

## Darrin L. Boss

Montana State University, Northern Agricultural Research Center  
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### EDUCATION

PhD	2007	Montana State University	Plant Science – Forages
MS	1994	Montana State University	Beef Cattle Nutrition
BS	1992	The Ohio State University	Animal Science – Nutrition
BS	1990	Ohio State University	Zoology – Wildlife Biology/Ecology

**PhD dissertation:** Increasing yield and management options for producers who traditionally plant barley acres for grain or forage production by varying seed band width, planting rates and harvest endpoint.

**Advisor:** Dr. P.L. Bruckner

**MS thesis title:** Effect of barley variety on feedlot performance, carcass characteristics, site and extent of digestion, and diet kinetics in steers fed a high concentrate diet.

**Advisor:** Dr. J.G.P. Bowman

### EXPERIENCE

**2023-present** *Associate Director Montana Agricultural Experiment Station, Assistant Dean of Research College of Agriculture.*

The Associate Director provides leadership and oversight for facilities planning and management, safety, and university relations. The Associate Dean provides leadership in growing the research portfolio, keeping MAES research aligned with the mission of addressing state needs in agriculture research, assisting with new faculty onboarding, and promoting interdisciplinary research. As a key member of the College of Agriculture and Montana Agricultural Experiment Station leadership team, the Associate Director assists with strategic planning and implementation of initiatives related to the Mission and Vision of the College/Station and the University in support of research, and constituent engagement. This position helps ensure compliance with policies and procedures, research issues, enhances grant proposal submission and success across College and Station, analyzes institutional data, prepare reports, makes recommendations for changes in policy or procedures, and handles confidential problems that arise in the college. Along with the Associate Dean, the Associate Director serves in the VPA's capacity in the absence of the Vice President of Agriculture.

*Responsibilities include:*

1. Supports the VPA in all aspects of MAES/College research leadership: o In consultation with the VPA, assists with strategic plan implementation, federal initiative planning and execution in collaboration with VPREDGE, and provides leadership for MAES/college-wide research and engagement initiatives aligned with the College's Mission, Vision and Strategic Plan.
2. Works with the VP's administrative team to establish and maintain a professional, positive, collegial, collaborative culture throughout the College/Station.
3. Serves as principal liaison for a group of departments, divisions, and research centers, promoting interdisciplinary and inter-departmental grant submissions and research, and understanding and addressing research needs of Montana agriculture.
4. Assists with the management of all College/MAES research and engagement programs, operations, lands and facilities including interfacing with Campus Planning and Development on space and resource needs, and long-range building plan.

5. Assists VPA in establishing and maintaining positive internal and external relations with diverse populations and constituencies, including faculty, staff, students, community partners, alumni, donors, advisory councils, supporters, and external agencies and advisory boards.
6. Responsibly handles budgets and fiscal affairs including internal grants in consultation with the Budget and Fiscal Director for MAES and day-to-day operations.
7. Manage federal reporting and hatch/multistate resources.

Personnel:

1. Addresses personnel issues alongside the Human Resources Business Partner.
2. Enhances existing mentoring programs (ex, new faculty onboarding program) and support structure in collaboration with associate dean, i.e., proposal review before submission to increase grant success, especially among new faculty.
3. Collaborates with Associate Dean to develop training for faculty, postdocs and graduate students in grant writing and communicating research impacts.

Research:

1. With the help of the grant coordinator, assists faculty members in securing extramural funds by informing them of opportunities and providing workshops and training materials.
2. Mentors faculty during MAES proposal development to ensure a consistent process and level of rigor across the college projects and lead the review panels across the college.
3. Ensures MAES faculty are participating in and meeting reporting requirements of Hatch and Multistate projects and writing land-grant impacts.
4. Identifies opportunities and convenes groups to explore and develop interdisciplinary and community engaged research projects as opportunities arise.
5. Leads fertilizer assessment review committee and manages internal grants to enhance research capacity and facility improvement.
6. Interacts with stakeholders to identify emerging needs and approaches to address; ensure that stakeholders' interests and needs, and national and regional directions/RFP calls are represented by research conducted by faculty members.
7. Develops and leads a 'college nominations committee' to garner more deserved recognition for faculty, staff, and students at college, university, regional and national levels. \*\*Assesses and develops support for new major equipment purchases in support of research, and teaching.

University Relations:

1. Represents the VPA on numerous committees and working groups Liaison with other departments and units.
2. Effectively represents the College in university-wide and inter-divisional settings.

**2011-present *Superintendent, Research Professor, Northern Agricultural Research Center, Montana State University***

The superintendent functions as the primary contact and administrator of the Research Center (RC). As members of the Department of Research Centers (DRC), they serve as the primary representative and advocate for their respective RC, provide leadership toward the RC's mission, empower and enable RC staff and faculty to fulfill their roles, and are responsible for developing policies and procedures for the operation and function of the RC within the mission of the DRC. Superintendents oversee the general operation of the facility including maintenance, allocation and utilization of existing facilities, equipment and land to optimize research and farm income opportunities. Other responsibilities under this category include:

- Provide oversight in general farm/ranch facilities and operations.

