

UF/IFAS

# Range Cattle Research & Education Center NEWS

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## IN THIS ISSUE

### Meet the Watershed Hydrology and Biogeochemistry Specialist at the UF/IFAS Range Cattle REC



Golmar Golmohammadi is the newest member of the UF/IFAS Range Cattle Research and Education Center team. An assistant professor, she specializes in watershed hydrology and biogeochemistry. Golmar joined us in January 2022, coming to us from Canada, the Great White North. In a recent interview I asked Golmar about her early years growing up, her education, and professional career. When asked about her early years, Golmar had this to say, "I was born and grew in a small town in north Iran. Both my parents were teachers. As long as I can remember, I enjoyed nature, and I realized pretty quickly at a very young age that I wanted my career to have a focus on the environment."

"I started my academic training by completing a B.Sc. (2000) and M.Sc. (2007) in Agricultural Engineering at

Bu Ali Sina University, Iran, working on geostatistical methods on spatial distribution of precipitation and flow. I moved to Canada to continue my education in hydrology and water quality modeling. I earned my Ph.D. (2014) from McGill University in Montreal, Canada. My Ph.D. research focused on the development of a new hydrologic model. This integrated model offers an effective decision-making tool for researchers and watershed managers. I received a post-doctoral fellowship from the School of Engineering at the University of Guelph shortly after my graduation and continued to work on watershed modeling. I investigated the impact of water management practices on hydrology and water quality at the watershed scale. I also investigated the impact of climate change on quantity and quality of water resources in agricultural fields."

"In the last four years, while I maintained my academic teaching and research position at the University of Guelph, Canada, I have worked as a water resource engineer for a consulting firm (Aquafor Beech) in Ontario, Canada. I was involved in water resources protection projects, implementation strategies of best management practices, and selecting the preferred alternative solutions. My work also included the development of hydrological models, considering water quality constituents, implementing the ecological aspects

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of the study, and characterizing the interactions between ecological and hydrological components of the watershed.”

**Golmar is a member of the following professional societies:**

- American Society of Agricultural and Biological Engineering (ASABE)
- Canadian Society of Bioengineering (CSBE)
- Canadian Water Resources Association (CWRA)

**Prior to coming on board with UF, Golmar received the following awards and recognitions:**

- NSERC-Natural Science and Engineering Research Fellowship, 2010-2012
- Graduate Excellence Fellowship, 2011-2012
- Canadian Imperial Bank of Canada Fellowship (Nominated by Bioresource Engineering Department of McGill University), 2013
- Provost Graduate Fellowship, 2012-2013
- Canadian Society for Bioengineering Award, for being one of the top three posters and best oral presentation at the CSBE conference (2012)

**Since coming to Ona Golmar has received the following awards and recognitions:**

- Funding from Florida Cattle Enhancement Board (FCEB), September 2022
- Award from the 2023 Global Fellow, October 2022

**Research (60% appointment)**

When asked about current research, Golmar said, “The Range Cattle Research and Education Center (RCREC) is home to several productive research programs focused on understanding and improving rangeland productivity for agriculture, wildlife, and soil and water. The hydrological

processes, which influence all other research programs in RCREC is an important area to be studied. Hydrological processes are fundamentally intertwined with the water quality and natural processes of a watershed. In South Florida, the nutrients, nitrogen (N) and phosphorus (P), that are collected from agricultural lands are key water quality issues. These elements are essential nutrients for growing plants, and important to local farming as fertilizers. These are also introduced by the animal wastes produced on ranch lands of South Florida. However, it is important to note that the environmental services provided by grazinglands may help to improve both water quality and quantity.”

“Agricultural/cattle producers are encouraged to adopt BMPs to minimize the loss of agricultural chemicals by managing the water and fertilizers inputs as well as managing their discharge to the environment. However, little research has been proposed to determine the benefit of these BMPs on the landscape level. In this program, we can inform cattle producers about the environmental and economic benefits of providing water quality enhancements on private ranches as well as conservation easements in Central and South Florida. To help Florida cattle producers, one of the main objectives would be to conduct a long-term evaluation of the effectiveness of BMPs on cattle ranches in central and southern Florida.”

Below are some areas which the program is currently focused on:

“Evaluating the hydrology of the area: computer models are being used to simulate the hydrological and biogeochemical processes of agroecosystems at different temporal and spatial scales. The models are being used to evaluate the existing hydrology of the area. Evaluating the hydrology of RCREC and Limestone Creek watershed will help to assess

how existing operating criteria can be modified to achieve a more acceptable balance among flood control, water supply, aquatic plant management, and natural resource water management objectives. We will also be applying hydrologic models to evaluate the influence of grazing management on water quality and mitigation strategies to better manage water to meet growing population needs considering increased water supply uncertainty and climate change.”

