

# Colin T. Tobin

## Curriculum Vita

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### **EDUCATION**

<b><u>Date</u></b>	<b><u>Degree</u></b>	<b><u>Institution</u></b>	<b><u>Subject Area</u></b>
2020	Ph.D.	New Mexico State University	Range Science <i>Potential for Precision Livestock Management Applications on Cattle Ranches</i>
2016	M. S.	South Dakota State University	Plant Science (Soil Science) <i>Demonstrating the Short-Term Impacts of Grazing Cover Crops on Soil Health in South Dakota</i>
2012	B. S.	South Dakota State University	<i>Major: General Agriculture Minor: Range Science</i>

### **PROFESSIONAL EXPERIENCE**

<b>11/2025 to present</b>	<b>Assistant Professor</b> , Department of Agronomy, Kansas State University – 70% Research/30% Teaching
<b>09/2021 to 10/2025</b>	<b>Animal Scientist</b> , Carrington Research Extension Center, North Dakota State University – 100% research
<b>07/2022 to Present</b>	<b>Affiliate Faculty member</b> , Department of Animal Sciences, North Dakota State University
<b>08/2021 to 09/2021</b>	<b>Associate Research Scientist</b> , Department of Animal & Range Sciences, New Mexico State University
<b>08/2017 to 12/2020</b>	<b>Graduate Teaching Assistant</b> , Department of Animal & Range Sciences, New Mexico State University
<b>04/2007 to Present</b>	<b>Medical Logistics Section Chief</b> , Chief Master Sergeant, South Dakota Air National Guard

### **FUNDING TO SUPPORT RESEARCH**

- **PI (\$594,977 total)**
  - North Dakota Soybean Council **\$38,318** (2025-2026), Beta-agonist responses to increasing levels of fat using soybeans in finishing rations
  - Northern Canola Growers Association, **\$50,459** (2025-2026), Lactational response of red angus beef heifers fed canola meal
  - North Dakota Department of Agriculture, **\$119,019** (2025), Evaluation of Four North Dakota Protein Co-products in Beef Finishing Rations
  - Northern Canola Growers Association, **\$25,549** (2024), Energy and protein requirements of yearling steers fed canola meal
  - North Dakota Corn Utilization Council, **\$35,788** (2024), Energy and protein requirements of North Dakota yearling black angus steers fed dried distillers grains plus solubles
  - North Dakota State University Agriculture Experiment Station Precision Agriculture Grant, **\$99,874** (2024-2025), Predicting Daily Intake, Gain, and Back Fat Thickness in North Dakota Market Livestock
  - National Cattlemen's Beef Association, **\$149,959** (2023-2025), Evaluating the effects of winter feeding on water quality, soil health, and economic sustainability

- Northern Canola Growers Association, **\$22,100** (2023), Investigating Increasing Levels of Canola Meal on Backgrounding Steers in North Dakota
- North Dakota State Board of Agricultural Research and Education, **\$10,598** (2023), Predicting Panting Scores in Beef Steers on two feedlot surfaces using Machine Learning
- North Dakota Department of Agriculture, **\$27,699** (2022), Evaluation of ground hybrid rye on the efficiency of gain and carcass traits in backgrounding and finishing North Dakota steers
- North Dakota State Board of Agricultural Research and Education, **\$13,614** (2022), Evaluation of ground hybrid rye inclusions on backgrounding performance in beef steers
- **Co-PI (\$1,211,449 total)**
  - Northern Canola Growers Association **\$65,707** (2025-226), Canola meal as a winter-feeding strategy for beef cows
  - North Dakota Corn Utilization Council, **\$56,314** (2025), Reducing carbon intensity through innovative corn-pea intercropping strategies
  - Northern Canola Growers Association **\$84,079** (2024), Effects of substitution of DDGS with canola meal on nutrient digestibility, amino acid flow, and nitrogen balance in finishing beef steers
  - NCR-SARE, **\$249,280** (2023), Grazing Technologies to Enhance Integrated Crop Livestock Systems in the Northern Great Plains
  - North Dakota Soybean Council, **\$48,382** (2023), Enhancing Profitability of Soybean Production and Soil Health through Livestock Integration
  - North Dakota Soybean Council, **\$35,050** (2022), Benefits of soy-based amino acids in forage-based growing diets
  - North Dakota Soybean Council, **\$47,637** (2022), Enhancing Profitability of Soybean Production and Soil Health through Livestock Integration
  - Harold James Family Trust. **\$625,000** (2020-2024), Evaluation of precision livestock management technologies and techniques at Deep Well Ranch