- Manage or oversee the shared use of resources among RC faculty and coordinate the support to other researchers collaborating with the RC.
- Oversee the safety committee of the RC and facilitate appropriate training to all personnel.
- Provide general oversight of any new construction and/or renovations and develop long-range plans for future maintenance and new construction projects in consultation with the RC's faculty and advisory committee. Develop, maintain and execute appropriate deferred maintenance projects.
- Effectively manage the RC's operational budget and farm income revenue, prioritizing and projecting expenditures.

Superintendents must follow Federal, State and MSU policies and standards regarding personnel administration. They must also maintain collegial, respectful and productive working relationships at the RC and with other research centers and campus departments as well as COA, MAES and MSU administrations in order to fulfill the common research and outreach mission of the RC, DRC and MAES. Additional responsibilities include:

- Facilitate and foster the development of all research programs at the RC.
- Supervise administrative assistant, farm/ranch staff, provide professional development opportunities and conduct annual reviews.
- Coordinate with the advisory committee and interested stakeholders on setting priorities for future faculty and general RC staff hiring and lead the hiring process.
- Provide input for faculty and staff nominations for honors and awards as appropriate.
- While not the direct supervisors for faculty members, superintendents are expected to provide input for faculty annual review and participate in tenure and promotion processes for RC faculty in accordance with the current DRC role and scope documentation.

Superintendents shall:

- Develop and enhance relationships between the RC and the public to serve local, departmental, university and statewide needs.
- Engage with stakeholders to build mutually-beneficial relationships.
- Maintain an active and representative advisory committee for the RC.
- Ensure stakeholders' needs are met through current and targeted research projects.
- Organize and conduct periodic field days and other outreach events in consultation with faculty and the advisory committee.
- Work with MAES personnel to highlight research/personnel accomplishments.
- Utilize various media including social media within MSU guidelines to communicate to the larger public as appropriate.

Maintained a MSU Hatch research project: Adding Value to Beef Cattle. At any time throughout the year, permanent, temporary or student employees directly reporting to me ranged from 13 to 36. Annual budget administration through state and federal support ranged from \$700,000 to \$1M when fully staffed with permanent employees including three faculty, four research associates, one research scientist and seven support staff. Short-term workers and students would bolster that number of employees to over 36 during calving or summer. Sales and expenditures across all years ranged from \$250,000 to \$400,000 yearly, adding the annual budget of NARC. Grant expenditures varied by research program and number of faculty and research scientists employed throughout the years.

**2017-2023**     *Department Head, Department of Research Centers, Superintendent, Research Professor, Beef Cattle Extension Specialist, Northern Agricultural Research Center Montana State University*

Promoted to Department Head, I provide programmatic, personnel and budgetary oversight to the seven Research Centers located across the state of Montana. The Department of Research Centers represents the faculty and staff that conduct research and outreach programs at seven

off-campus Agricultural Research Centers. The Research Centers are the nucleus of a statewide cooperative agricultural research system in Montana which collaborates with Bozeman-based faculty. Research Centers are located in unique environments to serve the specific needs of agricultural clientele in those production areas and the broader needs of Montana agriculture. Departmental faculty address practical problems of agricultural production and resource management through basic and applied research, with an emphasis on application in the Montana agroecosystem. Research and outreach programs address agricultural issues throughout Montana as part of the Montana Agricultural Experiment Station (MAES) land grant mission "to conduct and promote studies, scientific investigations and experiments relating to agriculture, natural resources and rural life and to diffuse information thereby acquired among the people of Montana". New knowledge generated by the Department of Research Center programs benefit Montana agriculture and the scientific community at local, state and national levels. Faculty perform field and laboratory research at both on- and off-station sites in the areas of irrigated and dryland agriculture, resource management, conventional and alternative field and horticultural crops, plant breeding and genetics, crop cultivar development, plant nutrition, sustainable agriculture, integrative pest management, beef cattle production (breeding, nutrition, and genetics) and enhancing the value of agricultural commodities produced in Montana. Most projects are conducted collaboratively with on-campus faculty. Faculty are comprised of 15 tenured/tenure track positions and 2 non-tenurable adjunct positions representing 15.75 FTE MAES and 1.25 FTE MSU-Extension Service funding. In support of faculty, there are 11.3 professional research associate positions and 25.5 classified support staff. Across the seven research centers, we typically hire an additional 100+ temporary and part-time workers annually who are most often funded using extramural sources. Faculty appointments in the Department of Research Centers are predominantly MAES funded and geographically-oriented, which restricts opportunities for traditional academic teaching activities. Faculty routinely assist with on-campus teaching activities by providing guest lectures for a number of courses sponsored by departments in the College of Agriculture, and by active participation on graduate student committees. Of the 100+ temporary workers hired annually, the Department typically hires 50+ college and/or high school students, which assists in the recruitment and retention of students to MSU and the College of Agriculture. The faculty also imparts knowledge through the development of web-based resources, extension publications and through individual contact with growers, the general public, extension agents and specialists, agribusiness representatives, and the popular media. The Department of Research Centers faculty belong to no fewer than ten professional societies and many have served as society officers or as associate editors for scientific journals. Most, if not all, departmental faculty are active in leadership roles on a large number of national, regional, college and departmental committees.