“Water Monitoring: our program is also focused on water monitoring network (instruments) installation. We have evaluated the headwater/ditches to identify locations and types of potential water monitoring stations to collect water data. Providing accurate flow and water quality data is the core of most hydrological and watershed management research. In addition, flow and water quality of the streams fundamentally influences aquatic ecosystem health. Indeed, the entire Limestone Creek Watershed in Peace River Basin lacks stream water data. Installing a water monitoring network at the RCREC will provide a data-based foundation to build the hydrology and water quality program.”

“Conservation practices: another important objective of the program is to develop sustainable water management practices to conserve water, considering water quality and quantity, with a goal to identify realistic and sustainable solutions. The efforts will be placed to evaluate the effectiveness of various conservation practices in reducing nutrient loadings and improving water quality. Using hydrologic and water quality modeling, genetic algorithm technique, and GIS/Remote sensing tools, a comprehensive assessment approach will be developed. This approach will be demonstrated in the RCREC area and the watershed to determine

the optimum crops production and reduction in pollutant loadings with minimum BMP costs.”

**Extension (40% appointment)**

Extension is the application of scientific research and new knowledge to agricultural practices through education. When asked about her extension efforts, Golmar said, “My extension program focuses on water quantity and quality of Florida’s water system to help stakeholders better understand the importance of water quality. The main objective of my extension program is to achieve sustainable water resources, both quantity and quality, by adopting appropriate water management methods and conservation practic-

es.”

“Our program is currently working on specific objectives such as designing a survey to better understand the best management practices information under existing conditions. Questionnaires will be provided to stakeholders to understand the social satisfaction in implementation of the potential conservation practices.”

Regarding collaborative efforts, Golmar is working with Archbold Biological Station researchers and has started to settle international research with a group of Canadian researchers in assessing the effectiveness of conservation practices on water quality improvement under existing and

future climate conditions.

**Student Training**

Golmar’s first graduate student will be joining her program in January 2023 with a second coming in the fall. PhD student Seyed Mostafa Biazar will be arriving first. He will be working on surface and groundwater hydrological modeling and the assessment of strategies to improve water quality in grazing lands in South Florida.

**Learn More**

Visit [Golmar’s page](#) on the RCREC website to learn more about her work. Contact her at [g.golmohammadi@ufl.edu](mailto:g.golmohammadi@ufl.edu).

**CENTER NEWS**

**Hurricane Ian: Flood and Recovery**

On September 28/29 our Center suffered devastating losses from water and wind as Hurricane Ian crept across the state. There was wind damage to a few of the farm structures and many trees were blown over throughout the Center, but by far the worst of the damage was due to freshwater flooding. In total, the Ona FAWN tower at the Center recorded 17.75” of rain, with the baulk (nearly 12.29”) falling on 9/28 between 4:45 - 11:45 p.m. As you can imagine, the rain fell faster than it could run off causing between 6 - 24” of water to enter our lab and office buildings. One of our student residences also had minor water damage. Even though the students were able to keep the water from coming in the door, it still seeped in through the walls. Thankfully, the flood waters quickly drained off as soon as the rain let up.

We are extremely grateful for all of the folks with UF/IFAS who helped after the storm. The morning of 9/30 the first of many helpers from UF/IFAS arrived with heavy equipment and chainsaw operators to begin

clearing roads, with additional help arriving that afternoon with generators to power our wells, some of the buildings, and to get our freezer room generator going - due to the flood it had failed to come on automatically.

The flooding in our area was so great that most of our employees and students who live off site were unable to make the journey to work for nearly a week due to flooded or washed out roads.

Progress in recovery has been steady. At this time the student house is completely restored. The grazinglands education building is useable with only the kitchen left to restore. The forage and soil and water science labs are expected to be ready early next week. Work in the other buildings is moving along well with the walls completed in the admin building and coming along in the others. Flooring, cabinets, and new office furniture will be coming next. We hope to be back to near normal by February/March.

While we are displaced, you can reach us through our temporary Google number (863) 535-6090 or by e-mail: [ona@ifas.ufl.edu](mailto:ona@ifas.ufl.edu).



*Approaching the Center the day after the storm (9/29). The waters had already receded a foot or more. Photo by Jaime Garzon, one of 3 students onsite for the storm.*

An example of our flood recovery process, through photos of the soil and forage lab. Top left: 10/21, damaged drywall and insulation removed; top right: 10/27, dry out complete; bottom left: 11/17, new drywall installed and cabinet work began; and bottom right: 12/2, walls painted and new cabinets installed.



