

# WISCONSIN AGRICULTURAL EDUCATION AND WORKFORCE DEVELOPMENT COUNCIL ANNUAL REPORT

July 1, 2023-June 30, 2024



Department of Workforce Development

Sept. 30, 2024

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

The Department of Workforce Development (DWD) is pleased to provide the following report on the goals and activities of the Wisconsin Agricultural Education and Workforce Development Council for state fiscal year 2024. 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, Universities of Wisconsin, and University of Wisconsin-Madison Division of Extension.

Agriculture in Wisconsin continues to drive the state and nation's economy, contributing over \$100 billion to the state's economy and accounting for nearly 12% of the state's jobs and 40% of its land. Wisconsin's agricultural businesses exported nearly \$4 billion in agricultural and food products in 2023, the third highest level on record. As the Wisconsin Agricultural Education and Workforce Development Council (WAEWDC) continues its work, promoting agricultural education and employment opportunities is more critical than ever.

While Wisconsin agriculture continues to see success, changes including an aging farming population, a decrease in farm numbers, and the broad impacts of a changing climate challenge the industry. DWD welcomes the recommendations of the Wisconsin Agricultural Education and Workforce Development Council as the agency and its partners strive to support and grow this critical sector of the state's economy.

Sincerely,



Amy Pechacek, Secretary  
Department of Workforce Development

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DWD Secretary Amy Pechacek speaks before hundreds of FFA members and family at the Wisconsin State FFA Convention held at the Alliant Energy Center in Madison.

## Introduction

This report provides updates on the goals and activities of the Wisconsin Agricultural Education and Workforce Development Council (WAEWDC) for state fiscal year (SFY) 2024, pursuant to Wis. Stats. s. 106.40(5). In addition, the Wisconsin Department of Public Instruction, the Wisconsin Technical College System, Universities of Wisconsin, and UW–Madison Division of Extension shall prepare an annual review of the agricultural education programs under their purview, per Wis. Stat. s. 106.40(4). This report also includes the reviews of agricultural education programs provided by Wisconsin's educational systems and institutions.

## Agriculture in Wisconsin

Wisconsin's agricultural sector is fundamental to sustaining thriving communities, and a robust, well-educated workforce is vital to maintaining the state's agricultural sector. While agricultural output in the state remains strong, the sector faces a number of challenges from an aging farming population to the decrease in farms and the broad impacts of climate change. These challenges will require creative problem solving, new technologies, and workers with a diverse set of skills to address. WAEWDC members are working hard to educate the next generation of agricultural workers, who will be well prepared to meet these needs.

Wisconsin continues to be an agricultural powerhouse. In 2023, the state's cheesemakers produced over 3.5 billion pounds of cheese, accounting for a quarter of the nation's total output, including nearly 1 billion pounds of specialty cheeses.<sup>i</sup> Wisconsin is home to the largest number of dairy farms in the country, at roughly 5,500, which together produced over 32 billion pounds of milk last year.<sup>ii</sup>

Although Wisconsin is a dairy state first, with dairy accounting for nearly half of the total agricultural contribution to the economy, the sector is highly diverse. Wisconsin leads the country in the production of products such as cranberries, dry whey for human consumption, corn for silage, and snap beans for processing. Wisconsin also produces significant quantities of other goods such as soybeans, potatoes, green peas, cherries, sweet corn, rye, oats, wheat, chicken, beef, and pork.<sup>iii</sup> Wisconsin also has a thriving green industry, including flowers, sod, nursery, landscape products, and Christmas trees, composed of more than 4,000 businesses and 40,000 workers across the state. These businesses are important contributors in their communities and the agriculture industry. Altogether, agriculture in Wisconsin contributes over \$100 billion to the state's economy and accounts for nearly 12% of the state's jobs and involves 40% of its land.<sup>iv</sup>

Most of this agricultural output is consumed domestically; however, the state's agricultural businesses exported nearly \$4 billion in agricultural and food products in 2023. This is the third highest level on record.<sup>v</sup> Agricultural exports are supported by Wisconsin Economic Development Corporation (WEDC) and Department of Agriculture, Trade, and Consumer Protection (DATCP). A key program is the International Market Access Grant program, which provides funding to help businesses expand their international presence.

As with much of the country, the nature of farming in Wisconsin has been transitioning. The number of farms in the state decreased by about 20,000 between 2007 and 2022, or about 25% of the 2007 total. The number of dairy farms in the state has seen an even more rapid decline, decreasing by over 50% in the same period.<sup>vi</sup> To support farmers as they consider how to stay profitable, or transition between generations, farmers and the organizations they work with can turn to available resources such as the business management resources provided by the University of Wisconsin–Madison Extension's Agricultural Institute.



DATCP Secretary Randy Romanski poses alongside his picture at a Food + Farm Exploration Center exhibit.

While the number of farms has declined since 2007, farms require more mechanization and labor specialization than ever before.<sup>vii</sup> This increases the need for new technologies and a more highly educated agricultural workforce.

Most aspects of farming can be augmented with the use of technology. Farms can now use data to increase efficiency, with detailed monitoring of things like soil moisture and nutrients, animal genetics, animal behavior, and weather. This technology can help farmers make better decisions about things like what crops to plant, when to plant, or which animals or sections of a field may need additional attention.<sup>viii</sup> Dairy farms can implement automated milking and feeding machinery to free up workers and improve efficiency. The amount of milk per cow has also risen slightly, due to the increasing efficiency of existing farms thanks in part due to technological progress in cow monitoring, milking, genetics and feeding.<sup>ix</sup>

While some farms are already making gains from technology, its use is far from evenly distributed. As of 2023, most farms (83%) had some internet access, but the use of the internet for buying and selling of farm goods is still relatively rare.<sup>x</sup> In 2023, 32% of farmers used the internet to purchase agricultural inputs, while just 17% used the internet for marketing. Meanwhile, 18% of farms use some kind of precision agricultural techniques to manage crops and livestock, up from 15% in 2021. These statistics highlight both the need for further rollout of rural broadband and for more technology skills in agriculture.

One of the challenges currently impacting the agricultural sector is a changing climate. According to a 2023 report by the United State Department of Agriculture (USDA), UW–Madison, and other partners, average annual temperatures in the state have increased by 1.6 degrees and precipitation has risen by 4.9 inches between 1979 and 2021.<sup>xii</sup> The state has also seen an increase in extreme weather events and shifts in seasonal weather patterns. These changes, which are projected to intensify over the coming years, create a myriad of challenges for farmers and for the agricultural industry in general and will require effort at every level to address. In 2023, much of the state experienced a flash drought in May, leaving farmers scrambling to respond. The UW–Madison Division of Extension Crops and Soils program was able to move quickly to provide information and decision making to those farmers and used the opportunity to open up a conversation about longer-term climate resilience.