## **GRADUATE COMMITTEES**

- John Stables, M.S., NDSU School of Natural Resource Management, 2023-Present (**Co-Advisor**)

## **PROFESSIONAL AFFILIATIONS**

- Society of Range Management, 2017-present
  - 2025 – Livestock Foraging Behavior Committee Chair
  - 2024 - Livestock Foraging Behavior Committee Vice-chair
  - 2023 - 2025 – Northern Great Plains Section –North Dakota Director
  - 2018 - Organized Livestock Foraging Behavior Committee Graduate Student Meet and Greet, SRM Meeting
  - 2017 - Livestock Foraging Behavior Student Engagement Subcommittee Chair
- American Society of Animal Science, 2021-present
  - 2022-2024 - National Forages and Pastures Program Committee
- American Society of Agronomy, 2015 – present
- Crop Science Society of America, 2015 – present
- Soil Science Society of America, 2015 – present

## **LEADERSHIP**

- Air National Guard Enlisted Leadership Symposium, September 2023, Pentagon, Alexandria, Virginia
- Air National Guard Enlisted Leadership Symposium, September 2022, Camp Shelby, Mississippi
- Animal Scientist, Carrington Research Extension Center – Livestock Unit, 2021-2025
  - Supervised two full-time personnel

- Supervised two part-time personnel
- Medical Logistics Section Chief, 332<sup>nd</sup> Expeditionary Medical Group, Hashemite Kingdom of Jordan, December 2020 – July 2021
  - Supervised three personnel
- Section Chief, Medical Logistics, South Dakota Air National Guard, Sioux Falls, South Dakota 2012-Present
  - Supervising three personnel
- President, Animal & Range Science Graduate Student Association, NMSU, 2019-2020
- Support Section Supervisor, 455<sup>th</sup> Expeditionary Aircraft Maintenance Squadron, Afghanistan, 2018
  - Supervised four personnel
- Support Section Supervisor, 175<sup>th</sup> Expeditionary Fighter Squadron, Republic of Korea, 2015
  - Supervised five personnel

## **AWARDS**

- American Society of Animal Science Young Scholar Award, 2022
- Air National Guard Senior Noncommissioned Officer of the Year nominee, 2021
- 114<sup>th</sup> Fighter Wing Senior Noncommissioned Officer of the Year, 2021
- 332<sup>nd</sup> Air Expeditionary Wing Unit Safety Representative of the Quarter, Jan-Mar 2021
- 332<sup>nd</sup> Expeditionary Medical Group Senior Noncommissioned Officer of the Month, January 2021
- Above and Beyond Award, Expeditionary Medical Support System Training, 2019
- 2<sup>nd</sup> place PhD Oral Paper Competition, Society of Range Management, 2018
- 114<sup>th</sup> Fighter Wing Noncommissioned Officer of the Year nominee, 2016
- 5<sup>th</sup> Place National Collegiate Soil Judging Individual, 2012
- American FFA Degree Recipient, 2009

## **AIR NATIONAL GUARD SERVICE**

- Command Chief of the Air National Guard Enlisted Force Development Concept of Operations working group

## **REVIEWER/EDITOR ACTIVITIES**

- Guest Editor
  - MDPI – Grasses – Advances in Grazing Management (2024-Present)
- Grant proposal reviews
  - Legislative-Citizen Commission on Minnesota Resources
- Ad hoc reviewer
  - Agriculture
  - Animal
  - Animals
  - Ecological Processes
  - Journal of Animal Science
  - Range Ecology & Management
  - Rangelands
  - Sustainability

## **TEACHING EXPERIENCE**

### **United States Air Force**

- Airpower Leadership Academy Instructor, 332<sup>nd</sup> Air Expeditionary Wing, Hashemite Kingdom of Jordan (*Jan-July 2021*)

### **New Mexico State University**

- RGSC 452-Vegetation Measurements (*Fall 2019-Laboratory Instructor-evaluations available*)

