

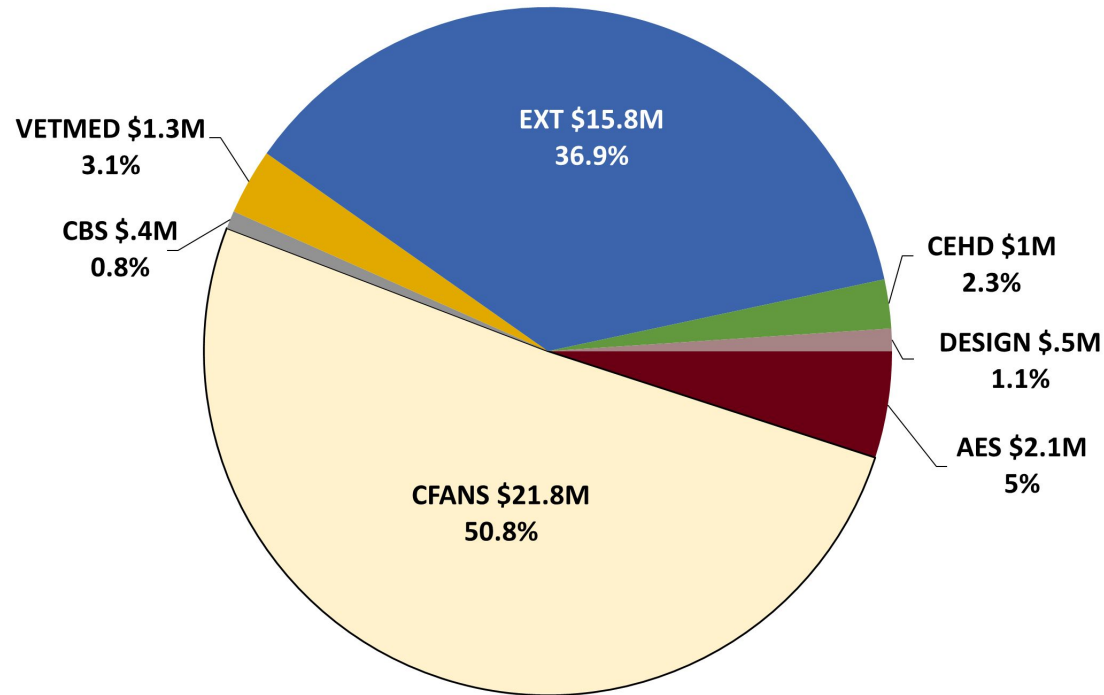
Agriculture Research and Extension

Minnesota Agricultural Experiment Station | Extension | College of Food, Agricultural and Natural Resource Sciences | College of Veterinary Medicine



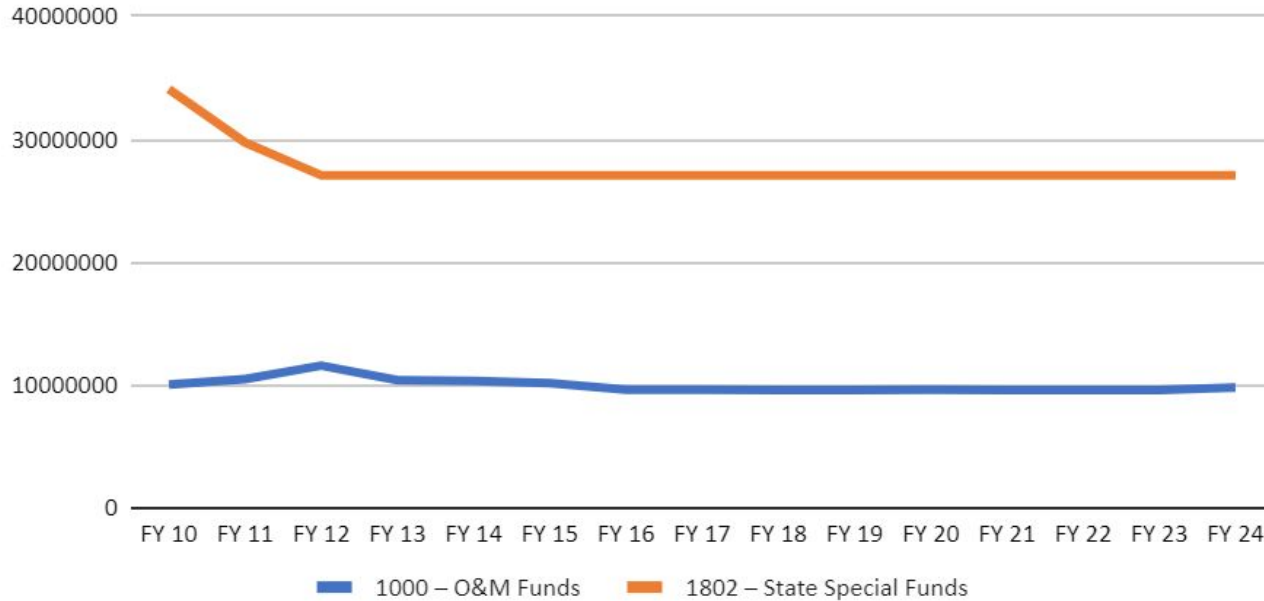
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Ag State Special Funding: \$42,922,498 FY24 Distribution