The relationship between farmers and the environment extends in both directions, as farming practices can have large impacts on environmental features such as soil and water quality. Practices such as no-till farming, planting cover crops, and precision agriculture can help reduce soil loss and minimize fertilizer runoff. UW Extension's Agriculture Water Quality Program has been helping educate farmers and others in the industry on how to adopt practices to minimize such effects.

Farmers across the state are aging, with the average age of Wisconsin farmers increasing from 56 to 56.7 between 2017 and 2022.<sup>xiii</sup> Over that period, the state saw a 22.4% increase in the number of farmers ages 75 and older, highlighting the need for transition planning as those farmers consider retirement, as well as the need to train the next generation of farmers to take over. While the average age of farmers has increased, there are indications that younger farmers are entering the business. Between 2017 and 2022, the number of farmers below the age of 44 grew modestly.



DWD's Chief Information Officer Neeraj Kulkarni tours an advanced hydroponics operation at NTC's Agriculture Center of Excellence in Wausau.

WAEWDC members are working hard to increase the agricultural workforce pipeline and bring younger people into the farming and agricultural industries. Over 34,000 Wisconsin high school and middle school students took at least one agriculture course over the last year, and students who are interested in agriculture as a career can now take advantage of Agricultural Career Pathway resources, which highlight high-skill, high-wage, and in-demand occupations in the sector. As of 2023, educators can now incorporate materials from the high school Meat Science Curriculum to provide students initial exposure to the history and science of meat processing.<sup>xiii</sup> While these resources expand, Wisconsin is experiencing a shrinking supply of qualified agricultural education teachers, which may keep these resources from getting to students.

Wisconsin youth also engage with agriculture outside of school. In 2023-24, FFA membership rose to nearly 26,000 youth, with membership extended down to the fifth and sixth grades. The Department of Natural Resources (DNR) also engages young people to become more involved in managing Wisconsin's natural resources through programs such as the Youth Conservation Congress and the Summer Tribal Youth Program.

Wisconsin's technical colleges and universities have robust programs for educating students in agricultural fields. In 2023, the 16 colleges that make up the WTCS offered 77 programs in agriculture and natural resources and these programs enrolled about 2,000 students across the state. In a survey of WTCS agricultural program graduates, 82% reported employment in an agriculture-related field within six months of graduation.

Along with high schools and technical colleges, apprenticeship programs can also provide a pathway into the agricultural workforce, with apprentices earning while they learn new skills. In the 2023-24 school year, 1,145 students participated in youth apprenticeships in Agriculture, Food, and Natural Resources, up from 1,012 the prior year.<sup>xiv</sup> Meanwhile, the number of registered apprentices in Agriculture pathways has also risen. As of Q1 of 2023, 22 apprentices had participated in an Agriculture registered apprenticeship, up from 16 in 2022.<sup>xv</sup>



Members of the Governor's Task Force on Workforce and Artificial Intelligence witness a Lely Vector automatic feeding system being put through its paces at NTC's Agriculture Center of Excellence in Wausau.

## About The Wisconsin Agricultural Education And Workforce Development Council

With the support of Gov. Tony Evers, the council serves a key role in Wisconsin's economic and workforce development efforts. Under the guidance of DWD leadership, WAEWDC continued to build on its progress throughout SFY2024 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. The WAEWDC helps attract, develop, and retain the superior workforce required to grow Wisconsin's production in the 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 Universities of Wisconsin;
- ◆ Director (or their designee) of the Wisconsin Technical College System;
- ◆ Dean 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 SFY2024 is as follows:

Chair: **Shelly Mayer**, Professional Dairy Producers of Wisconsin

### Executive Committee:

**Amy Pechacek**, Secretary, Department of Workforce Development  
**Randy Romanski**, Secretary, Department of Agriculture, Trade and Consumer Protection  
**Dr. Jill Underly**, State Superintendent, Department of Public Instruction  
**Gary Besaw**, Menominee Indian Tribe of Wisconsin  
**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 (Resigned May 22, 2024)

### Members at Large:

**Joan Ballweg**, 14th Senate District, Senate Agriculture & Tourism Committee Chair  
**Kevin Bernhardt**, University of Wisconsin-Platteville  
**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  
**John Jagler**, 13th Senate District, Senate Education Committee Chair  
**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  
**Dr. Micheal Orth**, UW-River Falls Dean of the College of Ag, Food & Environmental Science  
**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  
**Michelle Steen**, Ellsworth Cooperative Creamery  
**Jason Wood**, Southwest Technical College  
**Jeffrey Wright**, Sauk Prairie School District Superintendent

## Summary Of The Council's Activities – SFY2024

In SFY2024 (July 1, 2023 – June 30, 2024) WAEWDC focused on advancing its purpose to support the agriculture, food, and natural resources industries. In brief, during SFY2024, the council:

- ◆ Expanded the council to include high school students.
- ◆ Learned about venues across the state that provide hands-on, educational activities about agriculture.
- ◆ Elected new officers to the Executive Committee.
- ◆ Re-developed subcommittee goals.

In September 2023, the council met at the [Farm Wisconsin Discovery Center](#) in Manitowoc, Wisconsin. The center provides interactive educational opportunities that help visitors understand farming practices and agriculture's importance to Wisconsin's economy. The Farm Wisconsin Discovery Center Executive Director, Patty Lehn, gave a presentation about the center. Lehn stated that the Farm Wisconsin Discovery Center celebrated its fifth anniversary in July of 2023 and the center's goal is to educate people about Wisconsin agriculture to help them better understand where their food comes from. Their mantra is, "where curiosity grows." The center has various interactive exhibits, farm tours, and a calf birthing barn. Each month, the venue hosts special events that include bringing in London dairy alpacas, soils pits, piglets, and more. Lehn said that the center relies on many volunteers and six full-time staff members to keep operations running smoothly. The quarterly meeting also included a discussion and approval of the council's annual report.

In November 2023, the council met at the [Harold S. Vincent School of Agricultural Sciences](#) in Milwaukee, Wisconsin. Vincent High School is a public high school that provides courses such as an introduction to urban agriculture, veterinary science, landscape and design, and food science. The school features a greenhouse, animal room, and outdoor study areas. Council members had the opportunity to tour the school and learn more about its agricultural education focus. Council member Monica Gahan and Milwaukee Vincent High School (VHS) Principal Heidi Zealley gave a presentation about the school. The council learned that VHS opened in the 1979-80 school year as an agriculturally focused school. Later, budget cuts led to school losing the agricultural programming, but it was brought back in 2013. VHS then renewed its goal of becoming a high school that is sought out for students to attend due to their interest in agriculture. VHS offers six agricultural pathways: Agricultural Business, Animal Science, Culinary Arts, Environmental Science, Food Science, and Horticulture. The high school also participates in FFA, Supervised Agricultural Experiences (SAE), job shadows, internships, and farmer's markets. The meeting also included a robust discussion about expanding the council to include youth ex-officio members.