- RGSC 460-Rangeland and Natural Resource Planning and Management (*Spring 2019, 2020*)
- RGSC 458-Livestock Behavior, Welfare, and Handling (*Spring 2019, 2020*)
- RGSC 302-Forestry and Society (*Fall 2017, Spring 2018*)

#### South Dakota State University

- BOT 419-Plant Ecology (*Fall 2016*)
- PS 321/491-Soil Judging/Soils of Illinois (*Spring 2017*)-*Volunteer*
- PS 321/491-Soil Judging/Soils of Kansas (*Spring 2016*)
- PS 362-Environmental Soil Management (*Spring 2016*)-*Guest Lecturer*
- PS 321/491-Soil Judging/Soils of Nebraska (*Fall 2016*)
- PS 321/491-Soil Judging/Soils of Illinois (*Spring 2015*)
- PS 321/491-Soil Judging/Soils of Minnesota (*Fall 2015*)

#### CERTIFICATIONS

Professional Animal Scientist (PAS), American Registry of Professional Animal Scientists, August 2022

#### PUBLICATIONS

##### REFEREED JOURNALS (12 published)

- Trieu, L.L., Bailey, D.W., Cao, H., Cao Son, T., **Tobin, C.T.**, Oltjen, C., 2025. Detecting frequent sequential patterns between weather and cattle behavior using data mining. *Front. Anim. Sci.* 6. <https://doi.org/10.3389/fanim.2025.1640550>
- Gullickson, G., Nichols, M., Hansen, L., Entzie, Y., Syring, J., Underdahl, S., Skunberg, T., Gilbertson, J., Hanna, L., **Tobin, C.**, Swanson, K., Carlson, Z. The effects of replacing dried distillers grains with solubles with heat-treated soybean meal in forage-based diets on growth performance, nutrient flow, and digestibility in steers (Accepted 6/25/2025; *Journal of Animal Science*)
- Trieu, L.L., Bailey, D.W., Cao, H., Cao Son, T., Macor, J., Trotter, M.G., O'Connor, L., **Tobin, C.T.** Potential of Accelerometers to Remotely Early Detect Bovine Ephemeral Fever in Cattle Using Pattern Mining. *Translational Animal Science* <https://doi.org/10.1093/tas/txaf008>
- Liu, J., Bailey, D.W., Cao, H., Cao Son, T., **Tobin, C.T.**, 2024. Development of a Novel Classification Approach for Cow Behavior Analysis Using Tracking Data and Unsupervised Machine Learning Techniques. *Sensors*. 24. 4067. <https://doi.org/https://doi.org/10.3390/s2413067>
- Tobin, C.**, Bailey, D., Wade, C., Ly, L., Nelson, K., Oltjen, C., Cao, H., Cao Son, T., Flores, V., Castro, B., Hernandez, J., Trotter, M., Kramar, D., 2024. Evaluation of experimental error in accelerometer monitoring: Variation among individual animals versus variation among devices. *Smart Agric. Technol.* 7. <https://doi.org/10.1016/j.atech.2024.100432>
- Tobin, C.T.**, Bailey, D.W., Stephenson, M.B., Trotter, M.G., Knight, C.W., Faist, A.M., 2022. Opportunities to monitor animal welfare using the five freedoms with precision livestock management on rangelands. *Front. Anim. Sci.* 3. <https://doi.org/10.3389/fanim.2022.928514>
- Trieu, L.L., Bailey, D.W., Cao, H., Cao Son, T., Scobie, D.R., Trotter, M.G., Hume, D.E., Sutherland, B.L., **Tobin, C.T.**, 2022. Potential of Accelerometers and GPS Tracking to Remotely Detect Perennial Ryegrass Staggers in Sheep. *Smart Agric. Technol.* 2, 100040. <https://doi.org/10.1016/j.atech.2022.100040>
- Gurule, S.C., Flores, V. V., Forrest, K.K., Gifford, C.A., Wenzel, J.C., **Tobin, C.T.**, Bailey, D.W., Hernandez Gifford, J.A., 2022. A Case Study Using Accelerometers to Identify Illness in Ewes Following Unintentional Exposure to Mold-Contaminated Feed. *Animals* 12, 1–14. <https://doi.org/https://doi.org/10.3390/ani12030266>
- Bailey, D.W., Trotter, M.G., **Tobin, C.T.**, Thomas, M.G., 2021. Opportunities to Apply Precision Livestock Management on Rangelands. *Front. Sustain. Food Syst.* 5, 1–13. <https://doi.org/10.3389/fsufs.2021.611915>
- Gurule, S.C., **Tobin, C.T.**, Bailey, D.W., Hernandez Gifford, J.A., 2021. Evaluation of the tri-axial accelerometer to identify and predict parturition-related activities of Debouillet ewes in an

intensive setting. *Appl. Anim. Behav. Sci.* 237, 105296.

