**Dr. Whitney Crossland**

Texas Tech University

(806) 834-7583

whitney.crossland@ttu.edu

**Education and Post Graduate Training**

Ph D, Texas A&M University, 2018.

Major: Animal Science

Dissertation Title: Improving the sustainability of growing and finishing cattle under thermoneutral and heat stressed conditions using selective microbiome engineering techniques.”

MS, Texas A&M University, 2011.

Major: Animal Science

Dissertation Title: “Determining fiber and protein degradation rates of corn milling (co)products and their effects on rumen bacterial populations and lactating dairy cow performance.”

BS, Texas A&M University, 2008.

Major: Animal Science

**Academic and Professional Experience**

**Assistant Professor of Animal Nutrition, Texas Tech University. (March 2018 - Present).**

**TEACHING**

**Courses Taught**

**Texas Tech University**

ANSC 1401, General Animal Science, 38 courses.

ANSC 3301, Principles of Nutrition, 19 courses.

ANSC 3307, Feeds and Feeding, 8 courses.

ANSC 4000, Internship, 1 course.

ANSC 4001, Special Problems in Animal Science, 5 courses.

ANSC 5001, Problems in Animal Science: Comparative Beef Production Tour, 1 course.

ANSC 5311, Ruminant Nutrition, 2 courses.

ANSC 6000, Master’s Thesis, 4 courses.

ANSC 6001, Supervised Teaching, 6 courses.

ANSC 7000, Research, 12 courses.

HONS 0001, HEPlus, 1 course.

**Non-Credit Instruction**

Guest Lecture, Texas Tech University - ANSC 5311 Ruminant Nutrition, 7 participants. (October 2020 - November 2020).

Guest Lecture, TEXAS TECH UNIVERSITY - ANSC 5311 Ruminant Nutrition, 8 participants. (October 2019).

Guest Lecture, TEXAS TECH UNIVERSITY - ANSC 5311 Ruminant Nutrition, 16 participants. (October 2018 - November 2018).

**Directed Student Learning**

Brook Flowers, Undergraduate Research, “Effect of Protein Supplementation Level and Frequency on Fiber Digestibility in a 72 Hour In Vitro Trial” (2024).

Madison Sprayberry, Undergraduate Research, “Physiological Traits of Bovine Liver Abscesses and Correlation with Blood Variables” (2023 - 2024)

Connor Kern, Master's Thesis Committee Chair. Effect of Cottonseed Meal Supplementation on the Growth Performance of Heifers Grazing Summer Forage in the South Plains (June 2022 - 2024).

Jaci Brown, Master's Thesis Committee Chair. Equine Management Tools for Geriatric Horse Nutritional Care and Transport Stress (January 2022 - 2024).

Ryan Lopez, Undergraduate Research, "Effect of Direct Fed Microbial (Megasphaera elsdenii; Lactipro) on maintenance behavior of growing beef calves," Animal & Food Sciences. (August 2021 - 2022).

Makenna McDaniel, Undergraduate Research, "Effects of Melatonin and Vaccination on Behavior of Calves at Weaning," Animal & Food Sciences. (July 2021 - 2022).

Allie Martin, Master's Thesis Committee Chair, "Evaluation of melatonin as an adjuvant in the immunization protocol of dairy and beef calves.," Animal & Food Sciences. (September 1, 2020 - 2022).

Mia Lopez, Undergraduate Research, "Effect of Direct Fed Microbial (Megasphaera elsdenii; Lactipro) on Fecal Characteristics of growing beef calves," Animal & Food Sciences. (August 2021 - December 2021).

Victoria Fischer, Undergraduate Research, "Effect of Direct Fed Microbial (Megasphaera elsdenii; Lactipro) on growth performance and feed efficiency of growing beef calves," Animal & Food Sciences. (August 2021 - December 2021).

Miranda Stotz, Master's Thesis Committee Chair, "Improving beef production efficiency through alternative feed and health protocols," Animal & Food Sciences. (September 1, 2018 - August 31, 2020).