As Department Head, I have full fiduciary responsibility for over \$3.2M of state and federal funding and I distribute those funds annually to respective Research Centers. All personnel are administered through my office. This past year, over \$5.6M of research expenditures were administered through my department. All hiring, disciplining, promotion and tenure recommendations, and awards are administered and led by me as the Department Head. In the past five years, I have mentored, guided and provided annual reviews for all faculty in the department. Eight Department Head P&T independent reviews were conducted and all faculty made it through either Retention, Promotion or the Tenure process successfully. This is a credit to the faculty we as a department are recruiting and hiring, and also to the mentoring along way to a successful career step. I have led strategic planning and requests for hiring several new faculty members in my tenure as Department Head. This is one of the most enjoyable aspects of my current position. I am exhilarated to mentor Junior faculty, as they will be the

future of the Research Centers, continually serving the producers and allied industries of Montana through generations of unbiased locally adapted research. The research from my department directly enhances farm and ranch operations making it easier to pass on a sustainable, profitable operation to the next generation. Since becoming Department Head, I have built and increased Advisory Council participation throughout all seven Research Centers. These Advisory Councils are the backbone of our grassroots heritage and support. The Councils keep me and our researchers grounded and responsive to the clientele of Montana and the Pacific Northwest. Over the past several years, the Department of Research Centers and MAES have had several new budget, Long Range Building Capital Projects and initiatives funded, and unfunded, that I designed, prepared and presented to the President of the University and the Legislature. As a State employee, I cannot actively lobby, but I can and have on several occasions been asked to be the MAES representative and information witness for Legislative Committees and Board of Regents requests. Since becoming Superintendent and now as Department Head, I have been involved with all aspects of planning, administering, managing and completing over 15 separate large capital projects. These projects range from new office/labs, greenhouses, major renovation projects and recently a \$12.2M Long Range Building project including a new Wool Lab, five chemistry/instrumentation labs and a new Horticultural office and laboratory facility that was approved in the 2021 Legislative session. Several of these building requests involved authority only and we carried out major fund-raising campaigns to complete projects like NARC's office/laboratory, and most recently, the Horticulture facility at WARC. I work collaboratively with the MSU Foundation on fund raising, not only for capital projects but for faculty endowments and land donations. The seven Research Centers are geographically spread across the state of Montana - what better place to travel for participation in field days, faculty reviews and strategic planning. I have never missed a field day or an Advisory Meeting in my tenure as Department Head. Even during COVID we went online for our meetings, outreach and teaching events, and held virtual field days. As Department Head I make no less than two visits per year to each Research Center and more often than not, many more. In agriculture and in education, we need to be present. We are still a hand shake community and trust is built by being present and listening to our clientele, faculty, staff and students. People make this position one of hard work, but also people make it enjoyable. As Department Head, my percent of effort was changed to be 50% Administration Department of Research Centers, 25% Administration of NARC, 25% Research and Extension/Outreach/Teaching.

**2014-Present *Superintendent, Research Professor, Beef Cattle Extension Specialist, Northern Agricultural Research Center, Montana State University***

Same responsibilities as in previous position, but with the addition of a statewide formal Extension programming expectation to assist Montana producers and develop programming that was directed at the profitability of Montana beef producers. Maintained the MSU Hatch research project: Adding Value to Beef Cattle. Percent of effort was changed to be 50% Administration, 25% Research, 25% Extension/Outreach/Teaching.

**2011-present *Superintendent, Research Professor, Northern Agricultural Research Center, Montana State University***

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maintenance, allocation and utilization of existing facilities, equipment and land to optimize research and farm income opportunities. Other responsibilities under this category include:

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- Engage with stakeholders to build mutually-beneficial relationships.
- Maintain an active and representative advisory committee for the RC.
- Ensure stakeholders' needs are met through current and targeted research projects.
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**2010-2011**     *Interim Superintendent, Research Professor, Northern Agricultural Research Center, Montana State University*

Promoted to an Administrative role on an interim basis to lead all activities related to NARC. See superintendent duties above. Maintained a MSU Hatch research project: Adding Value to Beef Cattle. My percent of effort was changed to be 50% Administration, 30% Research, 10% Outreach/Teaching and 10% Service.