In February 2024, the council met at the [Food + Farm Exploration Center](#) in Plover, Wisconsin. The exploration center provides hands-on learning experiences for families, teachers, and schools to help students learn about careers in agriculture. The quarterly council meeting included continued discussion about adding youth ex-officio members to the council and members established new subcommittee goals. Brittany Marquard, education program manager for Food + Farm Exploration Center, was previously an agricultural teacher at Mosinee School District before starting in 2023. Marquard provided an overview of the many educational components offered by the exploration center. She enjoys working with broad age groups and runs educational programs such as Tot Time, which offers 2-4 year olds agricultural programs. She said the center focuses on nontraditional career paths such as coding and robotics and how these skills and career paths can be geared toward agriculture to generate interest from individuals who may not know their skills can apply to the sector. The center also works with adults who want a career change and provides a starting point for those who are interested in agriculture.

In May 2024, the council met at Sauk Prairie High School in Prairie du Sac, Wisconsin. Council members heard a presentation by Alison Demmer, senior market manager for Culver's, who shared information about the company's Thank a Farmer and Future Farmers of America (FFA) support programs.

The meeting included a tour of the school's agricultural education spaces by council member and Sauk Prairie School District Superintendent Jeff Wright. The council officially welcomed student ex-officio members, who all introduced themselves. Representatives from the Department of Public Instruction (DPI) highlighted the [2022 Educator Preparation Program and Workforce Analysis Report](#), which was published in April 2024 and showed an alarming number educators continuing to leave the state. Jennifer Kammerud, director of the Department of Public Instruction (DPI)

Licensing Educator Advancement and Development (LEAD) presented the report. She highlighted the positive aspects of the report, which looked at data from 2020-2022, and showed that Wisconsin is producing more educators than surrounding states when compared to the high-water mark of the 2008-09 school year. The report also showed the retirement rate among Wisconsin teachers remains stable, and Wisconsin's most remote rural school districts are retaining teachers at higher rates. The challenges identified in the report showed there has been a 19% drop in teacher earning power since 2010. The report also showed that out of a possible 5,061 new public school teachers, the state only added 3,436 educators with only 60.6% of first year teachers still employed as educators.

The council brought forward a recommendation to pursue statutory changes in 2023 to update the council's membership listing for one council seat to reflect the position's current title as "Dean of the University of Wisconsin–Madison Division of Extension." The change was made to be consistent with the Universities of Wisconsin restructuring approved by the Higher Learning Commission in June 2018. The recommendation was introduced in the Legislature in April 2023 as 2023 Assembly Bill 169/Senate Bill 163 and was approved by Gov. Tony Evers and enacted on March 21, 2024, as 2023 Wisconsin Act 152.

During the quarterly meeting in November 2023, WAEWDC discussed new strategies to advance the council's objectives. The agreed upon goals of the WAEWDC for SFY2024:

- Goal 1:**
- ▶ Embrace the 2 + 2 educational model to align agricultural curriculum so students can earn a bachelor's degree by completing a two-year associate degree at a community college and transferring to a four-year institution for the remaining two years.
  - ▶ Develop a plan to advocate for the need of additional Department of Public Instruction Education Consultants focused on Agriculture and National Resources/Wisconsin FFA.
  - ▶ Explore the development of specific agricultural education certifications for teachers.
- Goal 2:** Develop and lead the "Agriculture for All" project to promote agriculture as a viable career pathway for individuals in Wisconsin.
- Goal 3:** Provide an outline for the council to create a strategic plan per the 2023 Annual Report recommendation:
- ▶ The WAEWDC strategic plan will identify the key priority areas for agricultural education and workforce development and establish specific goals and objectives to advance those priorities.
  - ▶ 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.



DWD Secretary Amy Pechacek gives a live interview at Wisconsin State Fair Park during the 2024 Wisconsin State Fair in August.

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
Chair – Gary Besaw Gwen Boettcher Greg Cisewski Jeff Edgar Sen. John Jagler Betsy Leonard Jason Wood	Chair – Sec. Randy Romanski Monica Gahan Michael Orth Michelle Steen Dr. Jill Underly Sam Ridders Ben Huber Scott Loomis John Rosenow	Chair – Shelly Mayer Erik Huschitt Bob Hagenow Corey Kuchta Larry Lee Nick Stadnyk Sec. Amy Pechacek Miranda Lies Sen. Joan Ballweg Tom Gillis

By the end of SFY2024, the chairs of the three subcommittees were pleased to report the following workgroup activities:

- ▶ **Goal 1 Subcommittee** – The subcommittee discussed the need to build the capacity of support systems for the state's agricultural education system and identify strategies to increase the number of positions dedicated to the agriculture education field. Discussion focused on the process for developing agriculture education certifications through the Wisconsin Technical College System and Universities of Wisconsin.
- ▶ **Goal 2 Subcommittee** – The subcommittee performed a scoping exercise to field ideas from members as to the purpose of the video series, audience, preferred length of videos, funding considerations, and types of agricultural careers to prioritize, among other questions. A list of potential individuals to interview for the video series was compiled, and the subcommittee completed a proposal to advance the Agriculture for All Video Series idea.

The subcommittee determined the purpose of the video series is to highlight the breadth of agricultural careers available in Wisconsin, with a spotlight on agricultural careers that are in high demand and largely needed. The videos should ensure they are representative of the diversity across Wisconsin's agriculture sector. The audience will be students seeking a future career in agriculture and adults considering a career change.
- ▶ **Goal 3 Subcommittee** – The subcommittee drafted a strategic plan outline for the full council 's consideration.

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 SFY2025.

The cows' yellow ear tags help track herd health, nutrition, and milk production at Northcentral Technical College's Agriculture Center of Excellence near Wausau. The cows move freely throughout the barn and eat when they are hungry. Robotic sweepers collect the manure.



## State Agency Highlights - SFY2024

### Wisconsin Department Workforce Development (DWD)

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.
- 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.

### Nation's First Youth Arborist Apprenticeship

In July 2021, DWD's Bureau of Apprenticeship Standards rolled out the nation's first Youth Apprenticeship in the Agriculture, Food and Natural Resources (AFNR) Arborist pathway. After recruiting employers and students, the program was launched during the 2022-23 school year. The program started with 10 students enrolled at eight schools and partnered with nine Wisconsin employers. During the 2023-24 school year, the program had 18 students from 15 schools partnering with 16 Wisconsin employers. Employers for this pathway have included construction, landscaping, logging, and tree service companies, city government, and school districts.