Andrea Osorio, Master's Thesis Committee Member, Animal & Food Sciences. (September 1, 2018 - August 2020).

Sebastian Mejia, Master's Thesis Committee Member, Animal & Food Sciences. (January 1, 2018 - December 31, 2019).

**Teaching Awards and Honors**

TTU Alumni Association New Faculty Award. (2021).

**RESEARCH**

**Published Intellectual Contributions**

**Abstract**

Wilson, R., Nagaria, T. G., Enns, M., Speidel, S., Crossland, W., Sarturi, J., Legako, J., Miller, M., Brooks, J. C., Johnson, B., Woerner, D. (2023). *Effects of liver abscess on carcass performance in beef x dairy crossbred cattle.*.

Kern, C., Rathmann, R., Sarturi, J., Norris, A., Crossland, W. (2023). *Cottonseed meal supplementation on calf performance and forage utilization grazing late season summer forage* (pp. 1). American Society of Animal Science.

Machado, V., Nagaraja, T., Cox, H., Menta Junior, P. R., Crossland, W., Hales-Paxton, K., Henry, D., Strieder Barboza, C., Cruz Penn, M., Broadway, P. R., Carroll, J., Ballou, M. (2023). *Injecting F. necrophorum into the circulation of pre-weaned calves failed as liver abscess challenge models.* (pp. 294).

Martin, A., Machado, V., Crossland, W. (2022). *Effect of Exogenous Melatonin on the Cellular and Humoral Response of Holstein Heifer Calves During Vaccination* (Suppl. 1 ed., vol. 100, pp. 14 - 15).

Rush, C., Sarturi, J., Henry, D., Ciriaco, F., Huerta-Leidenz, N., Crossland, W., Sarturi, J. O., Scaranto Silva, K. G., Nardi, K., Peters, S., DiManna, M., Osorio Doblado, A., Coello, K., Quijada, A., Hinds, J., Saes, Y. (2022). *Feeding Behavior of beef steers consuming finishing diets with an added nutritional packet in a calf-fed system* (pp. 1). American Society of Animal Science.

Nardi, K. T., Sarturi, J., Mendes, E., Crossland, W., Tedeschi, L., Henry, D., Scaranto Silva, K. G. (2022). *Feeding behavior of feedlot beef steers consuming finishing diets with an added nutritional packet* (pp. 1). American Society of Animal Science.

Rush, C., Sarturi, J., Henry, D., Ciriaco, F., Woerner, D., Huerta-Leidenz, N., Crossland, W., Lopez, A., Scaranto Silva, K. G., Nardi, K., Peters, S., DiManna, M., Osorio Doblado, A., Coello, K., Quijada, A., Hinds, J., Saes, Y. (2022). *Growth performance and carcass characteristics of beef steers consuming finishing diets with an added nutritional packet in a calf-fed system* (pp. 1). American Society of Animal Science.

Rush, C., Sarturi, J., Henry, D., Ciriaco, F., Huerta-Leidenz, N., Crossland, W., Sarturi, J. O., Scaranto Silva, K. G., Nardi, K., Peters, S., DiManna, M., Osorio Doblado, A., Coello, K., Quijada, A., Hinds, J., Saes, Y. (2022). *Nutrient digestibility of beef steers consuming finishing diets with an added nutritional packet in a calf-fed system* (pp. 1). American Society of Animal Science.

Peters, S., Sarturi, J., Rush, C. J., Silva, K. G. S., Favero, I. G., Henry, D., Huerta-Leidenz, N., Crossland, W., Ciriaco, F., Hinds, J., Saes, Y. (2022). *Effects of live-yeast/vitamin-mineral complex on nutrient digestion of newly received feedlot cattle*. Lubbock:.

Mejia-Turcios, S. E., Osorio, A. A. M., Urso, P., Crossland, W., Sarturi, J., DiLorenzo, N., Henry, D. D. (2020). *Effects of bismuth subsalicylate and encapsulated calcium-ammonium nitrate on beef cattle performance and liver mineral concentration*. American Society of Animal Science.