**2008-Present *Research Professor, Beef Cattle Extension Specialist, Northern Agricultural Research Center, Montana State University***

Title change, responsibilities included the previous research programming. Percent of effort was allocated at 80% Research, 10% Outreach/Teaching and 10% Service.

**2006-2008 *Assistant Professor, Northern Agricultural Research Center, Montana State University***

Hired to lead and develop a locally adapted independent research program that would be a nationally recognized research program on post weaning nutritional regimes with the goal of increasing profitability to Montana and Western US beef producers. Designed projects and established funding streams, conducted research, analyzed data, and published results. Hired permanent and temporary staff and recruited student support to conduct research. Presented research results to the scientific community and professional societies and developed continuing educational and outreach programming for Agricultural producers. Initiated and maintained a MSU Hatch research project: Adding Value to Beef Cattle. Percent of effort was allocated at 80% Research, 10% Outreach/Teaching and 10% Service.

**2002-2006 *Research Professional, Northern Agricultural Research Center, Montana State University***

Same duties as Research Associate but was now able to carry grants and run a semi-autonomous research program at NARC.

**1994-2002 *Research Associate, Northern Agricultural Research Center, Montana State University***

Managed all day-to-day activities of the roughly 400 head beef cattle operation that included 700 acres of native range, 300 acres of irrigated improved hay fields and a 400 head feedlot and development center. Hired, managed, trained and mentored anywhere from 5 to 15 permanent and temporary direct reports annually across all years. Collected, analyzed and presented research data generated at NARC. Was responsible for budget development, spending and ensuring a positive cash flow for a volatile Agricultural business. Sales and expenditures across all years ranged from \$250,000 to \$400,000 annually.

**1994 *Research Assistant, Montana State University***

Conducted Research on Cattle Supplementation and Grazing Locations of Mixed Aged Beef Cattle Herds

**1992-1994 *Graduate Research and Teaching Assistant, Montana State University***

Teaching responsibilities included:

- Introduction to Animal Science (150 students, 2 semesters)
- Physiology and Reproduction (50 students)
- AI and Pregnancy Diagnosis (30 students)
- Undergraduate Nutrition (50 students)

**1993-2002 *Instructor, American Breeders Service Global, Inc. (Seasonal)***

Taught Cattle Artificial Insemination Practices to producers, professionals and students

**1990-1991 *Research Technician, The Ohio State University***

Conducted Mallard and Black Duck migration, reproduction and marsh roosting preference studies through mark and recapture techniques and telemetry. Research in the Lake Erie Marshes

### **EXTRAMURAL FUNDING**

Funded projects are as PI or Co-PI and none of the below funding would be possible without multiple outstanding collaborative partners on the grants and research projects.

- Schumacher, Joel (Principal), Boss, Darrin (Co-Principal), "Stone Child Cattlemen's College," Sponsored by Stone Child College, University, Maximum Funding: **\$71,610**. (January 11, 2022 - August 31, 2024).
- Mangold, Jane (Principal), Boss, Darrin (Co-Principal), "Renovating exotic cool season grass plantings to functional CRP," Sponsored by US Department of Agriculture (USDA), Federal, Maximum Funding: **\$62,308**. (August 1, 2022 - December 31, 2023).
- DelCurto, Timothy (Principal), Boss, Darrin (Co-Principal), Van Emon, Megan (Co-Principal), Wyffels, Samuel Aaron (Co-Principal), "Precision Range and Livestock Management of Western Rangelands," Sponsored by USDA Agricultural Research Service- Plains Area (USDAGR), Federal, Maximum Funding: **\$862,200**. (June 21, 2021 - June 14, 2023).
- Mangold, Jane (Principal), Boss, Darrin (Co-Principal), "Renovating exotic cool season grass plantings to functional CRP," Sponsored by US Department of Agriculture (USDA), Federal, Maximum Funding: **\$401,074**. (June 30, 2017 - June 30, 2022).
- Carr, Patrick (Principal), Boss, Darrin (Co-Principal), Vetch, Justin Michael (Co-Principal), "Benefits of Rotation on Wheat and on Crops Following Wheat – Year 2," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$17,632**. (January 1, 2021 - February 28, 2022).
- Boss, Darrin (Principal), Miller, John H (Co-Principal), "Low Energy Spray Application Irrigation system on Montana Barley," Sponsored by Anheuser Busch (ANHBUS), Private, Maximum Funding: **\$100,000**. (April 1, 2019 - May 30, 2021).
- Bourgault, Maryse (Principal), Boss, Darrin (Co-Principal), Cook, Jason Patrick (Co-Principal), Lamb, Peggy (Co-Principal), Sherman, Jamie (Co-Principal), "Investigating Root Growth in Stay-Green and Low Protein Wheat and Barley Parents – Year 2," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$52,915**. (January 1, 2020 - December 31, 2020).
- Boss, Darrin (Principal), "Ecological Management of Kochia in Irrigated Western Cropping Systems," Sponsored by USDA National Institute of Food and Agriculture (NIFA), Federal, Maximum Funding: **\$325,000**. (September 1, 2016 - August 31, 2020). *Only managed this grant as MSU representative for departing Faculty Member.*
- Boss, Darrin (Principal), "Assessing agronomic practices to advance cereal production in Montana," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$35,000**. (January 1, 2019 - December 31, 2019).
- Boss, Darrin (Principal), Bowman, Janice (Co-Principal), "Impacts of Environmental Conditions and Supplementation on Resource Utilization, Forage Use and Performance by Winter Grazing Beef Cattle (Sam Wyffels, PhD Student).," Sponsored by Bair Ranch Foundation (BAIRAN), Private, Maximum Funding: **\$27,052**. (July 31, 2017 - December 31, 2018).
- Boss, Darrin (Principal), "Sustainable Cropping Systems for Dual-Purpose Biennial Canola," Sponsored by Utah State University (UTASTA), University, Maximum Funding: **\$205,235**. (September 1, 2014 - March 31, 2018). *Became PI after Faculty Member left the University along with WSU forage Specialist, Dr. Steve Fransen.*