### Artificial Intelligence in Agriculture

DWD was tasked to lead the Governor's Task Force on Workforce and Artificial Intelligence (AI) to identify the current state of generative AI's impact on Wisconsin's labor market, develop predictions regarding the opportunities and impact of AI, and explore and recommend policy directions and investments related to workforce development and educational systems to capitalize on the AI transformation. The task force met on May 6, 2024, in Wausau to tour Northcentral Technical College's Agriculture Center of Excellence and hear from experts on AI in rural and agricultural settings, including WAEWDC Member Greg Ciwsewski, Dean of the Northcentral Technical College School of Agricultural Sciences, Utilities and Transportation.

### Services for Farmers

DWD's Division of Vocational Rehabilitation (DVR) continues to support eligible farmers who apply for DVR services. The division's programs offer a wide range of employment services to Wisconsinites with disabilities including farmers and other business owners seeking to maintain their existing business operations. DVR offers a full spectrum of services including onsite farm assessments, vocational guidance and counseling, self-employment planning, and assistive technology services including assessments, customization, repair, and training. Over the past year, DVR has helped over 50 Wisconsin farmers pursue services.

### Addressing Teacher Shortages

In 2023, The Wisconsin Heights School District and its partners were awarded a Workforce Innovation Grant for up to \$264,000 to address the teacher shortage faced by rural districts. The school district used the grant funds to provide scholarships to students pursuing education degrees and to fill teacher roles within the district.

At the beginning of 2024, the program saw five scholarship recipients employed in education, and another four are currently employed in the Wisconsin Heights or partner school district students. Of the scholarship recipients still currently in college:

- 15 are studying in their student teaching semester.
- 10 are studying in college education programs.
- Four are in their second semester of college.

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

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is committed to its 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. DATCP strives to be a resource for farmers, agribusinesses, and consumers.

### Year of the Worker

The department employs about 600 employees who are located across the entire state. Gov. Evers designated 2024 as the [Year of the Worker](#), highlighting the importance of state employees to provide quality and essential public services. DATCP shares this commitment, working to recruit and retain dedicated and talented state employees to serve our customers. Through DATCP's 2024-2026 Equity and Inclusion Plan, the department is working on action items such as creating a mentorship program for new employees and a pilot stay interview for current employees. DATCP is continually evaluating its training offerings and creating ways for employees to develop professionally to ultimately better serve the state.

### Wisconsin Agriculture Youth Council

The fourth [Wisconsin Agriculture Youth Council](#) completed its term in May 2024. These high school seniors met each month of the school year to listen to presentations and participate in discussions about various agricultural topics. These sessions highlighted DATCP programs and spotlighted numerous agricultural career opportunities including education, transportation, finance, and more.

Interest in the Wisconsin Agriculture Youth Council continues to grow. The fifth Wisconsin Agriculture Youth Council of 15 students was announced in May 2024. Members were selected based on their submitted applications, essays, and videos. These members will attend their first session in September 2024.

DATCP actively engages with former Wisconsin Agriculture Youth Council members and hired the third alumni as a DATCP communications limited term employee in Summer 2024. DATCP is proud of the council members' accomplishments through FFA, 4-H, and other agricultural organizations.

### Meat Talent Development Program

Gov. Evers provided up to \$5 million in American Rescue Plan Act funds for 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. The Meat Talent Development Program is a strong partnership between DATCP, UW–Madison, UW-River Falls, UW-Platteville, and the Wisconsin Technical College System.

DATCP continues to improve the [meatpathways.wi.gov](https://meatpathways.wi.gov) website, adding videos and educational resources for those interested in pursuing a career in the livestock and meat processing industry. A [High School Meat Science Curriculum](#) was developed for agricultural education instructors to incorporate into their courses, and teachers can apply for laboratory kits for their classrooms. Technical college campuses created curriculum and had coursework credentialed, and there is growing student demand in the program.

Tuition support and reimbursement are available for students to participate in the [Humane Handling Institute](#) through UW-River Falls. Attendees can learn more about animal welfare and effective and humane restraint and stunning. Tuition reimbursement is also available for Hazard Analysis Critical Control Points (HACCP) courses at UW–Madison for meat industry employees. DATCP will continue to support education and workforce development across the entire agricultural industry.



Members and guests of the WAEWDC visit the Food + Farm Exploration Center near Plover.

## Wisconsin Economic Development Corporation (WEDC)

### 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 DATCP on export development by partnering to provide International Market Access Grant (IMAG) awards to agricultural businesses. As part of the Wisconsin Initiative for Agriculture Exports (WIAE), WEDC contracted seven agricultural company IMAG grants in FY24. 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 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. Since its inception, over \$494,000 went to developing cooperatives, assisting private businesses interested in converting to the cooperative model, and existing co-ops to date. Of these projects, 54% fall into the agriculture and food sector.

### Fabrication Laboratory Grants

For the past nine 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. WEDC funded 18 grants in FY 2024.



Agriculture in Wisconsin contributes over \$100 billion to the state's economy and accounts for nearly 12% of the state's jobs and involves 40% of its land.

## Wisconsin Department of Natural Resources (DNR)

The Wisconsin Department of Natural Resources (DNR) employs a large, diverse workforce throughout the state. DNR staff 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.

### Next Generation of Resource Professionals

The most recent class in DNR's leadership development program focused on issues related to developing and recruiting the next generation of natural resources and science professionals. For this installment of the leadership academy, participants researched and recommended best practices and strategies for outreach and engagement to youth and young adults, proactively preparing for workplace staffing shortages, and developing partnerships and relationships that contribute to recruiting talent.

The leadership teams reported out in spring 2024 and several teams shared ideas for youth engagement that were similar to the Youth Conservation Congress. The Youth Conservation Congress is an initiative by the Wisconsin Conservation Congress and was established at the request of the Natural Resources Board. Under the umbrella of the Wisconsin Conservation Congress, this group gives young people under the age of 18 a voice and instills a sense of ownership, civic pride and advocacy in these future stewards of the state's natural resources. The department supports the Youth Conservation Congress with a half-time staff position, biologists, and specialists as needed, such as for fishery survey demonstrations.

Other leadership projects categorized the department's outreach efforts across diverse programs. Current approaches included apprenticeships and collaboration with partners such as the Boys & Girls Club. It is recommended that the department allocate more funding to this outreach and these activities may benefit from hiring an outreach coordinator. Methods that the department could use for outreach to young adults were analyzed and recommendations were made. Reaching out to diverse audiences will be part of an active recruitment strategy. Retention of new and current employees and the impact of agency culture were also analyzed.