Stotz, M. K., Crossland, W. (2020). *PSVII-40 Late-Breaking Abstract: Ultrasonography and bacterial community of naturally occurring liver abscesses and non-abscessed livers in finishing Holstein steers* (Supplement\_4 ed., vol. 98, pp. 339-340). Oxford University Press (OUP).

Stotz, M. K., Mejia-Turcios, S. E., Osorio, A. M., Espinoza, N., Urso, P. M., Kondratovich, L., Carvalho, L., Douglas, M., Sarturi, J., Henry, D., Crossland, W. (2019). *Effect of fermentation temperature on in vitro digestibility of a finishing diet.* (vol. 97, pp. 62-63). JOURNAL OF ANIMAL SCIENCE.

Mejia-Turcios, S. E., Stotz, M. K., Osorio, A. M., Urso, P. M., Jennings, T. G., Espinoza, N., Kondratovich, L., Carvalho, L. F., Sandes, M. D., Sarturi, J., DiLorenzo, N., Crossland, W., Henry, D. (2019). *Effects of bismuth subsalicylate and calcium-ammonium nitrate on in vitro fermentation of a high-concentrate substrate.* (vol. 97, pp. 35-35). JOURNAL OF ANIMAL SCIENCE.

**Book, Chapter in Scholarly Book-New**

Crossland, W., Callaway, T. R., Tedeschi, L. O. (2015). Shiga toxin-producing E.Coli and ruminant diets: A match made in heaven?. *Food Safety: Emerging Issues, Technologies and Systems* (pp. 185-213).

**Conference Proceeding**

Stotz, M. K., Murillo, D. C., Henry, D., Crossland, W. (2020). *Evaluation of feeding immunoglobulin-Y to Holstein feeder cattle for the control of liver abscesses & reduction of macrolide-resistant bacteria dissemination.* (vol. 98, pp. 10-10). JOURNAL OF ANIMAL SCIENCE.

**Journal Article, Academic Journal**

Wilson, R., Johnson, B., Sarturi, J., Crossland, W., Hales-Paxton, K., Rathmann, R., Bratcher, C., Theurer, M. E., Amachawadi, R. G., Nagaraja, T. G., Speidel, S. E., Enns, R. M., Thomas, M. G., Foraker, B. A., Cleveland, M. A., Sarturi, J. O. (2024). Identification of blood-based biomarkers for detection of liver abscess in beef × dairy heifers. *Applied Animal Science*.

Cox, H., Menta Junior, P. R., Nagaraja, T. G., Crossland, W., Hales-Paxton, K., Henry, D., Strieder Barboza, C., Broadway, P., Carrol, J. A., Ballou, M., Machado, V. Short Communication: Injecting Fusobacterium necrophorum into the peripheral circulation or hepatic portal vein of pre-ruminant Holstein calves failed as experimental liver abscess challenge models. *Applied Animal Science*.

Rush, C., Sarturi, J., Huerta-Leindez, N., Woerner, D., Crossland, W., Henry, D., Scaranto Silva, K. G., Lopez, A. (2023). The effects of a nutritional packet (live yeast, vitamins C and B1, and electrolytes) offered to steers in a calf-fed system on growth performance, nutrient digestion, feeding behavior, carcass characteristics, and ruminal variables. *Translational Animal Science, 7*, 1-11.

Crossland, W. (2021). Characterization of bacterial DNA identified in abscessed and non-abscessed bovine hepatic tissue at the time of harvest. *Journal of Animal Science*.

Stotz, M. K., Henry, D., Crossland, W. (2020). Evaluation of Immunoglobulin-Y in Place of Tylosin Phosphate in the Diets Fed to Holstein Steers and Preliminary Analysis of Liver Abscess Duration on Animal Growth Performance. *Translational Animal Science*.

Stotz, M. K., Murillo, D. C., Henry, D., Crossland, W. (2020). 83 Evaluation of feeding immunoglobulin-Y to Holstein feeder cattle for the control of liver abscesses & reduction of macrolide-resistant bacteria dissemination. *Oxford University Press (OUP), 98*(Supplement\_2), 10-10.