- Boss, Darrin (Principal), "Cover Crop investigation in Montana, developing alternatives to crop/fallow rotations, statewide trial and long-term economic effects of alternative economic streams of grazing or haying cover crops," Sponsored by Office of Commissioner of Higher Education (OFFCOM), State, Maximum Funding: **my portion \$100,000**. (July 1, 2015 - June 30, 2017). Part of a Larger MREDI Grant application: Jacobsen, Barry (Principal), Bekkerman, Anton (Co-Principal), Boss, Darrin (Co-Principal), Chen, Chengci (Co-Principal), Ellis, Colter (Co-Principal), Giroux, Michael (Co-Principal), Meccage, Emily (Co-Principal), Haynes, George (Co-Principal), Hyypa, Eric A (Co-Principal), Izurieta, Clemente (Co-Principal), Jha, Prashant (Co-Principal), Maxwell, Bruce (Co-Principal), Miller, Perry (Co-Principal), Ondoua, Roger Nkoa Mewoli (Co-Principal), Peters, John (Co-Principal), Shaw, Joseph (Co-Principal), Sheppard, John (Co-Principal), Weaver, David (Co-Principal), Yeoman, Carl (Co-Principal), "Increasing Profitability by Improving Efficiency of Montana's Farm and Ranch Lands," Sponsored by Office of Commissioner of Higher Education (OFFCOM). (July 1, 2015 - December 31, 2016).
- Boss, Darrin (Principal), Jones, Clain (Co-Principal), Lamb, Peggy (Co-Principal), Miller, Perry (Co-Principal), Zabinski, Catherine (Co-Principal), "Evaluations of Winter and Spring Wheat performance and associated soil health measurements following cover crop cocktails," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$42,000**. (July 1, 2014 - December 31, 2016).
- Carr, Craig (Principal), Boss, Darrin (Co-Principal), Maxwell, Bruce (Co-Principal), Olson, Bret (Co-Principal), "Patterns and Mechanisms of Cheatgrass Invasion in the Northern Great Plains," Sponsored by Montana Department of Agriculture (MDA), State, Maximum Funding: **\$20,000**. (May 14, 2015 - October 31, 2016).
- Carr, Craig (Principal), Boss, Darrin (Co-Principal), Maxwell, Bruce (Co-Principal), Olson, Bret (Co-Principal), "Patterns and Mechanisms of Cheatgrass Invasion in the Northern Great Plains," Sponsored by Montana Noxious Weed Trust Fund (NOXIOUS), State, Maximum Funding: **\$29,202**. (April 1, 2014 - October 31, 2015).
- Lamb, Peggy (Principal), Boss, Darrin (Co-Principal), "Soil Sampling Equipment for Field Scale and Small Plot Research," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$36,000**. (September 13, 2013 - March 31, 2015).
- Lamb, Peggy (Principal), Boss, Darrin (Co-Principal), "Weather Data Collection for Producers in North Central Montana," Sponsored by Montana Wheat & Barley Committee (MWBC), State, Maximum Funding: **\$18,000**. (September 13, 2013 - December 31, 2014).
- Boss, Darrin (Principal), "Sustainable Beef Supply, MT," Sponsored by US Cooperative State Research Education and Extension Service (CSREES), Federal, Maximum Funding: **\$218,000**. (March 1, 2010 - February 28, 2012).
- Knight, James (Principal), Bass, Thomas (Co-Principal), Boss, Darrin (Co-Principal), "Composting Recommendations and Marketing Evaluations," Sponsored by Utah State University (UTASTA), University, Maximum Funding: **\$49,315**. (April 1, 2009 - December 31, 2011).
- Lamb, Peggy (Principal), Boss, Darrin (Co-Principal). "Effects of alternative nitrogen sources applied in variable blends and timings on yield and quality of short seasoned dryland corn grown for grain production in a low rainfall environment." Maximum Funding **\$36,500**, (2013-2016)
- Boss, Darrin (Principle). "Cover Crop investigation in Montana, developing alternatives to crop/fallow rotations, statewide trial and long-term economic effects of alternative economic