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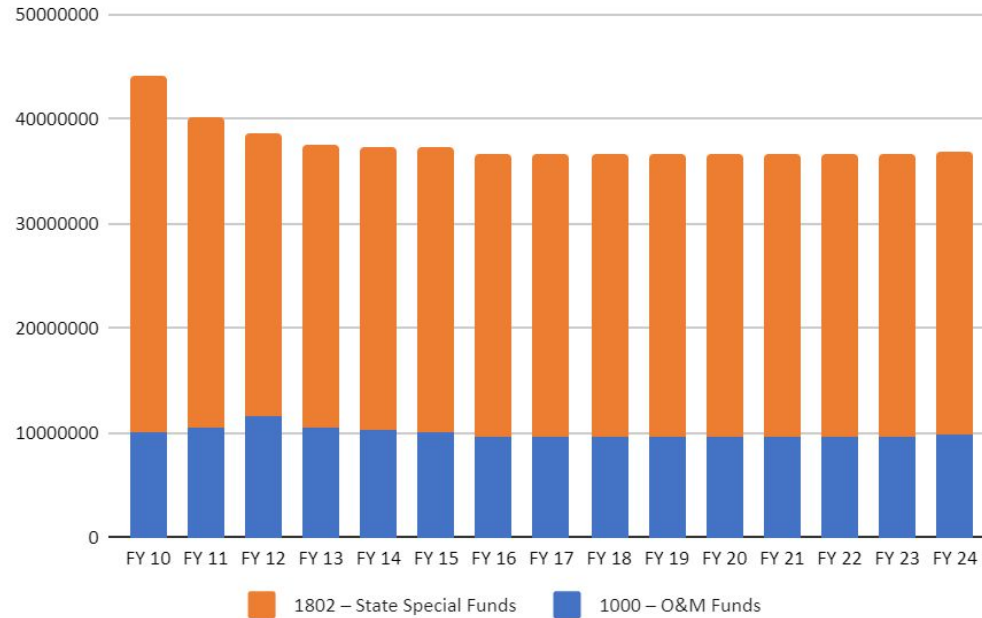
MAES State Funding Allocation Trends (FY10 - FY25)



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MAES State Funds

Fiscal Years 2010 - 2025



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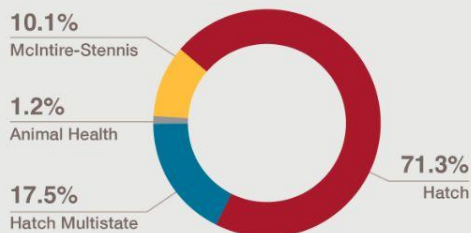
RESEARCH BY THE NUMBERS

200+ active USDA-approved research projects

245+ research programs supported by MAES

\$7.6M in federal capacity funds in FY24

Federal FY24 Funding allocation amounts



Minnesota Agricultural Experiment Station manages the distribution and use of federal and state research funds with a focus on production, harvesting, processing, quality and marketing of food and agricultural products and forests and forest products. The goals of these efforts are to improve human nutrition, family and community life, rural and urban vitality, economic growth and development, and environmental quality.

Partner colleges

MAES supports research across Minnesota led by scientists in five different University of Minnesota colleges:

- College of Food, Agricultural and Natural Resource Sciences
- College of Veterinary Medicine
- College of Biological Sciences
- College of Education and Human Development
- College of Design

State-funded grant programs

- Rapid Agricultural Response Fund
- Small Grains Initiative
- Turkey Disease & Disease Prevention

Funding sources

MAES uses federal and state funds to support cross-disciplinary research and respond to emerging issues. These funds provide critical support for staff, equipment and facilities that allow scientists to start innovative projects and leverage and match other external funding sources.

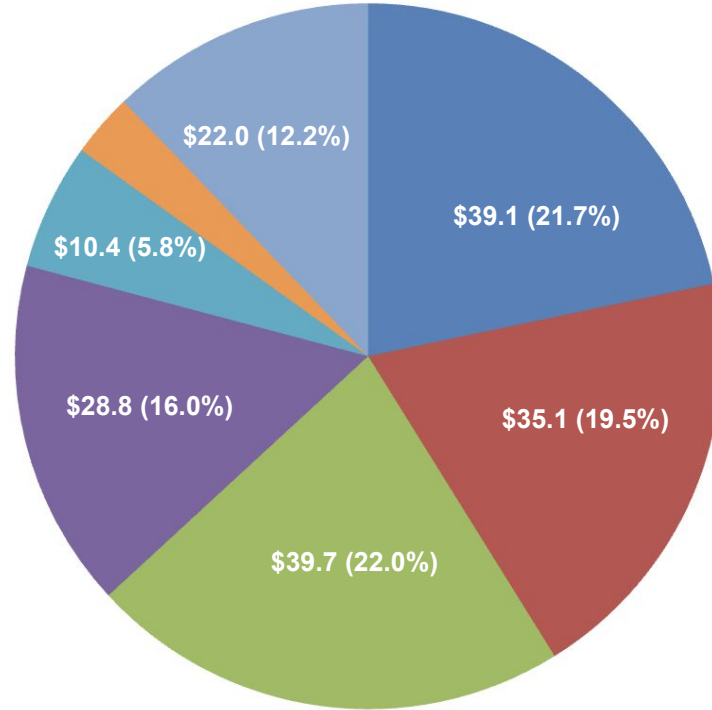
Federal funding sources:

- Hatch
- Hatch Multistate
- Animal Health
- McIntire-Stennis

State funding sources:

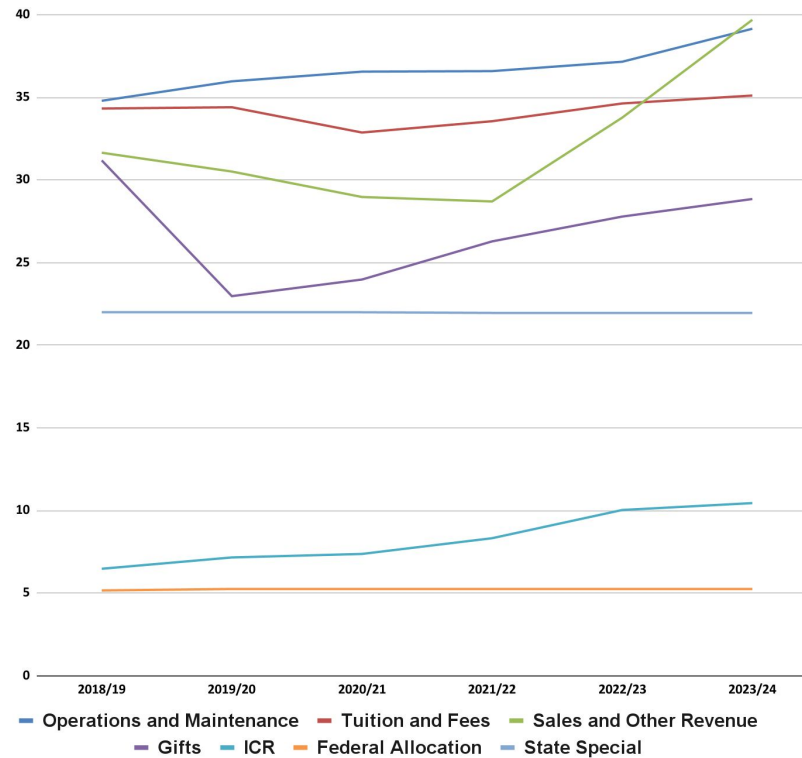
- Agriculture State Special
- Agriculture Research, Education, Extension, and Technology Transfer Grant Program (AGREETT)

CFANS 2023-2024 Resources: \$160.6 Million



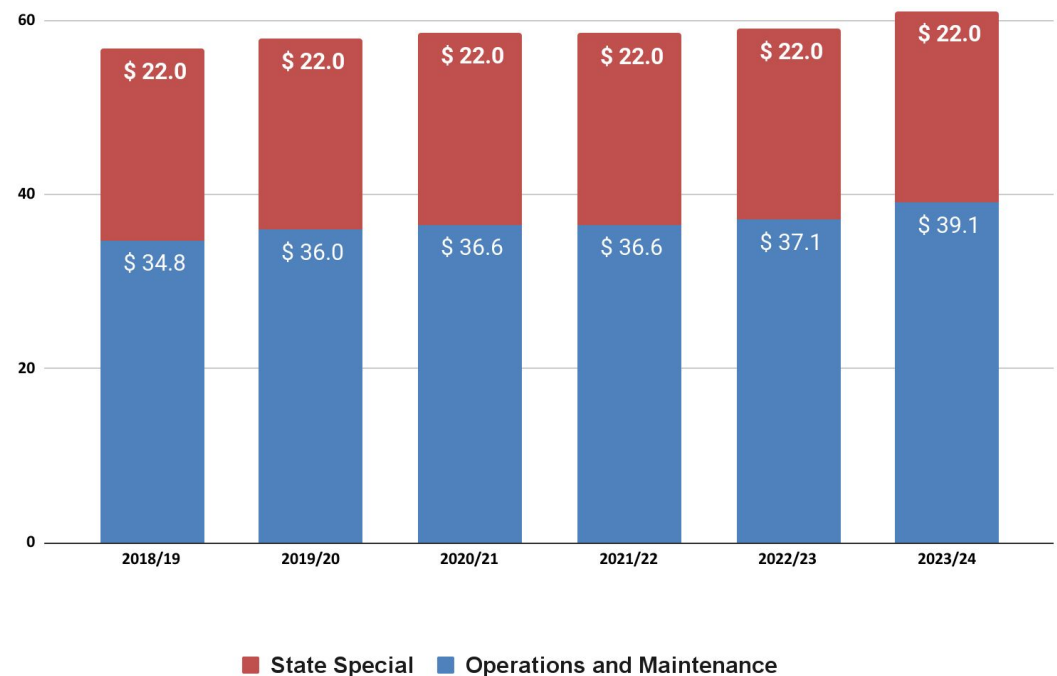
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CFANS Major Fund Area Trends (Millions)



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CFANS State Funding Trends (Millions)



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WHERE
passion
MEETS
purpose



Grand Challenge research and education investments

- Food security, agricultural productivity
- Invasive species and biodiversity/ pest and disease dynamics
- Renewable energy and climate adaption
- Water resources and uses
- Forestry
- Precision agriculture
- Educating future leaders in applied science and technology for agriculture, food and natural resource sciences

People

Fall 2024

1,767 Undergraduates
517 Graduate Students
234 Faculty
935 Staff
31,254 Alumni

505 degrees

awarded to undergraduates and graduates by CFANS in 2023–24 to help fill critical needs in Minnesota's agriculture, food, and natural resource workforce



27 programs

14 undergraduate and 13 graduate programs in disciplines involving food, agricultural, and natural resource sciences



10
Research and Outreach Centers
across Minnesota



7 **continents**

on which CFANS scientists connect Minnesota with research and business opportunities



CFANS
COLLEGE OF FOOD, AGRICULTURAL
AND NATURAL RESOURCE SCIENCES

Undergrad Fast Facts

90% 

of CFANS students complete an internship in their major

\$4.2 million

in CFANS scholarships are awarded to undergraduate students each year

90% 

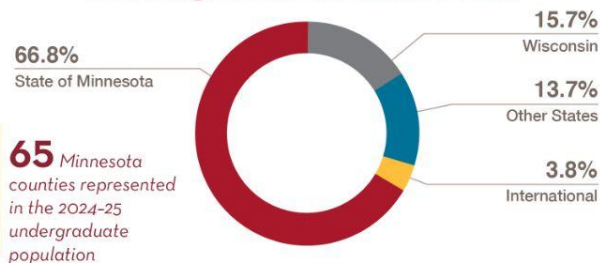
of CFANS graduates are employed or continuing their education within 6 months of graduation