Norris, A. B., Crossland, W., Tedeschi, L. O., Foster, J. L., Muir, J. P., Pinchak, W. E., Fonseca, M. A. (2020). Inclusion of quebracho tannin extract in a high-roughage cattle diet alters digestibility, nitrogen balance, and energy partitioning. *Journal of Animal Science, 98*(3).

Crossland, W., Cagle, C. M., Sawyer, J. E., Callaway, T. R., Tedeschi, L. O. (2019). Evaluation of active dried yeast in the diets of feedlot steers. II. Effects on rumen pH and liver health of feedlot steers. *Journal of Animal Science, 97*(3), 1347-1363.

Crossland, W. (2019). Evaluation of active dried yeast in the diets of feedlot steers: I. Effects on feeding performance traits, the composition of growth, and carcass characteristics. *Journal of Animal Science, 97*(3), 1335-1346.

Crossland, W., Shaw, J. P., O'Leary, C., Gill, J., Liu, M. (2019). Complete genome sequence of citrobacter freundii siphophage sazh. *Microbiology Resource Announcements, 8*(50).

Crossland, W., Norris, A. B., Tedeschi, L. O., Callaway, T. R. (2018). Effects of active dry yeast on ruminal pH characteristics and energy partitioning of finishing steers under thermoneutral or heat-stressed environment. *Journal of Animal Science, 96*(7), 2861-2876.

Crossland, W., Norris, A. B., Tedeschi, L. O., Callaway, T. R. (2018). Effects of active dry yeast on ruminal pH characteristics and energy partitioning of finishing steers under thermoneutral or heat-stressed environment. *Journal of Animal Science, 96*(7), 2861-2876.

Crossland, W., Tedeschi, L. O., Callaway, T. R., Miller, M. D., Smith, W. B., Cravey, M. (2017). Effects of rotating antibiotic and ionophore feed additives on volatile fatty acid production, potential for methane production, and microbial populations of steers consuming a moderate-forage diet. *Journal of Animal Science, 95*(10), 4554-4567.

**Presentations Given**

Crossland, W. (Presenter & Author), Jackson, S. (Author Only), American Society of Animal Science National meeting, "Effect of course modality and major in an animal science course without a laboratory on course content mastery," Albaquerque NM. (July 2023).

Kern, C. (Presenter & Author), Crossland, W. (Author Only), American Society of Animal Science National Meeting, "Effects of Cottonseed Meal Supplementation on Calf Performance and Forage Utilization Grazing Late Season Summer Forage," Albaquerque NM. (July 2023).

Crossland, W. (Presenter & Author), National Cottonseed Products Association Annual Meeting, "“Effect of cottonseed meal supplementation on the growth performance and forage utilization of growing heifers grazing late-summer, low-quality WW B. Dahl Bluestem ”," National Cottonseed Products Association, Tuscon AZ. (June 2023).

Martin, A. E. (Presenter & Author), Crossland, W. (Author Only), Machado, V. (Author Only), American Society of Animal Science - Southern Section, "Effect of Exogenous Melatonin on the Cellular and Humoral Response of Holstein Heifer Calves During Vaccination," TEXAS TECH UNIVERSITY, Ft. Worth, TX. (January 24, 2022).

Crossland, W. (Author Only), ASAS National Meeting, "Late-Breaking Abstract: Ultrasonography and bacterial community of naturally occurring liver abscesses and non-abscessed livers in finishing Holstein steers," Virtual Conference. (November 30, 2020).

Crossland, W. (Author Only), Plains Nutrition Council, "Evaluation of feeding immunoglobulin-Y to Holstein feeder cattle for the control of liver abscesses & reduction of macrolide-resistant bacteria dissemination," San Antonio, TX. (April 2020).

Crossland, W. (Author Only), ASAS- Southern Sections, "Evaluation of feeding immunoglobulin-Y to Holstein feeder cattle for the control of liver abscesses & reduction of macrolide-resistant bacteria dissemination," American Society of Animal Science, Chattanooga, TX. (February 2020).