<https://doi.org/10.1016/j.applanim.2021.105296>

**Tobin, C.T.,** Bailey, D.W., Stephenson, M.B., Trotter, M.G., 2021. Temporal Changes in Association Patterns of Cattle Grazing at Two Stocking Densities in a Central Arizona Rangeland. *Animals* 11. <https://doi.org/10.3390/ani11092635>

**Tobin, C.T.,** Bailey, D.W., Trotter, M.G., 2021. Tracking and sensor-based detection of livestock water system failure: A case study simulation. *Rangel. Ecol. Manag.* 77, 9–16. <https://doi.org/10.1016/j.rama.2021.02.013>

**Tobin, C.T.,** Bailey, D.W., Trotter, M.G., O'Connor, L., 2020. Sensor based disease detection: A case study using accelerometers to recognize symptoms of Bovine Ephemeral Fever. *Comput. Electron. Agric.* 175, 1–5. <https://doi.org/10.1016/j.compag.2020.105605>

**Tobin, C.T.,** Singh, S., Kumar, S., Wang, T., Sexton, P., 2020. Demonstrating Short-Term Impacts of Grazing and Cover Crops on Soil Health and Economic Benefits in an Integrated Crop-Livestock System in South Dakota. *Open J. Soil Sci.* 10, 109–136. <https://doi.org/10.4236/ojss.2020.103006>

#### BOOK CHAPTERS

Alhameid, A., **Tobin, C.,** Maiga, A., Kumar, S., Osborne, S., Schumacher, T., 2017. Intensified Agroecosystems and Changes in Soil Carbon Dynamics, in: Al-Kaisi, M.M., Lowery, B. (Eds.), *Soil Health and Intensification of Agroecosystems*. Academic Press, Cambridge, MA, pp. 195–214. <https://doi.org/10.1016/B978-0-12-805317-1.00009-9>

#### PROCEEDINGS

Bailey, D. W., **Tobin, C. T.,** Thomas, M. G., Nelson, K., Oltjen, C., Trotter, M. G. (2023). Lecciones del rancho: Applications of western US beef cattle research to northern Australia. Darwin, Northern Territory: Northern Beef Research Update, August 22-25, 2023, 4 pages.

#### PRESENTATIONS/POSTERS

**Tobin, C.,** Hoppe, K. 2024. Dakota Feeder Calf Show: Twenty-Two years of producer retained ownership at NDSU. Oral Presentation at American Society of Animal Science, National Meeting at Calgary, Alberta, CA., July 21-25, 2024.

**Tobin, C.,** Carlson, Z., Swanson, K., Hoppe, K., Rusche, W., Smith, Z., 2023. Effects of Processing Method of Hybrid Rye for Cattle Backgrounding Diets Oral Presentation at American Society of Animal Science, National Meeting at Albuquerque, NM., July 16-20, 2023.

INVITED **Tobin, C.,** Bailey, D., Gurule, S., Hernandez Gifford, J., Trotter, M. 2022. Detecting Livestock Welfare Concerns and Production Issues Using Accelerometer and Global Positioning Systems. Oral Presentation at American Society of Animal Science, National Meeting at Oklahoma City, OK., June 26-30, 2022.

**Tobin, C.,** Bailey, D., Trotter, M., Nelson, K., Oltjen, C., Wade, C., 2022. Potential and Challenges for Remotely Detecting Livestock Welfare Concerns. Oral Presentation at Society of Range Management. International Annual Meeting at Albuquerque, NM. February 5-10, 2022.

**Tobin, C.,** 2021. Potential to remotely monitor livestock well-being and rangeland sustainability. Oral Presentation at Arizona Section – Society of Range Management, Summer Meeting, Prescott, AZ. August 11-13, 2021.