### Natural Resources Work Experiences

In 2024, the department operated a number of programs that help students and recent graduates explore different careers and gain valuable experience. They included the State of Wisconsin Student Diversity Internship Program as well as hundreds of limited term employment opportunities.

### Summer Tribal Youth Program

Matching funds are available to Wisconsin tribes for the development of a summer program that provides tribal youth (ages 13-19) with an opportunity to work on projects related to natural resource conservation. Tribes and bands have flexibility to design projects that suit cultural needs, location, resources, and youth. All projects must promote student knowledge of careers in natural resources. The Summer Tribal Youth Program operates on a cost-share basis. Wisconsin statutes require that grant funds provided under this program may not exceed 50% of total eligible project costs. The balance of project costs is the responsibility of the participating tribe or band.

### DNR Educators

DNR's educator positions were again nearly fully staffed in 2023-2024 and maintaining these staff resources continues to be a priority. Wisconsin DNR educators expose students to the sciences, conservation, and to resource professionals. This exposure can lead students 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. Educators have excellent coverage around the state with wildlife educators at the following locations: Sandhill State Wildlife Area, Mead State Wildlife Area, Crex Meadows State Wildlife Area, Horicon Marsh State Wildlife Area, and the Milwaukee Service Centers.

## Annual Agricultural Education Program Reviews

### Wisconsin Department of Public Instruction (DPI) 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 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. The pathway will be set for revision in the spring of 2025. More information on Regional Career Pathways can be found at: [dpi.wi.gov/pathways-wisconsin](https://dpi.wi.gov/pathways-wisconsin)

- Over 25,900 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, and find ways to engage individuals from all demographics.

Year	FFA Membership
2019-20	21,273
2020-21	19,804
2021-22	23,179
2022-23	25,249
2023-24	25,911

- The 2023-2024 FFA membership year was the inaugural year for membership to extend down to grades 5 and 6. With this expansion of membership, a few school districts expanding agricultural education curriculum down to the fifth-grade level.

- Over 34,200 students, grades 6-12 took at least one agriculture course. The table below demonstrates the enrollment breakdown by race:

Race	Enrollment
Asian	508
Black-African American	1,075
Hispanic	3,143
American Indian Alaskan Native	328
Native Hawaiian-Pacific Islander	20
White	28,133
Two or More	999
<b>Total</b>	<b>34,206</b>

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

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

Agricultural education faces a number of challenges in pre-K through grade 12 in Wisconsin's public schools. These challenges include:

- 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 enrollments and budget challenges.
- Promoting quality curriculum and instructional facilities for an agricultural education program to meet evolving needs.

## Wisconsin Technical College System (WTCS) Review

The Wisconsin Technical College System (WTCS) is composed of 16 individual colleges across the state enrolling more than 287,000 people each year. The colleges provide 50 campuses and other facilities to meet students where they are demographically, serving every community in Wisconsin, large and small, urban and rural. The technical colleges have a long history of offering high quality programs in agriculture and natural resources. This includes offering more than 500 associate degrees, technical diplomas and short-term certificate options. In addition, 93% of 2023 graduates in the labor force were employed within six months of graduation with 91% 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 utilizing disaggregated student success data 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 four-year college for additional education.

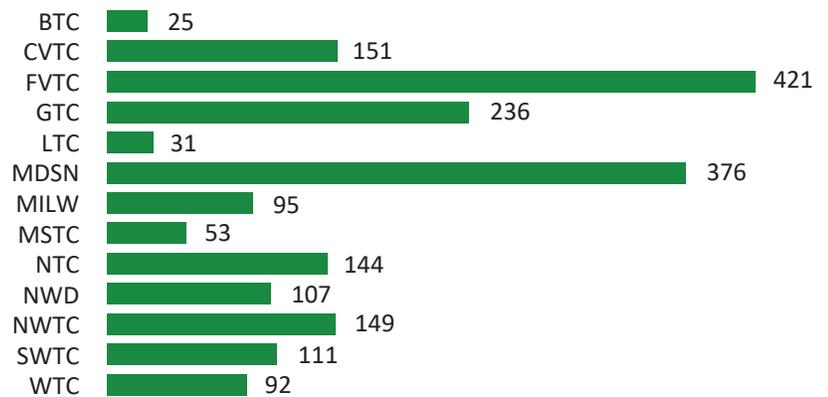
In 2023, the WTCS provided 77 programs in the Agriculture and Natural Resources Career Cluster, teaching the production, processing, marketing, distribution, financing, management, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, renewable energy and other plant and animal products/resources.

Pathways in the cluster include:

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

In the 2023-2024 school year, approximately 2,000 students were enrolled in agriculture and natural resources programs (**Figure 1**).

\*Figure 1. 2023-2024 school year Program Student Headcount by District



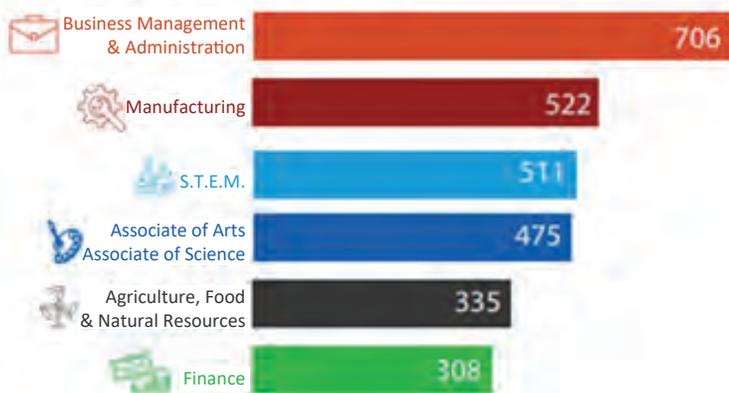
Greg Cisewski, dean of the School of Agricultural Sciences, Utilities and Transportation at Northcentral Technical College, leads a tour of the college's Agriculture Center of Excellence. The center is a 110-acre working farm that features a variety of advanced technology ranging from robotic milking and data-driven feeding systems to remote controlled equipment and GPS linked nutrient application technology.

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. **(Figures 2 & 3.)** During the 2022-2023 school year, 284,954 college credits were earned by high school students.