Federal funding 

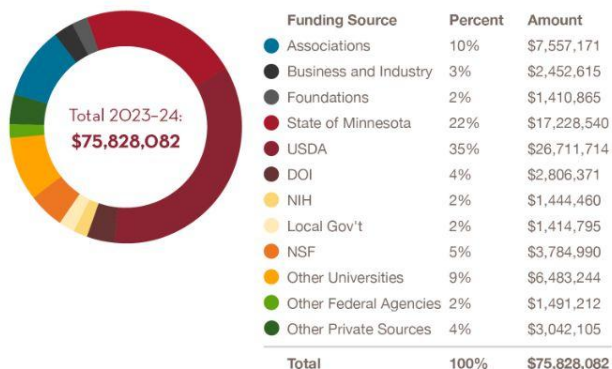
is used to support science-based responses to emerging issues

- Global food security and hunger
- Sustainable energy
- Forestry and natural resources
- Food safety and nutrition
- Strong rural communities

Undergraduate Hometowns



Sponsored grant awards received



Sponsored grant awards leverage state funding

Sponsored Grant Award Projects **\$75,828,082** adds to **\$21,953,054** State Special Funding

\$5 million

state investment in agricultural productivity to hire new scientists and technicians to work in seven key areas through the Agricultural Research, Education, Extension and Technology Transfer (AGREETT) program.

1. Crop and livestock productivity
2. Microbial science
3. Water quality and climate resilience
4. Agricultural technology and decision-making
5. Nutrient recycling and management
6. Agro-ecological innovation
7. Technologies for managing pest resistance and climate adaptation



CFANS RESEARCH

FY24 YEAR IN REVIEW



The College of Food, Agricultural and Natural Resource Sciences (CFANS) is **a national leader in innovative scientific discovery**. The work of its talented researchers cultivates breakthrough solutions to today's greatest challenges, all with an exemplary commitment to diverse views and research ethics.

409

undergraduate students –
approximately 25% of CFANS undergrads –
partook in sponsored research projects in FY2024



581

Active research projects
at the **10 CFANS
Research & Outreach
Centers** in FY24

TOTAL SPONSORED GRANT AWARDS

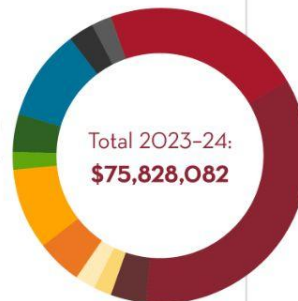
CFANS received
\$75,828,082
in sponsored grant awards in FY24.

FUNDING SOURCES

Sponsored grant awards received

Percentage by dollar amount

| Funding Source | Percent | Amount |
|------------------------|-------------|---------------------|
| Associations | 10% | \$7,557,171 |
| Business and Industry | 3% | \$2,452,615 |
| Foundations | 2% | \$1,410,865 |
| State of Minnesota | 22% | \$17,228,540 |
| USDA | 35% | \$26,711,714 |
| DOI | 4% | \$2,806,371 |
| NIH | 2% | \$1,444,460 |
| Local Gov't | 2% | \$1,414,795 |
| NSF | 5% | \$3,784,990 |
| Other Universities | 9% | \$6,483,244 |
| Other Federal Agencies | 2% | \$1,491,212 |
| Other Private Sources | 4% | \$3,042,105 |
| Total | 100% | \$75,828,082 |



AWARDS AND SUBMISSIONS

150 Distinct funders provided funding
for CFANS researchers in FY24

450

Sponsored project awards
received by CFANS in FY24

673 New sponsored project proposals
submitted by CFANS in FY24

INTELLECTUAL PROPERTY

CFANS propels UMN discoveries. The University
is in the **top 10 for technology transfer** and
2nd in the Big Ten for “innovation impact.”