streams of grazing or haying cover crops," USDA-NRCS CIG Grant. Maximum Funding: **\$98,000**. (2012-2013).

Boss, Darrin (Principle). "Sustainable Beef Supply, Montana." USDA-CREES, special research grant. Maximum Funding: **\$98,000**. (2010).

Boss, Darrin (Principle). "Evaluating the effectiveness of Camelina and Camelina Meal to steers for acceptance, feedlot performance, carcass merit and its ability to alter fatty acid profiles specifically omega-3 fatty acids when compared to traditional barley diets. To evaluate the potential of Camelina Meal to be included into pre and post calving diet supplement pellets. MSU Biobased Institute. Maximum Funding: **\$41,000**. (2006).

Boss, Darrin (Principle). Evaluating the effectiveness of replacing barley in the finishing diets of beef cattle with camelina to evaluate diet acceptance, feedlot performance, carcass merit and its ability to alter fatty acid profiles specifically omega-3 fatty acids when compared to traditional barley diets. MSU Biobased Institute. Maximum Funding: **\$40,814**. (2005).

Boss, Darrin (Principle), Carlson, Gregg (Co-Principle), Lamb, Peggy (Co-Principle). "Increasing yield and management options for producers who traditionally plant barley acres for grain or forage production by varying seed band width, planting rates and harvest endpoint." Montana Research and Commercialization Grant, State of Montana. Maximum Funding **\$47,326**. (2002-2004). *Matching funds were also received from Barley Feed for Rangeland Cattle, Drs. Bowman and Blake. \$12,500.*

### **PROFESSIONAL OR OUTREACH PRESENTATIONS** – since December 1994

Outreach/Producer oriented, Research Updates and Advisory meetings ..... > 400 talks

### **PROFESSIONAL DEVELOPMENT**

Center for Faculty Excellence Program, "Social Media Visibility and Research Practice," 2021

Everything DiSC, team building and personality interactions, 2021

More than a Press Release," LEAD-21, 2020

UAV Training in Agricultural Research, 2019

How to Deal with Mental Health Issues and Suicide, 2016

MSU Safe Zone Training, 2014

Franklin Covey, The Five Choice to Extraordinary Productivity, 2014

MSU-DEAL Developing Excellent Academic Leaders, 2013-2014

LEAD-21, National Land Grant Institution year-long Leadership Program, 2012-2013

American Society of Animal Science - National and Western Section Annual Meetings

National Cover Crops & Soil Health Conference, 2014

Livestock Biotech Summit, Sioux Falls, SD, 2014

NSF Grant Writing Course – Bozeman, Montana, 2008

CSREES – Grant Writing Workshop-Salt Lake City, Utah, 2008

Am Society of Animal Science-Alpha Beef Cattle Nutrition, Program Chair, 2011

Am Society of Animal Science-Alpha Beef Cattle Nutrition, Program Comm, 2008-2011

West Sect American Society of Animal Science -Graduate Student Competition Committee, 2009-2012

### **DIRECTED STUDENT LEARNING**

Katrine Schlagel	2022-present	MSU MS Student
Kayla Ogg	2021-present	MSU MS Student
Cory Parsons	2017-2020	MSU PhD Student
Hannah DelCurto	2016-2020	MSU PhD Student

Marcela Kuczynski da Rocha	2020	PhD Exchange Student, UN. Sao Paulo, Brazil
Alyson Hicks-Lynch	2016-2016	MSU MS Student
Marley Manoukian	2017	MSU Student NARC Intern
Courtney Cota	2017	MSU-Northern Cooperative Program, Graphic Design
Michael Peters	2017, 2018	MSU-Northern Cooperative Program
Terry Sykes	2016	MSU-Northern Cooperative Program
Nate Powell-Palm	2016	MSU, MS Student
Kasee Clark	2016	MSU-Northern Cooperative Program
Kyla McNamara	2016	MSU-Northern Cooperative Program
Cole McCann	2016	Univ. Montana Western Intern Program
Dustin Clark	2015, 16 &17	MSU-Northern Cooperative Program
Ethan Quinlan	2015	MSU-Northern Cooperative Program
Zach Bailey	2010	MSU-Northern Cooperative Program
Jay Blunt	2009	MSU-Northern Cooperative Program
Trent Kauer	2008	MSU-Northern Cooperative Program
Darren Pankratz	2007	MSU-Northern Cooperative Program
Melvin Banks	2003 & 2004	MSU-Northern Cooperative Program
Jackie Jacobsen	2003	MSU-Northern Cooperative Program
Four to Eight Students Yrly	1994-present	MSU-Northern Students – calving practice & data collection at NARC