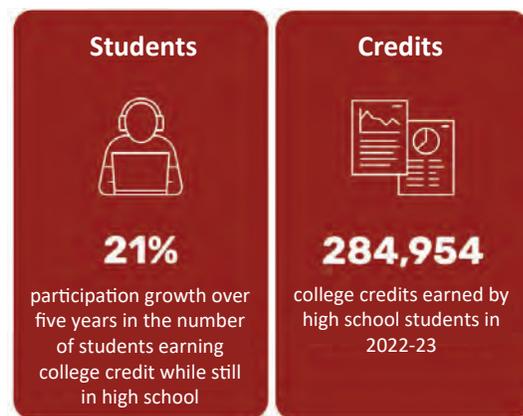
\*Figure 2. WTCS Transcribed Credit Opportunities

## TRANSCRIPTED CREDIT: TOP CAREER CLUSTERS

Articulation Course Agreements with High Schools (2022-23)



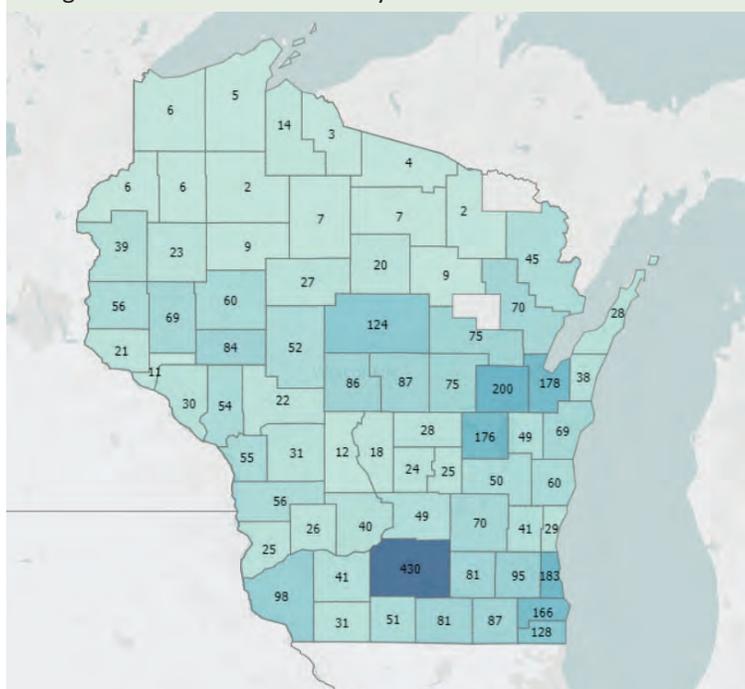
\*Figure 3. WTCS Transcribed Credit Opportunities



\*Figure 4. WTCS Graduate Outcomes for 2023 Agriculture Program Graduates

Graduates	
% Employed	94%
% Employed Related	82%
Employed Related Median Annual Salary	\$45,756

\*Figure 5. WTCS Student County of Residence



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 2023 survey indicated that 346 out of 549 graduates responded to the survey. Of this group, 94% were employed within six months of graduation with 82% working directly in an agriculture-related field. These numbers show the excellent employment opportunities for technical college graduates. **(Figure 4.)**

In 2023 the majority of counties in the State of Wisconsin were represented by a student(s) enrolled in agricultural programming through one of Wisconsin’s technical colleges. **(Figure 5.)**

## Universities of Wisconsin Review

### Agricultural Education in Wisconsin's Public Universities

The Universities of Wisconsin (UWs), along with the Department of Public Instruction, Wisconsin Technical College System, and UW–Madison's 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 UWs bring 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). In addition, CAFES is now teaching the Farm and Industry Short Course for those with an interest in the dairy industry. Credit from the courses completed can be used for students who decide to pursue a B.S. degree in the future.

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.

Overall enrollment at the Universities of Wisconsin increased for the first time since the COVID-19 pandemic. Yet, there are still significant challenges Wisconsin must address to meet workforce needs. The Wisconsin workforce is aging, birth rates are declining, the number of high school graduates is declining, and the participation rate of high school students going to college is falling.<sup>xvi</sup>

\*Figure 7. UW Program Additions

Institution	Program Name	Term Launched
UW–Madison	Agroecology	Fall 2024
UW–Madison	Animal & Veterinary Biosciences	Fall 2023
UW–Madison	Dairy & Food Animal Management	Fall 2024
UW–Madison	Nutrition & Metabolism	Fall 2023
UW-Platteville	Ecological Restoration & Resource Management	Fall 2023
UW-River Falls	Community & Environmental Planning	Fall 2024
UW-River Falls	International Food Operations Management	Fall 2022

UWs is responding to the enrollment challenges. The Universities of Wisconsin strategic plan for 2023-2028,<sup>xvii</sup> approved by the Board of Regents in December 2022, includes Strategy number 8 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 UWs 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.



Wisconsin State Superintendent Dr. Jill Underly, DWD Assistant Deputy Secretary Jennifer Sereno, and DATCP Secretary Randy Romanski applaud one of the presenters at the 2024 FFA Day on the Hill in Madison.

The following chart/graph (**Figure 8.**) provides 2023 Fall undergraduate enrollments in agriculture and natural resources programs.

\*Figure 8.

Academic Program	UW Institution	Upperclass Undergraduate Fall Enrollment			Graduates		
		2022	2023	% Chng	2022	2023	% Chng
<b>Career Cluster: AGRICULTURE, FOOD AND NATURAL RESOURCES</b>							
<b>Agribusiness Systems</b>							
Agribusiness Management	UW-Madison	33	35	6%	11	13	18%
Agribusiness	UW-Platteville	66	71	8%	63	34	-46%
Agribusiness	UW-River Falls	69	53	-23%	48	41	-15%
Agriculture & Applied Economics	UW-Madison	34	28	-18%	16	12	-25%
<b>Totals</b>		<b>202</b>	<b>187</b>	<b>-7%</b>	<b>138</b>	<b>100</b>	<b>-28%</b>
<b>Agricultural Education &amp; Agricultural Studies</b>							
Ag Education	UW-Platteville	32	26	-19%	11	17	55%
Ag Education	UW-River Falls	36	27	-25%	20	18	-10%
Ag Marketing Communications	UW-River Falls	102	73	-28%	46	37	-20%
Ag Studies	UW-River Falls	5	5	0%	7	3	-57%
<b>Totals</b>		<b>175</b>	<b>131</b>	<b>-25%</b>	<b>84</b>	<b>75</b>	<b>-11%</b>
<b>Animal Systems</b>							
Animal Science	UW-Madison	71	83	17%	27	30	11%
Animal Science	UW-Platteville	61	64	5%	27	28	4%
Animal Science	UW-River Falls	317	292	-8%	155	157	1%
Dairy Science	UW-Madison	18	24	33%	17	3	-82%
Dairy Science	UW-Platteville	13	13	0%	14	6	-57%
Dairy Science	UW-River Falls	41	29	-29%	25	21	-16%
<b>Totals</b>		<b>521</b>	<b>505</b>	<b>-3%</b>	<b>265</b>	<b>245</b>	<b>-8%</b>
<b>Environmental Service Systems</b>							
Community & Envir Sociology	UW-Madison	31	29	-6%	18	11	-39%
Conservation/Land Use Planning	UW-River Falls	58	43	-26%	27	28	4%
Environmental Science	UW-Madison	160	162	1%	44	54	23%
Environmental Science	UW-River Falls	15	12	-20%	8	6	-25%
Geology	UW-River Falls	12	11	-8%	7	4	-43%
Reclamation, Envir & Conservation	UW-Platteville	13	12	-8%	11	4	-64%
Resource Management	UW-Stevens Point	125	90	-28%	85	72	-15%
Sustainable Management	UW-River Falls	13	15	15%	5	6	20%
<b>Totals</b>		<b>427</b>	<b>374</b>	<b>-12%</b>	<b>205</b>	<b>185</b>	<b>-10%</b>
<b>Food Products &amp; Processing Systems</b>							
Food Science	UW-Madison	42	36	-14%	24	17	-29%
Food Science & Technology	UW-River Falls	19	11	-42%	6	8	33%
<b>Totals</b>		<b>61</b>	<b>47</b>	<b>-23%</b>	<b>30</b>	<b>26</b>	<b>-17%</b>