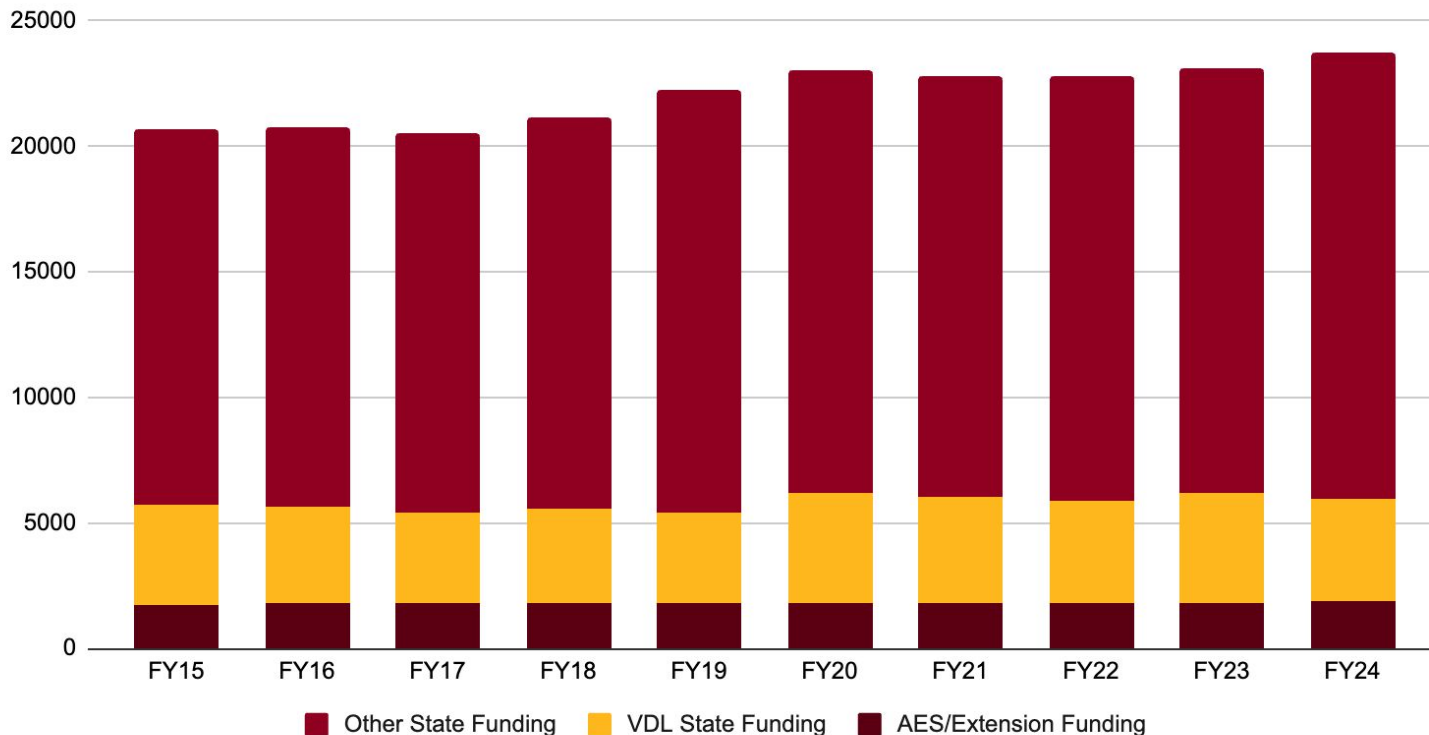
11 
new startups
launched in
past five years

21 [®]
trademarks and
patents issued
in FY24

102 trademarks and
patents issued in
past five years



College of Veterinary Medicine: State Funding Trends



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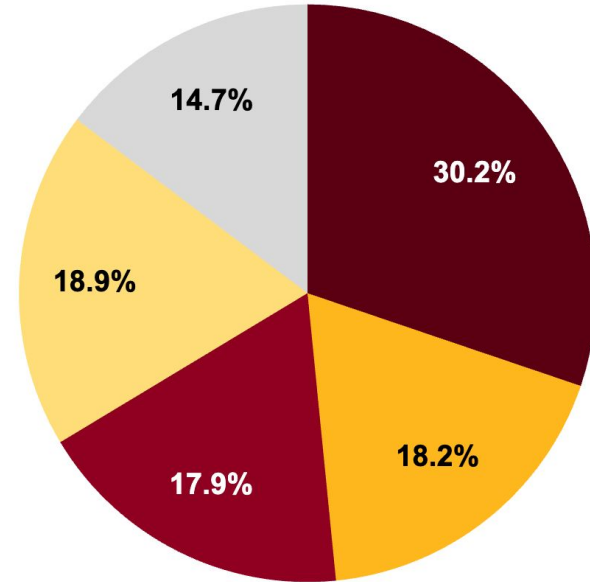
College of Veterinary Medicine: State Funding Trends

Resources FY 2024

| | FY24 |
|------------------------------|--------------------|
| Clinical & Diagnostic Income | 39,340,009 |
| State Funding | 23,738,895 |
| Tuition | 23,379,773 |
| Extramural Research Funding | 24,604,193 |
| Other Resources | 19,198,416 |
| Total | 130,261,286 |

ROI on state investment **\$ 4.49**

Resources (percentage)



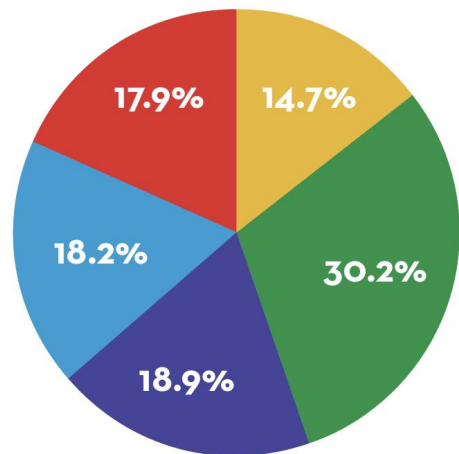
● Clinical & Diagnostic Income ● State Funding ● Tuition ● Extramural Research Funding ● Other Resources



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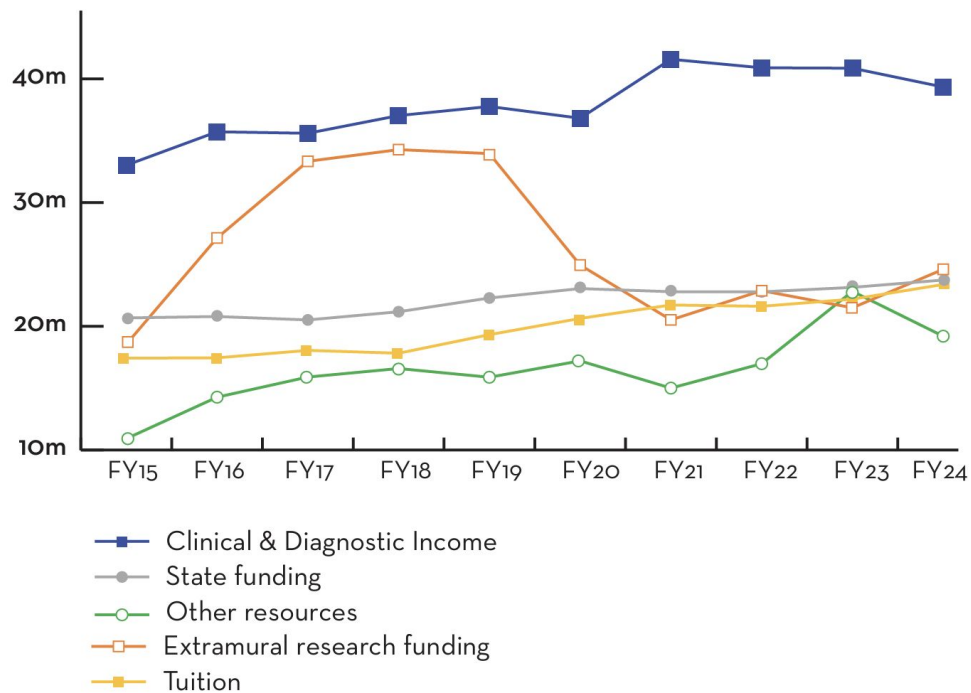
CVM Snapshot: Funding