### **PROFESSIONAL and COMMUNITY INVOLVEMENT**

- American Society of Animal Science
- American Society of Agronomy
- American Society of Animal Science
  - Alpharma Beef Cattle Nutrition Program National Committee Chair, 2011
- American Society of Animal Science
  - Alpharma Beef Cattle Nutrition Program National Committee, 2008-2011
- Western Section American Society of Animal Science
  - Graduate Student Competition Committee, 2009-2012
- Northcentral Stockgrowers Association Scholarship Committee
- Montana State 4-H Carcass Judge
- Montana Stockgrowers Association
- Montana Young Stockgrowers Association (1996 & 1997 Co-Chair)
- National Cattlemens Beef Association
- North Central Montana Stockgrowers Association
- Western Section American Society of Animal Science
- Western Section Crop Science
- Bear Paw Volunteer Fire Department
- Bear Paw Volunteer Fire Department - Board of Directors
- Lions Club International
  - President Havre Chapter, 2000
  - Secretary 2001 to 2006
  - District 37C Speech and Work with the Deaf Chairman Cabinet Member (Montana & Alberta), 1999-2001
  - Scholarship Committee, Zone Chair, 2010
  - Melvin Jones Fellow

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- Wyffels, S.A., Bourgault, M., Dafoe, J., Lamb, P.F., Boss, D.L. (2021). Introducing cover crops as fallow replacement in the Northern Great Plains: I. Evaluation of cover crop mixtures as a forage source for grazing cattle. *Renewable Agriculture and Food Systems*, 11. <https://doi.org/10.1017/S1742170521000417>
- DelCurto, H., Dafoe, J.M., Parsons, C.T., Boss, D., DelCurto, T., Wyffels, S.A., Van Emon, M., Bowman, J. (2021). Diurnal Ruminant pH and Temperature Patterns of Steers Fed Corn or Barley-Based Finishing Diets. *Animals*, 11(10), 12. <http://dx.doi.org/10.3390/ani11102809>
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### **Department and College Service**

- Chairperson, MAES Hatch Review - Crutcher. (January 26, 2021)
- Chairperson, MAES Hatch Review - Chen. (January 25, 2021)
- Chairperson, MAES Hatch Review - Eberly. (January 25, 2021)
- Chairperson, DRC Admin Search Committee. (November 2019 - February 2020)
- Chairperson, MAES Hatch Review - Carr. (January 29, 2020)
- Chairperson, MAES Hatch Review - Leisso. (January 29, 2020)
- Chairperson, Cover Crop and Forage Committee. (2015 - 2019)
- Chairperson, NARC Farm Operations Manager Search. (2019 - 2020)
- Chairperson, NARC Feedlot Coordinator Search. (2019 - 2020)
- Chairperson, K. Kephart Hatch Review Committee. (2019)
- Chairperson, J. Torrion Hatch Review Committee. (2019)
- Chairperson, L. Prezotto Hatch review Committee. (2019)
- Chairperson, Z. Miller Chair Hatch Review Committee. (2019)
- Chairperson, NARC Vice Merrill Assistant Farm Manager Position. (2019)
- Chairperson, NARC Thackeray Ranch Manager Search. (2019)
- Chairperson, Bourgault Hatch Review Committee. (2018)
- Chairperson, Crutcher Hatch review Committee. (2018)
- Chairperson, Eberly Hatch Review Committee. (2018)
- Chairperson, McVay Hatch Review Committee. (2018)
- Chairperson, Department of Research Centers Department Head Search. (2016 - 2017)
- Chairperson, NARC Cropping Systems Assistant Professor Search. (2016)
- Chairperson, Livestock Operations Manager. (2014 - 2015)
- Committee Chair, Havre Public Schools Stem Program at NARC. (February 2016 - Present)
- Committee Member, MAES Hatch Review - McCoski. (December, 2022)
- Committee Member, MAES Hatch Review - Boles. (December 16, 2021)
- Committee Member, MAES Hatch Review - Marlow. (December 15, 2021)
- Committee Member, MAES Hatch Review - Dunkel. (December 9, 2021)
- Committee Member, MAES Hatch Review - Sowell. (January 9, 2020)
- Committee Member, Variety Release Committee. (2011 - 2020)
- Committee Member, MAES Associate Director Search. (2020)
- Committee Member, Montana Weed Free Hay Advisory Council. (2016 - 2020)
- Committee Member, Montana Organics, Organic Research Center Development. (2018 - 2019)
- Committee Member, Research Center Superintendents, Roles and Responsibilities. (2016 - 2017)
- Committee Chair, Ag Extension Agents Update Conference Planning Committee. (2017)
- Committee Chair, NARC Farm Foreman Search Committee. (2013, 2014 & 2015)