Academic Program	UW Institution	Upperclass Undergraduate Fall Enrollment			Graduates		
		2022	2023	% Chng	2022	2023	% Chng
<b>Natural Resource Systems</b>							
Fisheries & Water Resources	UW-Stevens Point	100	108	8%	41	42	2%
Forestry	UW-Stevens Point	154	168	9%	55	56	2%
Forest Science	UW-Madison	12	13	8%	6	7	17%
Paper Science	UW-Stevens Point	36	33	-8%	8	8	0%
Wildlife	UW-Stevens Point	217	206	-5%	64	83	30%
Wildlife Ecology	UW-Madison	70	72	3%	20	20	0%
<b>Totals</b>		<b>589</b>	<b>600</b>	<b>-2%</b>	<b>194</b>	<b>216</b>	<b>11%</b>
<b>Plant Systems</b>							
Agronomy	UW-Madison	14	14	0%	4	9	125%
Crop & Soil Science	UW-River Falls	28	22	-21%	13	12	-8%
Entomology	UW-Madison	16	15	-6%	7	6	-14%
Environmental Horticulture	UW-Platteville	13	8	-38%	6	8	33%
Horticulture	UW-Madison	31	34	10%	9	12	33%
Horticulture	UW-River Falls	22	25	14%	14	8	-43%
Landscape Architecture	UW-Madison	39	48	23%	9	23	156%
Plant Pathology	UW-Madison	9	8	-11%	1	5	400%
Soils	UW-Madison	5	7	40%	1	1	0%
Soil & Crop Science	UW-Platteville	25	21	-16%	20	12	-40%
Soil Science	UW-Stevens Point	35	48	37%	21	17	-19%
<b>Totals</b>		<b>237</b>	<b>250</b>	<b>5%</b>	<b>105</b>	<b>113</b>	<b>8%</b>
<b>Power, Structures &amp; Technical Systems</b>							
Ag, Engineering & Technology	UW-River Falls	16	19	19%	13	6	-54%
Environmental Engineering	UW-River Falls	5	8	60%	1	0	-100%
Biological Systems Engineering	UW-Madison	96	96	0%	59	47	-20%
<b>Totals</b>		<b>117</b>	<b>123</b>	<b>5%</b>	<b>73</b>	<b>53</b>	<b>-27%</b>
<b>★ Agriculture, Food and Natural Resources Totals</b>		<b>2,329</b>	<b>2,217</b>	<b>-5%</b>	<b>1,094</b>	<b>1,012</b>	<b>-7%</b>
<b>Career Cluster: BIOLOGY &amp; LIFE SCIENCES</b>							
Biochemistry	UW-Madison	404	443	10%	145	148	2%
Biology	UW-Madison	906	923	2%	346	377	9%
Genetics	UW-Madison	234	262	12%	89	72	-19%
Global Health	UW-Madison	255	278	9%	22	96	336%
Life Sciences Communication	UW-Madison	128	123	-4%	46	41	-11%
Microbiology	UW-Madison	136	142	4%	65	44	-32%
Nutritional Sciences	UW-Madison	138	144	4%	54	58	7%
<b>★ Biology &amp; Life Sciences Totals</b>		<b>2,201</b>	<b>2,315</b>	<b>5%</b>	<b>767</b>	<b>836</b>	<b>9%</b>
<b>★ Agriculture, Food and Natural Resources plus Biology &amp; Life Sciences Totals</b>		<b>4,530</b>	<b>4,532</b>	<b>0%</b>	<b>1,861</b>	<b>1,848</b>	<b>-1%</b>
<b>Career Cluster: VETERINARY MEDICINE (Professional Practice)</b>							
<b>★ UW-Madison Veterinary Medicine Totals</b>		<b>382</b>	<b>376</b>	<b>-2%</b>	<b>88</b>	<b>98</b>	<b>11%</b>

## UW–Madison Division of Extension Review

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

### Protecting Water Quality through Agricultural Practices

The majority of water bodies included on Wisconsin’s Impaired Waters List appear on the list as a result of excess phosphorus that creates eutrophic conditions, and many are located in predominately agricultural watersheds. Groundwater pollution from agriculture also presents a challenge. Nitrate loads to groundwater have increased statewide since 2013, and awareness of nitrate levels in private wells above the health standard of 10 parts per million (ppm) has increased the focus on nitrogen losses from agriculture practices. Discovery Farms water quality data indicate that conservation practices including waterways, no till farming, and cover crops can substantially reduce soil loss, but a better understanding of the dynamics of phosphorus and nitrogen loss is needed. Subtleties of phosphorus and nitrogen dynamics and the effectiveness of suggested practices are a key focus for educational content by Extension’s Agriculture Water Quality Program (AQWP). The AQWP delivered several different educational efforts to increase farmers, crop advisors, and conservation professionals’ awareness of farming practices’ impact on soil and nutrient losses to surface and groundwater. Increasing awareness and knowledge of the dynamics of soil and nutrient losses in different farming systems will allow for implementation of agricultural practices that are protective of water quality. A sample of selected webinar participants showed that over 90% reported a change in knowledge on the topics including nitrate leaching, and dissolved phosphorus, and 10-20% reported a significant change. Additionally, Discovery Farms collected water quality data from nine edge-of-field surface runoff sites and three subsoil leaching locations in 2023. This adds to the large existing database of water quality results that includes over 30 farms and more than 200 site years.