Crossland, W. (Presenter & Author), Plains Nutrition Council, "Effects of yeast on rumen pH in the diets of feedlot cattle," ABVISTA Pre-Symposium, San Antonio, TX. (April 2019).

Stotz, M. K. (Presenter & Author), American Society of Animal Science - Southern Section, "Effect of fermentation temperature on in vitro digestibility of a finishing diet," Animal Science Society, Oklahoma City, OK. (January 2019).

Crossland, W., National Animal Society of Animal Science Meeting, "The evaluation of an active dried yeast in the diets of finishing steers on feedlot performance, rumen pH and liver health," Vancouver, Canada. (July 2018).

Crossland, W., National Animal Society of Animal Science Meeting, "The evaluation of an active dried yeast in the diets of finishing steers on growth performance and carcass composition," Vancouver, Canada. (July 2018).

**Contracts, Grants and Sponsored Research**

**Awarded**

SV, K. J., Slaughter, L., Young, J., Deb, S., Saini, R., Somayanda, I., Ritchie, G., Cooper, C., Coldren, C., Crossland, W., McCallister, D., Ritz, R., Monsur, M., "A collaborative trans-disciplinary network for exploring novel ideas and developing next generation workforce for water conservation," Sponsored by Davis College of Agricultural Sciences and Natural Resources, College or University, $250,000.00. (July 1, 2023 - June 30, 2026).

Woerner, D., Sarturi, J., Crossland, W., Rathmann, R., Hales-Paxton, K., Legako, J., Bratcher, C., Johnson, B., "Modeling for genomic, blood, and microbiological markers for liver abscesses in fed beef cattle.," Sponsored by Foundation for Food & Agriculture Research., Foundation, $300,000.00. (2023 - 2024).

Crossland, W. (Principal Investigator), "Effects of Quality Complex Additive on growth performance, carcass characteristics, and nutrient digestibility when strategically fed to a beef cattle calf-fed system," Sponsored by Vigally, LLC, $83,928.00. (January 2024).

Norris, A. B. (Lead Principal Investigator), Cooper, C. E. (Supporting), Crossland, W. L. (Supporting), Badruddoza, S. (Supporting), "Reinvesting in Rangelands," Sponsored by The CH Foundation, Foundation, $123,750.00. (2022 - Present).

Machado, V. (Lead Principal Investigator), Ballou, M. (Principal Investigator), Strieder-Barboza, C. (Principal Investigator), Hales, K. (Principal Investigator), Crossland, W. (Principal Investigator), Henry (Principal Investigator), "Pathogen-host interaction during the development of liver abscesses; local and systemic immune and metabolic responses during Fusobacterium necrophorum challenges," Sponsored by Foundation for Food and Agriculture Research, Federal, $195,138.00.

Henry, D. (Lead Principal Investigator), Johnson, B. (Principal Investigator), Sarturi, J. (Principal Investigator), Crossland, W. (Principal Investigator), Legako, J. (Principal Investigator), Woerner, D. (Principal Investigator), "Effects of tannins on beef production: A restorative systems approach," Sponsored by SilvaTeam S.p.A, Industry/For Profit, $227,795.00.

Sarturi, J. (Lead Principal Investigator), Henry, D. (Principal Investigator), Huerta, N. (Principal Investigator), Crossland, W. (Principal Investigator), "Effects of Quality Complex Additive on growth performance, carcass characteristics, and nutrient digestibility when strategically fedto a beef cattle calf-fed system," Sponsored by Vigaly LLC, Industry/For Profit, $83,928.00.

Crossland, W. (Lead Principal Investigator), "Evaluation of feeding immunoglobulin Y to Holstein feeder cattle for the control of liver abscesses using pre- and post-mortem techniques," Sponsored by Texas Cattle Feeders Association, $10,800.00. (October 1, 2018 - June 30, 2020).