Resources FY 2024 - \$130,261,286



- Clinical & Diagnostic Income - **\$39.3m**
- Extramural Research Funding - **\$24.6m**
- State O&M, Diagnostic Lab/State Special, AES/Extension - **\$23.7m**
- Tuition - **\$23.4m**
- Other - **\$19m**

CVM Resource Trends FY15-24

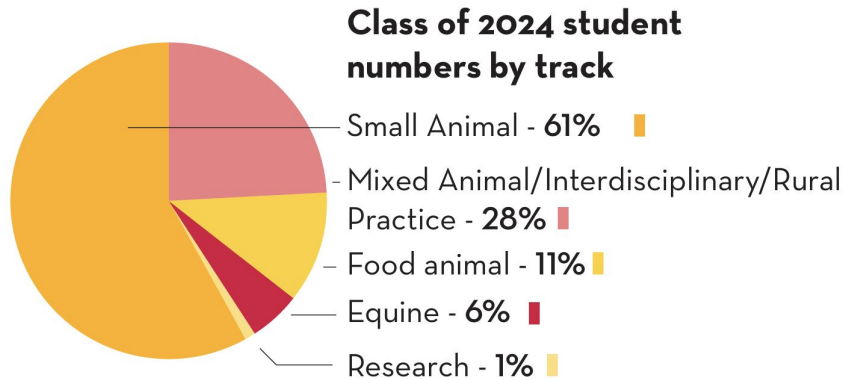


CVM Snapshot: Students

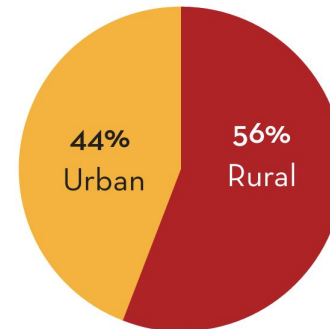
DVM students

As the sole program training veterinarians in Minnesota and one of 33 accredited U.S. schools, our role is more vital than ever given critical workforce shortages and the risk they pose.

- 1,718 applicants for 105 seats in the Class of 2029
 - 20 additional students admitted through a partnership with South Dakota State University
- The Class of 2025 has 125 students: 69 residents and 56 non-residents
- 17 Veterinary Food Animal Scholars Track students



Class of 2025 (fourth year) area of geographic origin



Graduate students and specialist trainees

69 PhD students • 14 Master's students • 53 clinical residents and interns

CVM Snapshot: Advancements

Ranked 4th in the United States and 11th globally, the College of Veterinary Medicine continues to lead and innovate in veterinary education, research, and practice.



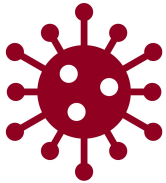
Leveraging technology in research

A long-time leader in food animal medicine and research, we are embracing technology and using it to gather data to improve animal health and increase productivity on production farms. For example, our dairy researchers are testing artificial intelligence capabilities to create more efficient methods for diagnosing lameness in cattle.



Advancing swine health and production

For 50 years, the Leman Swine Conference organized by our swine faculty and staff has served as a hub for discovery and collaboration. The annual event brings together 1,000 swine veterinary professionals, scientists, and producers from across the world to learn from each other and use that knowledge to address problems facing the industry.



Collaborating on disease response

As concerns regarding avian influenza continue to grow, our researchers are at the forefront of disease response efforts. For years, our scientists have been studying the characteristics of this ever-changing virus that infects many hosts and causes many syndromes in agricultural and natural settings. Now, in collaboration with numerous stakeholders, two of our researchers will be using nearly \$1.3 million in state funding to create a wildlife disease surveillance network.



Improving animal and human health

Animals are at the heart of our work, but people also are beneficiaries of our research. These efforts include clinical trials testing treatments for brain tumors in dogs that could lead to breakthroughs for people, examining animals with joint disorders to better understand the development of these conditions in children, and using animal models to develop novel vaccines to protect humans from the effects of opioids and antibodies that can neutralize opioids present in the body.

CVM Snapshot: Service

Our diagnostic and clinical service and outreach impact every county in Minnesota.



Veterinary Diagnostic Laboratory

- Official laboratory of the MN Board of Animal Health and a Level 1 USDA National Animal Health Laboratory Network Lab and a member of the FDA Veterinary Laboratory Investigation and Response Network
- 1 million procedures completed annually
- Supports Minnesota's response to animal health emergencies caused by emerging disease outbreaks (HPAI H5N1 in poultry and dairy cattle, and Avian Metapneumovirus in poultry)
- Prepared to respond to foreign animal disease threats, such as African swine fever and foot-and-mouth disease.