### Business Planning for Profitable, Safe Farms

Record-high farm income in 2022 drove Wisconsin farm businesses’ interest in new revenue streams, markets and technology. However, in 2023 producers encountered increased interest expense, increasing debt and reduction in working capital due to lower-than-expected prices, an increase in overall production costs, and a decline in USDA assistance. When making business decisions, farmers rely on trusted partners such as consultants, lenders, and other types of service providers as well as agriculture associations and producer peer groups. These partners in turn rely on Extension for objective, research-based farm business management information and resources. Extension partnered with 12 agricultural associations and community organizations to facilitate focus group discussions exploring farm management needs of beginning and early career grain and specialty crop farmers and aided them in identifying strengths and weaknesses of their business that would assist them in making decisions to improve their farm profitability. Farmers who participated in Extension financial management programs go on to employ farm financial and risk management concepts, tools, methods, and practices to make an informed decision about a business change, opportunity, or new enterprise.

### Livestock Biosecurity to Prevent Disease

Biosecurity affects the economic sustainability and viability of livestock producers as disease outbreaks can be exceedingly expensive for producers. Disease outbreaks can cause catastrophic livestock losses including the depopulation of whole herds or loss of newborn animals. Producers are aware that diseases pose a threat to the livestock they manage but not all implement biosecurity measures. Some producers may think their animals are immune to a disease or might not realize what diseases pose a threat to their operation, while others potentially forget the impacts of disease outbreaks if one has not occurred for several years. The Extension Livestock program developed a variety of materials and workshops that focused on biosecurity best management strategies including vaccination protocols, boot wash stations, isolation recommendations, and more for swine, beef, and small ruminant producers. Long term, having biosecurity plans and implementing them daily will allow livestock producers to remain economically viable as the chance of a disease outbreak will be mitigated and if a disease outbreak occurred, the outbreak would be identified quickly. This ensures the health of livestock and allows them to grow efficiently while producing a reliable source of wholesome and nutritious consumable products for Wisconsin communities.

## Responding to Drought

While early 2023 Wisconsin weather was characterized by typical average temperatures and precipitation, wide variability and erratic weather created cool, wet early spring field conditions. In May, much of the state experienced a rapid shift to hot, dry weather. The speed with which the drought came on led to the designation of “flash drought” for much of the state. By late May, 66% of the state was under “abnormally dry conditions.” Given the rapid onset of historically dry conditions, farmers were faced with the need to make quick decisions regarding farm management. The Extension Crops and Soils program mobilized quickly to provide up-to-date information to farmers and professional agronomists on a regular basis by using established and novel communication channels to deliver timely resources. Extension faculty with crop production expertise were recruited to provide research-based information to assist agricultural producers in making the best possible management decisions under drought conditions. Participants said the information shared allowed them to make better crop management decisions and/or recommendations to those they advise. In addition to the creation of drought specific resources, the extreme weather of 2023 provided an entry point to discuss long-range strategies that farmers can implement to increase resilience in the face of ongoing climate change. Over 60% of evaluation respondents said they plan to make long-term management changes within 5 to 10 years to increase resilience to extreme weather, including adding cover crops and improving soil fertility management and crop residue management. This shift in receptiveness to conversations about extreme weather or climate change is a critical step in implementation for a range of practices.

Find more Extension impacts and resources at: [extension.wisc.edu/agriculture](https://extension.wisc.edu/agriculture)



DWD Secretary Amy Pechacek checks out a water quality teaching tool at the Food + Farm Exploration Center in Plover.

## 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 council 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 council 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 focus on 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 SFY2024 Annual Report was distributed electronically to all council members. Each council member was asked to review the report, provide input, and to provide their approval or dissent of the Annual Report at the council's Sept. 16, 2024, meeting. No dissent or minority opinions were received. The Annual Report was approved unanimously.

## NOTES

- <sup>i</sup> <https://datcp.wi.gov/Pages/Publications/WIAgStatistics.aspx>
- <sup>ii</sup> [https://www.nass.usda.gov/Quick\\_Stats/Ag\\_Overview/stateOverview.php?state=WISCONSIN](https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=WISCONSIN)
- <sup>iii</sup> <https://datcp.wi.gov/Pages/Publications/WIAgStatistics.aspx>, [https://www.nass.usda.gov/Quick\\_Stats/Ag\\_Overview/stateOverview.php?state=WISCONSIN](https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=WISCONSIN)
- <sup>iv</sup> <https://datcp.wi.gov/Pages/Publications/WIAgStatistics.aspx>, <https://www.sco.wisc.edu/wisconsin/geography/>
- <sup>v</sup> <https://datcp.wi.gov/Pages/AgDevelopment/ExportStatistics.aspx>
- <sup>vi</sup> <https://economicdevelopment.extension.wisc.edu/articles/windicators-volume-7-issue-1-wisconsin-farming-insights-from-the-2022-census-of-agriculture/>
- <sup>vii</sup> <https://economicdevelopment.extension.wisc.edu/articles/windicators-volume-7-issue-1-wisconsin-farming-insights-from-the-2022-census-of-agriculture/>
- <sup>viii</sup> [dwd.wisconsin.gov/ai-taskforce/meetings/pdf/pptx/240506-meeting-slides.pdf](https://dwd.wisconsin.gov/ai-taskforce/meetings/pdf/pptx/240506-meeting-slides.pdf)
- <sup>ix</sup> WIndicators Volume 7, Issue 1: Wisconsin Farming: Insights from the 2022 Census of Agriculture – Community Economic Development, <https://dwd.wisconsin.gov/ai-taskforce/meetings/pdf/pptx/240506-meeting-slides.pdf>
- <sup>x</sup> [https://www.nass.usda.gov/Statistics\\_by\\_State/Wisconsin/Publications/Annual\\_Statistical\\_Bulletin/2023AgStats\\_WI.pdf](https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Annual_Statistical_Bulletin/2023AgStats_WI.pdf)
- <sup>xi</sup> <https://www.climatehubs.usda.gov/sites/default/files/Climate%20Change%20Impacts%20on%20Wisconsin%20Agriculture.pdf>
- <sup>xii</sup> <https://economicdevelopment.extension.wisc.edu/articles/windicators-volume-7-issue-1-wisconsin-farming-insights-from-the-2022-census-of-agriculture/>
- <sup>xiii</sup> <https://www.uwrf.edu/CAFES/High-School-Meat-Science-Curriculum/>
- <sup>xiv</sup> <https://dwd.wisconsin.gov/apprenticeship/ya/yoda.htm>
- <sup>xv</sup> <https://dwd.wisconsin.gov/det/dashboard/main.htm>
- <sup>xvi</sup> 2024 Facts and Trends, Universities of Wisconsin System (2024 Universities of Wisconsin Facts and Trends).
- <sup>xvii</sup> 2023-2028 Strategic Plan, The University of Wisconsin System, Approved Dec. 8, 2022 (2023-2028 Strategic Plan | UW System President (wisconsin.edu)).



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