**Tobin, C.,** Bailey, D., 2020. GPS vs Accelerometers: The Battle Between Technology to Monitor Cattle Behavior and Welfare. Poster Presentation at Society of Range Management. International Annual Meeting at Denver, CO. February 16-20, 2020.

**Tobin, C.,** Bailey, D., 2019. Potential of Accelerometers to Monitor Cattle Behavior and Welfare. Oral Presentation at Society of Range Management. International Annual Meeting at Minneapolis, MN. February 9-14, 2019.

**Tobin, C.,** Bailey, D., Trotter, M., O'Connor, L., 2018. Potential of Accelerometers to Remotely Detect Diseases, such as Bovine Ephemeral Fever in Cattle. Oral Presentation at Society of Range Management. International Annual Meeting at Sparks, NV. January 28-February 2, 2018.

- Tobin, C.**, 2016. Integrated Crop-Livestock Systems and Their Impacts on Soil Health Parameters. Oral Presentation at the ASA-CSSA-SSSA International Annual Meeting at Phoenix, AZ. November 6-9, 2016.
- Tobin, C.**, A. Bly and S. Kumar. 2016. Soil sampling techniques under integrated crop-livestock system. Oral Presentation at the SARE Project Planning Meeting at Winner, SD. April 11, 2016.
- Tobin, C.**, Sexton, P., 2016. Demonstrating the Short-Term Impacts of Grazing Cover Crops on Soil Health. Oral Presentation at the NRCS State Technical Committee Meeting at Huron, SD. February 17, 2016.
- Tobin, C.**, Kumar, S., and Sexton, P., 2016. Demonstrating the Short-Term Impacts of Grazing Cover Crops on Soil Health. Oral Presentation at the NRCS-CIG Committee Meeting at Huron, SD. January 15, 2016.
- Tobin, C.**, Kumar, S., Grings, E., Malo, D., Sexton, P., Ali, S., 2015. Impacts of Integrated Crop-Livestock System on Soil Health Parameters. Poster Presentation at the ASA-CSSA-SSSA. International Annual Meeting at Minneapolis, MN. November 15-18, 2015.

## ABSTRACTS

- Tobin, C.**, Hoppe, K., 264 Dakota Feeder Calf Show: Twenty-two years of producer retained ownership at NDSU, *Journal of Animal Science*, Volume 102, Issue Supplement\_3, September 2024, Page 90, <https://doi.org/10.1093/jas/skae234.102>
- Gullickson, G., Nichols, M., Entzie, Y., Hansen, L., Syring, J., Skunberg, T., Gilbertson, J., **Tobin, C.**, Swanson, K., Carlson, Z. 236 The effects of replacing dried distiller's grains with solubles with heat-treated soybean meal on nutrient intake and digestibility in forage-based diets, *Journal of Animal Science*, Volume 102, Issue Supplement\_2, May 2024, Pages 211–212, <https://doi.org/10.1093/jas/skae102.239>
- Tobin, C.**, Carlson, Z., Swanson, K., Hoppe, K., Rusche, W., Smith, Z., 355 Effects of Processing Method of Hybrid Rye for Cattle Backgrounding Diets, *Journal of Animal Science*, Volume 101, Issue Supplement 3, November 2023, Pages 255–256, <https://doi.org/10.1093/jas/skad281.307>
- Liu, J., Bailey, D., Cao, H., Son, T., **Tobin, C.**, 109 Animal Behavior Analysis Using Unsupervised Machine Learning Techniques, *Journal of Animal Science*, Volume 101, Issue Supplement\_3, November 2023, Page 2, <https://doi.org/10.1093/jas/skad281.002>
- Gullickson, G., Nichols, M., Entzie, Y., Hanson, L., Underdahl, S., Hanna L., **Tobin, C.**, Swanson, K., Carlson, Z., 364 The Effects of Replacing Dried Distillers Grains with Solubles with a Heat-Treated Soybean Meal in Forage-Based Growing Cattle Diets, *Journal of Animal Science*, Volume 101, Issue Supplement\_3, November 2023, Pages 294–295, <https://doi.org/10.1093/jas/skad281.351>
- Trieu, L., Bailey, D., Cao, H., Son, T., Trotter, M., O'Connor, L., **Tobin, C.**, 108 Potential of Accelerometers to Remotely Detect Bovine Ephemeral Fever in Heifers Using Pattern Recognition, *Journal of Animal Science*, Volume 101, Issue Supplement\_3, November 2023, Pages 1–2, <https://doi.org/10.1093/jas/skad281.001>
- Tobin, C.**, Bailey, D., Gurule, S., Gifford, J., Trotter, M., 397 Young Scholar Award Talk: Detecting Livestock Welfare Concerns and Production Issues Using Accelerometer and Global Positioning Systems, *Journal of Animal Science*, Volume 100, Issue Supplement\_3, October 2022, Pages 197–198, <https://doi.org/10.1093/jas/skac247.362>
- Tobin, C.**, Z. Carlson, K. C. Swanson, and K. Hoppe. 2022. PSIII-6 Late-Breaking: Ground Hybrid Rye as a Partial or Sole Concentrate in Backgrounding Rations. *J. Anim. Sci.* 100:36–37. doi:10.1093/jas/skac313.052.
- Bailey, D., Trotter, M., **Tobin, C.**, Nelson, K., Wade, C., Oltjen, C., Thomas, M., Gifford, J., 305 Awardee Talk: Application of on-Animal Sensors and Precision Livestock Management on Extensive Cattle and Sheep Ranches, *Journal of Animal Science*, Volume 100, Issue Supplement\_3, October 2022, Page 146, <https://doi.org/10.1093/jas/skac247.270>