The Raptor Center

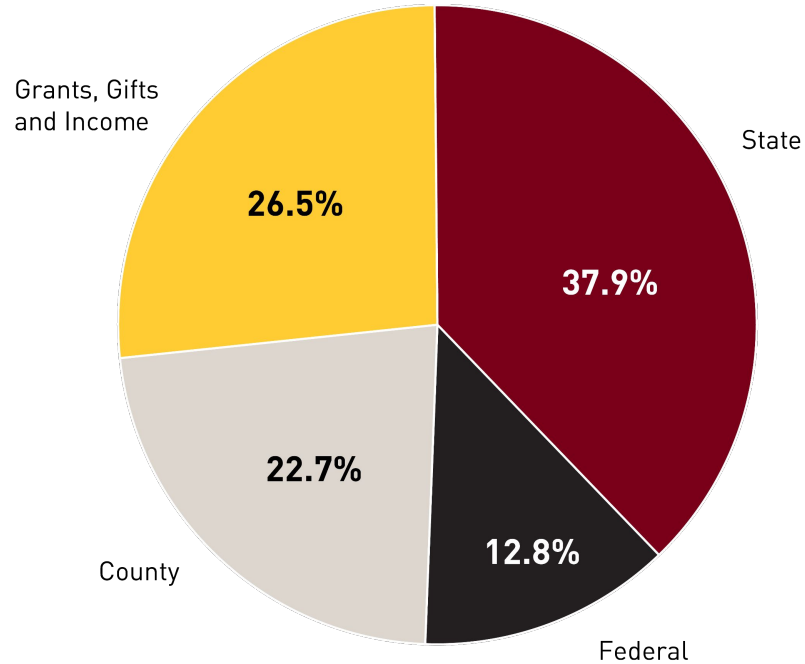
- Celebrating 50 years of advancing avian medicine and conservation.
- Since 1974, more than 32,600 birds have been admitted to its hospital. Based on 50 years of upward-trending admissions, it could anticipate treating 25,000 more in the next 20 years.
- Thousands of veterinarians, wildlife rehabilitators, and members of the public are educated each year through its training, education, and outreach programs.



Veterinary Medical Center

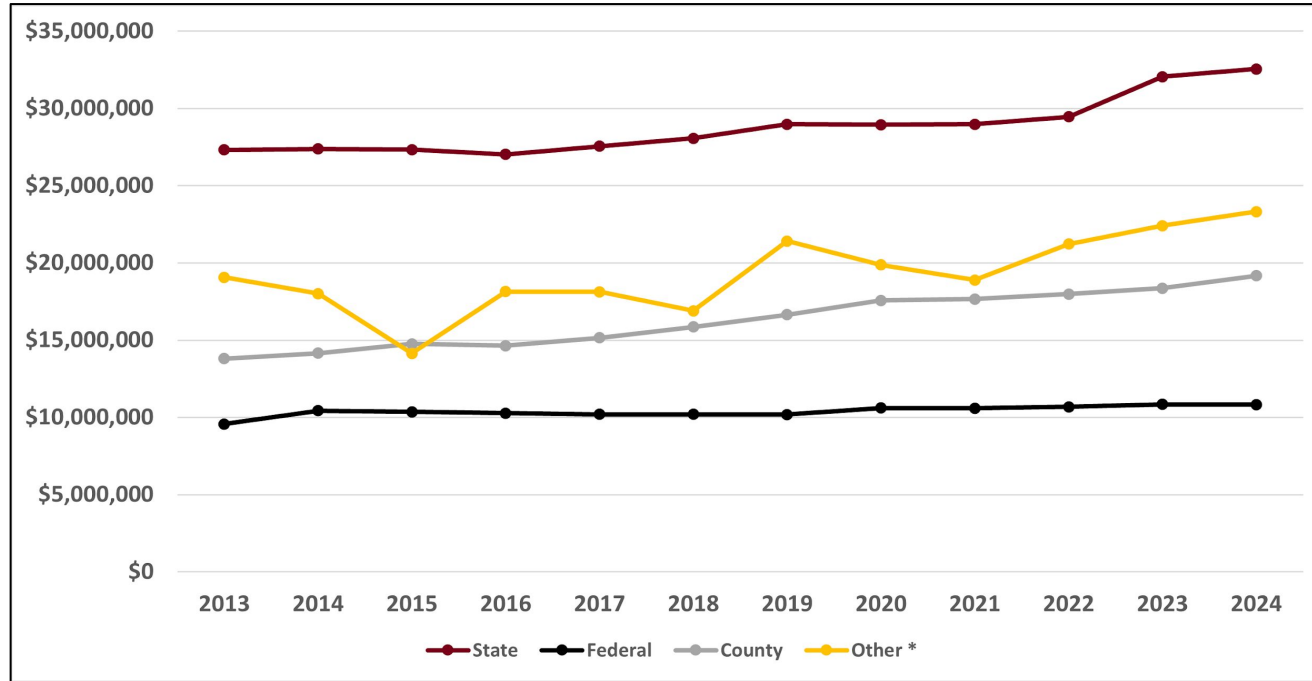
- Our hospitals: Large Animal Hospital, Lewis Small Animal Hospital, Piper Equine Hospital, West Metro Equine Practice
- 32,000+ patient visits annually makes it one of the busiest teaching hospitals in the world.
- 135 veterinarians and 119 staff members operate 16 specialty services that serve patients from the Upper Midwest and beyond (41 states in 2023).

