWisconsin.aspx>
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