Gurule, S.C., Aguirre, M., Forrest, K., Flores, V. V., Wenzel, J., **Tobin, C.T.**, Bailey, D.W., Gifford, J.A.H., 2021. Potential of sensor technology to detect changes in behavior related to health status of ewes following exposure to mold-contaminated feed. J. Anim. Sci. 99.

## EXTENSION AND OUTREACH ACTIVITIES

**Tobin, C.**, Bierman, M., Concrete vs Dirt Feedlot Pens: The Effects in Temperature and Evening Animal Behavior on Finishing Yearlings. 2024 Carrington Research Extension Center Annual Report

Bierman, M., **Tobin, C.**, Finishing calves on North Dakota Protein Coproducts: The Effects of Canola Meal, Dried Distillers Grains, and Soybean Meal on Growth Performance and Carcass Characteristics. 2024 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.**, Performance in Feedlot Calves is Influenced by Cow Hear – 2024 ND Angus University Feedout. 2024 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.**, Producers Find Value in Feeding Calves to Finish: Dakota Feeder Calf Show Feedout 2023-2024. 2024 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.**, Dakota Feeder Calf Show Livestock Committee, Discovering performance value in North Dakota Calves: 2023-2024 Dakota Feeder Calf Show Feedout. 2024 North Dakota Livestock Research Report

Hoppe, K., **Tobin, C.**, Harvesting, Storing, and Feeding High-moisture corn. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/harvesting-storing-and-feeding-high-moisture-corn>

Hoppe, K., **Tobin, C.**, Harvesting, Storing, and Feeding Corn as Earlage. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/harvesting-storing-and-feeding-corn-earlage>

**Tobin, C.**, Feeding Hybrid Rye as One-third of the Concentrate in Finishing Rations: Two Methods with Improved Results. 2023 Carrington Research Extension Center Annual Report

**Tobin, C.**, Carlson, Z., Swanson, K., Smith, Z., Rusche, W., Hoppe, K., Evaluation of Fine-ground Rye, Dry Rolled Hybrid Rye, and Dry Rolled Corn in Backgrounding Steer Rations. 2023 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.**, Performance in Feedlot Calves is Influenced by Cow Hear – 2023 ND Angus University Feedout. 2023 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.**, Producers Find Value in Feeding Calves to Finish: Dakota Feeder Calf Show Feedout 2022-2023. 2023 Carrington Research Extension Center Annual Report

**Tobin, C.**, and K. Hoppe. Drylot Beef Cow-Calf Production. Fargo, North Dakota. Available from: <https://www.ndsu.edu/agriculture/extension/publications/drylot-beef-cow-calf-production>