Committee Chair, NARC Livestock Operations Search Committee. (2014)  
Committee Chair, NARC Animal Science Faculty Search. (2014)  
Committee Chair, NARC Pivot Review Purchasing Committee. (2014)  
Committee Member, Foundation Seed Production Committee. (2011 - Present)  
Committee Member, North Central Stockgrowers Scholarship Committee. (2015 - Present)  
Committee Member, Post and BART Farm Operations Committee. (2017 - Present)  
Committee Member, MSU Foundation Seed Advisory Committee. (2016 - Present)  
Committee Member, NARC Cropping Systems Agronomist Search. (2014)  
Participant, Animal and Range Advisory Council. (November 2018 - Present)  
Committee Member, Montana Range Cattle Research Partnership. (2014 - 2019)  
Committee Member, P. Bruckner Hatch review Committee. (November 2019)  
Committee Member, Powell Hatch Review Committee. (December 2018)  
Committee Member, MAES Associate Director Internal Search Committee. (2018)  
Committee Member, Burgess Hatch Review Committee. (October 2018)  
Committee Member, MAES / College of Agriculture Ag IT Lead Search Committee. (2018)  
Committee Member, DelCurto Hatch Review Committee. (2018)  
Committee Member, Mosely Hatch Review Committee. (2018)  
Committee Member, Carr Hatch Review. (2017)  
Committee Member, Berardenelli Hatch Review. (2016)  
Committee Member, Powell Hatch review Committee. (2016)  
Committee Member, Prezotto Hatch Review Committee. (2016)  
Committee Member, Van Emon Hatch review Committee. (2016)

### **University and Community Service**

Chairperson, Agricultural Animal Care and Use Committee. (2020 - Present)  
Reviewer/Referee, Animals. (2021 - Present)  
Committee Member, MSUN, Ag Operations Technology Advisory Council. (2018 - Present)  
Committee Chair, Havre Lions Scholarship Committee. (2015 - Present)  
Committee Member, Havre Area Chamber Agribusiness Scholarship Comm. (2014 - Present)  
Chairperson, NARC and Havre Area Chamber Ag Committee Annual Field Day and Ag Appreciation Banquet. (2014 - Present)  
Committee Member, Hill County Planning Committee - County Zoning. (2012 - Present)  
Committee Member, Fort Assiniboine Preservation Committee. (2011 - Present)  
Committee Member, Hill County Historical Preservation Committee. (2011 - Present)  
Committee Member, North Central Montana Stockgrowers Scholarship Comm. (2011 - Present)  
Committee Member, Havre Area Chamber of Commerce Agribusiness Comm. (2010 - Present)  
Committee Member, MSUN Equine Minor Program Development Committee. (2017 - 2020)  
Committee Member, Agricultural Animal Care and Use Committee. (2006 - 2019)  
Committee Member, Congressman Gianforte Agricultural Advisory Committee. (2018 - 2020)  
Committee Member, Congressman Gianforte Agriculture Advisory Council. (2017 - 2020)  
Committee Member, Animal and Range Program Review. (October 27, 2020)  
Committee Member, Plant Science Plant Pathology Program Review. (October 23, 2020)  
Committee Member, MSU-N, Bio-Energy Center, Strategic Planning. (2017 - 2019)  
Committee Member, AACUC Site Inspection. (August 7, 2019)  
Committee Member, MSU-N, Chancellor Advisory Council. (2013 - 2014)  
Committee Member, MSU Extension - Hill County Agent Search Committee. (2017)  
Committee Member, MSU VP of Extension Director Search Committee. (2013 - 2014)



Committee Member, Follow the Beef Tour. (January 2013 - June 2013)  
Committee Member, WSAS Animal Science. Advising and Consulting Comm. (2019 - 2021)  
Committee Member, Congressman Zinke Agricultural Advisory Council. (2016 - 2017)  
Reviewer/Referee, Montana Specialty Crop Block Grants, Helena, MT. (2015 - 2017)  
Board Member, Governor Bullock Grizzly Bear Advisory Council, MT. (2019 - 2020)  
Board Member, Congressman Gianforte Agricultural Advisory Committee, MT. (2018 - 2020)  
Board Member, NRCS Local EQUIP and CIG Working Group, Havre, MT. (2016 - 2019).  
Task Force Chair, FEMA Type 1 Emergency Response Team, Havre, MT. (August, 2017)