2023-2024 Extension Budget: \$84.5 M



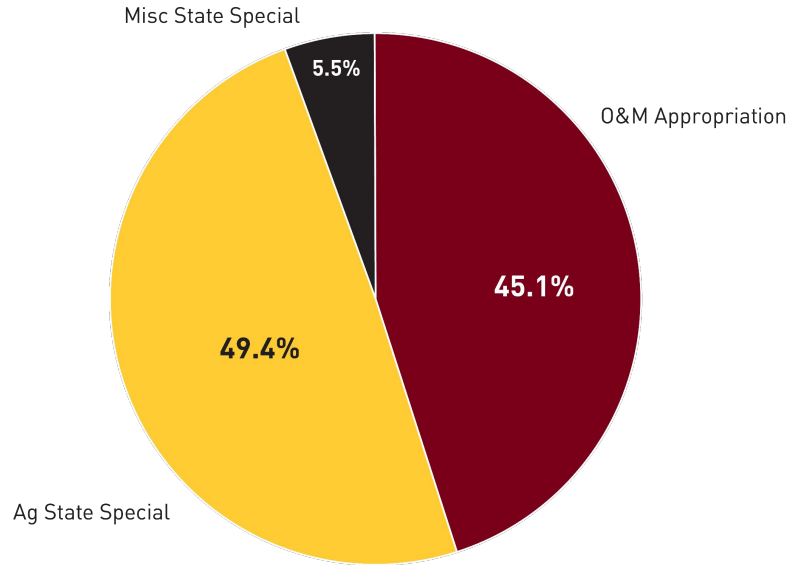
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Extension Funding Trends



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2023-2024 Extension State Special Funding: \$32M



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Building a stronger Minnesota together

Extension plays an essential role in the University of Minnesota's mission: We bring Minnesotans together to build a better future through University science-based knowledge, expertise and training.
extension.umn.edu

Connecting rural, suburban, urban and tribal communities with the University of Minnesota

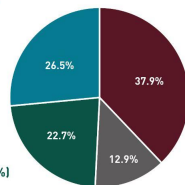
- 87** Extension is in every county. Regional offices are strategically located across the state.
- 65%** of Extension faculty and staff work in Greater Minnesota.
- 35K+** trained volunteers multiply our reach.
- 2K+** partnerships foster work with key audiences and diverse communities.
- 8.5M** people visit Extension's website each year.



Total budget: \$84.5M

Grants, gifts and income:
\$22.4 million (26.5%)
Individuals and organizations provide support for valuable Extension opportunities important to them.

Counties: \$19.2 million (22.7%)
Investments ensure 4-H, agriculture and other Extension programs are delivered locally.



State: \$32 million (37.9%)
Investments are leveraged through collaborations with Minnesota state agencies, including departments of agriculture, health, human services, natural resources and tourism.

Federal: \$10.9 million (12.9%)
The U.S. Department of Agriculture supports wide-ranging research and Extension education.

MAKING A DIFFERENCE IN MINNESOTA: ENVIRONMENT + FOOD + AGRICULTURE + COMMUNITIES + FAMILIES + YOUTH



Extension is the front door to the University for all Minnesotans, providing tools to build the future they envision.

More than **1 million** people are reached annually by Extension education.



Minnesota 4-H reaches new youth

9,191 new youth joined Minnesota 4-H in 2023, and more than **6,200** of them are "first-generation 4-H'ers," the first youth in their families to participate in 4-H.



Strengthening Minnesota's food and agriculture

Extension research and education improve crop yields, animal health, farm productivity and water conservation across Minnesota's **67,400** farms.



Promoting responsible lawn and garden practices

3,177 Extension Master Gardener volunteers contributed **185,751** hours planting pollinator-friendly gardens, creating resilient landscapes and helping Minnesotans grow healthy foods.



Creating healthier families

Extension SNAP-Ed reached **82,293** participants and others with health and nutrition education and through policy, systems as well as environment support. Extension led the Statewide Food Shelf Survey with community partners, helping **288** food shelves make data-informed decisions.



Protecting natural resources, including soil, water and woodlands

Extension Natural Resources volunteers contributed **96,424** hours to restore public lands, manage invasive species in their communities, collect data for scientific research and teach better land stewardship.



Supporting community leadership, economic development and tourism

Extension reached **12,753** Minnesotans with leadership and economic development education and provided **153** applied research reports that are used across the state by communities.



UNIVERSITY OF MINNESOTA EXTENSION

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Minnesota 4-H at a glance 2023

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Minnesota 4-H is the largest youth development organization in the state. Our entire team, consisting of program staff and volunteers as well as state program leaders, work together to deliver youth development programs that give youth opportunities to learn by developing a passion in their areas of interest and lead as innovators and agents of change.



41,580 youth across Minnesota

9,100+ first-year members statewide
70% of youth from 2022 re-enrolled in 2023 programs

2/3 new members are
first-generation 4-H'ers



Educators across Minnesota hosted nearly **2,000** events designed to give opportunities for youth to learn about their projects, or in other areas such as STEM, performing arts, plant and animal science or outdoor education.

Over **95%** of participants across Minnesota reported applying what they learned through 4-H in other parts of their lives.

Over **24,000** youth across Minnesota showcased learning, demonstrating their growth and mastery in project areas.



Youth are leaders in Minnesota

Through 4-H programs this year, **92%** of youth across Minnesota reported gaining confidence in their leadership abilities.

3 in 4 Minnesota 4-H'ers volunteered this year, which helped make their communities thrive

Through volunteer work, youth get connected to their community and learn how they can be change makers in their local area. **96%** of Minnesota 4-H'ers believe they are capable of making a difference in their communities.



Our dedicated volunteers help us reach more youth, and bring their expertise to increase youth learning—and our training and systems of volunteer support make it happen. Our programs thrive with the help of over **7,400** volunteers statewide, and we've trained over **3,000** youth workers from other organizations and schools.

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The cost to prepare this
UMN Agriculture Research and Extension report is \$500.



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