Crossland, W., Henry, D. D. (Principal Investigator), "Evaluation of feeding immunoglobulin Y to Holstein feeder cattle for the control of liver abscesses using pre- and post-mortem techniques," Sponsored by Texas Cattle Feeders Association, Other Nonprofit Org, $12,000.00. (November 9, 2018 - November 9, 2019).

**Pending**

Norris, A. (Lead Principal Investigator), Cooper, C. (Principal Investigator), Crossland, W. (Principal Investigator), Hales-Paxton, K. (Principal Investigator), SV, K. J. (Principal Investigator), "Emissions Monitoring Throughout Southern Plains Beef Production Chain," Sponsored by USDA - Natural Resources Conservation Service, Federal, $4,141,646.00.

Crossland, W. (Lead Principal Investigator), Rathmann, R. (Lead Principal Investigator), Machado, V. (Principal Investigator), Henry, D. (Principal Investigator), "Characterizing the effect of injectable melatonin on humoral and cellular immune responses of beef calves during weaning and vaccination," Sponsored by Texas Cattle Feeders Association, Foundation, $14,003.00.

**Research and Scholarly Works Awards and Honors**

Faculty Travel Grant, TTU- Office of Research. (November 2021).

Open Access Publication Initiative, TTU - Office of Research. (August 2021).

**Intellectual Contributions in Submission**

**Journal Article, Academic Journal**

Crossland, W., Machado, V. Effect of exogenous melatonin on the cellular response of Holstein heifer calves during vaccination. *Translational Animal Science*.

**SERVICE**

**University Service**

Committee Member Alternate, Institutional Animal Care and Use Committee. (September 2019 - Present).

**College Service**

Committee Member, College Curriculum Committee. (November 2021 - Present).

Committee Member, CASNR Marketing & Outreach Committee. (September 2018 - Present).

Dean's Representative for Dissertation Defense, Dean's Representative. (August 2018 - Present).

**Department Service**

Faculty Advisor, Tech Cattlewomen’s Association. (January 2024 – Present)

Faculty Advisor, Animal and Food Sciences Academic Quadrathlon Team. (January 2020 - Present).

Faculty Advisor, Block & Bridle. (September 2018 - Present).

Faculty Advisor, Animal & Food Sciences Academic Quadrathlon Advisor. (January 2022 - December 2022).

Committee Member, Thornton Chair Search Committee. (June 2018 - 2019).

Special Project or Assignment, Fearless Champion Fall Showcase. (November 16, 2018 - November 18, 2018).

**Professional Service**

Committee Member, American Society of Animal Science - Southern Section - Academic Quadrathlon. (July 2023 - Present).

Editorial Review Board Member, Journal of Applied Animal Science. (June 2020 - Present).

Reviewer, Journal Article, Journal of Animal Science. (March 16, 2018 - Present).

**Public Service**

Hale County Livestock Show Association, Committee Member, Plainview, Texas (2023 – present)

Panhandle Parade of Breeds, Board of Directors, Plainview, Texas (2022- Present)

Guest Speaker, Texas 4H Livestock Ambassadors Youth Camp, Lubbock, TEXAS. (July 2020).

Guest Speaker, Texas 4H Livestock Ambassadors, Lubbock, TEXAS. (July 2019).

Guest Speaker, Texas 4-H Livestock Ambassadors, Lubbock, TX. (July 2018).

Guest Speaker, Texas Pork Leadership Camp, Lubbock, TX. (July 2018).

**GENERAL**

**Professional Memberships**

American Society of Animal Science. (January 2018 - Present).

**Development Activities Attended**

Faculty Fellowship, "Faculty Fellows Meeting," TEXAS TECH UNIVERSITY - College of Agricultural Sciences & Natural Resources, Lubbock, Texas, United States. (September 2019 - September 2020).

Workshop, "Mental Health First Aide in Higher Education Training," National Council for Behavioral Health - USA, Lubbock, TEXAS, United States. (May 14, 2019).

Workshop, "Grant Writing Workshop," Lubbock, TX. (February 1, 2019).