**Tobin, C.**, and K. Hoppe. Utilizing corn Residue in Beef Cattle Diets. Fargo, North Dakota. Available from: <https://www.ndsu.edu/agriculture/extension/publications/utilizing-corn-residue-beef-cattle-diets>

**Tobin, C.**, and K. Hoppe. Feeding Sugarbeet Byproducts to Cattle. Fargo, North Dakota. Available from: <https://www.ndsu.edu/agriculture/extension/publications/feeding-sugarbeet-byproducts-cattle>

Hoppe, K., Carlson, Z., **Tobin, C.**, Handling Liquid Feed Commodities. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/handling-liquid-feed-commodities>

Hoppe, K., Carlson, Z., **Tobin, C.**, Cattle Producer's Guide to Feedlot Terminology. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/cattle-producers-guide-feedlot-terminology>

Hoppe, K., **Tobin, C.**, Feeding Value of Sprouted Grains. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/feeding-value-sprouted-grains>

Hoppe, K., Carlson, Z., **Tobin, C.**, Feeding Corn to Beef Cattle. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/feeding-corn-beef-cattle>

Hoppe, K., **Tobin, C.**, Feeding Wheat to Beef Cattle. Fargo, North Dakota. Available from <https://www.ndsu.edu/agriculture/extension/publications/feeding-wheat-beef-cattle>



**Tobin, C.,** Hoppe, K., Exploring feeding performance of heavy yearling angus cattle – 2022 North Dakota Angus University Feedout. 2023 North Dakota Livestock Report

Undi, M., **Tobin, C.,** Long, T., Sedivec, K., Winter feeding systems and supplementation of beef cows in mid-gestation: Effects on cow/calf performance and subsequent steer feedlot performance. 2023 North Dakota Livestock Report

Hoppe, K., **Tobin, C.,** Dakota Feeder Calf Show Livestock Committee, Discovering performance value in North Dakota Calves: 2022-2023 Dakota Feeder Calf Show Feedout. 2023 North Dakota Livestock Research Report

Hoppe, K., **Tobin, C.,** Dakota Feeder Calf Show Livestock Committee, Discovering performance value in North Dakota Calves: 2023-2024 Dakota Feeder Calf Show Feedout. 2024 North Dakota Livestock Research Report

Wianecki, J., Meehan, M., Sedivec, K., Guagler, E., Carlson, Z., Malone, L., **Tobin, C.,** Ostlie, M., Enhancing profitability of soybean production through livestock integration, 2023 North Dakota Livestock Research Report

Gullickson, G., Nichols, M., Entzie, Y., Hanson, L., Underdahl, S., Hanna L., **Tobin, C.,** Swanson, K., Carlson, Z., Effects of replacing dried distillers grains with solubles with heat-treated soybean meal in forage-based growing cattle diets. 2023 North Dakota Livestock Research Report

**Tobin, C.,** and K. Hoppe. Winter Management of the Beef Cow Herd. Fargo, North Dakota. Available from: <https://www.ndsu.edu/agriculture/extension/publications/winter-management-beef-cow-herd>

**Tobin, C.** and K. Hoppe. Effects of Ground Hybrid Rye as a Partial or Complete Replacement of Corn as the Concentrate Source in Backgrounding and Finishing Rations. 2022 Carrington Research Extension Center Annual Report.

Hoppe, K., **Tobin, C.,** Exploring Feeding Performance of Yearling Angus Cattle – ND Angus University Feedout. 2022 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.,** Discovering Value in North Dakota Calves: Dakota Feeder Calf Show Feedout 2021-2022. 2022 Carrington Research Extension Center Annual Report

INVITED Graduate Student Lunch & Learn Panel. Western Section, American Society of Animal Science, 2022

**Tobin, C.T.,** Carlson, Z., Swanson, K., Hoppe, K., 2022. Effects of ground hybrid rye as a partial or complete replacement of corn as the concentrate source in high forage backgrounding rations. 2022 North Dakota Livestock Research Report

Hoppe, K., **Tobin, C.,** Discovering Value in North Dakota Calves: Dakota Feeder Calf Show XX. 2021 Carrington Research Extension Center Annual Report

Hoppe, K., **Tobin, C.,** Exploring Feeding Performance of Yearling Angus Cattle – ND Angus University Feedout. 2021 Carrington Research Extension Center Annual Report

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