## Annual Braford Heifer Offer



On November 17, two of our Braford heifers were sold during the Adams Ranch Annual Sale with the proceeds being matched by Adams Ranch and the total added to the Adams Ranch Endowment.

This endowment was established in 2015 by Adams Ranch to support research at the UF IFAS Range Cattle

Research and Education Center that serves to strengthen and improve the natural resources associated with Florida's grazinglands.

This year the heifers were purchased for \$3,000 by Tony DiFrancesco of Ft. Pierce. As previously stated, that will be matched and a total of \$6,000 will be added to the endowment.

## Pasture & Grazing Management Seminar Held



A Pasture & Grazing Management Seminar was held the evening of October 25th at the Hillsborough Coun-

ty Cattlemen's Association Headquarters in Plant City. There were thirty in attendance. They learned how to address soil fertility, pasture weeds, and grazing management in livestock operations. Regardless of what you raise - cattle, horses, goats, or other animals - pasture management is a key component to healthy animals and grazinglands.

They learned:

- the importance of soil fertility for forages and how to take soil

samples.

- how pasture weeds compete with desirable forages for soil nutrients.
- Strategies for managing pasture weeds.
- how stocking rates can affect the forage availability, forage utilization and animal performance.

Keep watch! This program will be held again in April 6, 2023 in Bartow. Details will be available in the new year.

**FACULTY NEWS**

**Congratulations Dr. Vendramini!**



Dr. Joao 'Joe' Vendramini was designated a Fellow of the Crop Science Society of America, which is the highest recognition given by the society. Dr. Vendramini received the honor at the 2022 ASA- CSSA-SSSA annual meeting in Baltimore. It was presented by Marilyn Warburton, the Crop Science Society of America president.

**Student News**



On Oct. 11, **Jaime Eduardo Garzón Alfonso**, an Agronomy PhD candidate, advised by Dr. Joao Vendramini, successfully completed his exit seminar and defense.

“Forage Characteristics and Ecosystem Services Provided by Aeschynomene and Sunn Hemp Legumes in South Florida”

He has since begun work as an Assistant Extension Professor and Forage Educator in the Cooperative Extension Department at the University of Maine, in Orono.

He will return to UF for graduation on Dec. 16.



*Leandro with Dr. Samira Daroub (Everglades REC Center Director), one of the mentors and supporters of the Bridge Scholar Award.*

**Leandro Otavio Vieira Filho**, a PhD candidate in the Soil, Water, and Ecosystem Sciences Department, advised by Dr. Maria Silveira, received the following awards this quarter:

- He was one of ten international students selected for the **CALS International Student Outstanding Achievement Award**. He was recognized at the UF International Center Awards Ceremony on November 15.
- The **CALS Doris and Earl Lowe**

**and Verna Lowe Scholarship Award** which recognizes graduate students for their achievements in research and excellence in academics.

- The **2022 Bridge Scholars Award**, funded by the Agronomic Science Foundation and presented by the Agronomy, Crop, and Soil Science Societies of America. Eight outstanding students interested in furthering their careers in the agronomic, crop, soil, and environmental sciences were selected for this award. This award granted Leandro registration to the 2022 ASA-CSSA-SSSA Annual Meeting (Baltimore, MD - November 6-9, 2022) and participation in the 2022 Graduate Student Leadership Conference (November 5-6 prior to the Annual Meeting). It also covered costs related to lodging and transportation to the meeting.

Leandro began his Soil and Water Science PhD in the summer of 2019.

## CONNECT WITH US

### Articles published in the Florida Cattleman & Livestock Journal:

View these on our website at:  
<https://rcrec-ona.ifas.ufl.edu/news-and-publications/>

### Ona Reports

Sept. 2022 - 'Increasing Bahiagrass Production in Periods of High Nitrogen Fertilizer Price' by Dr. Joao Vendramini

Oct. 2022 - 'Perennial Pasture Systems in Florida are Strong Carbon Sinks' by Dr. Rosvel Bracho and Dr. Maria Silveira

Nov. 2022 - 'Wildlife and Hurricanes' by Dr. Hance Ellington



### New Videos

#### Ona Highlight Webinars

Save the date and join us for an upcoming Ona Highlight webinar. These informative presentations are held each month. They begin at 11:00 a.m. and last about 45 minutes. See our online calendar for upcoming webinars, [here](#).

Recordings of recent webinars:

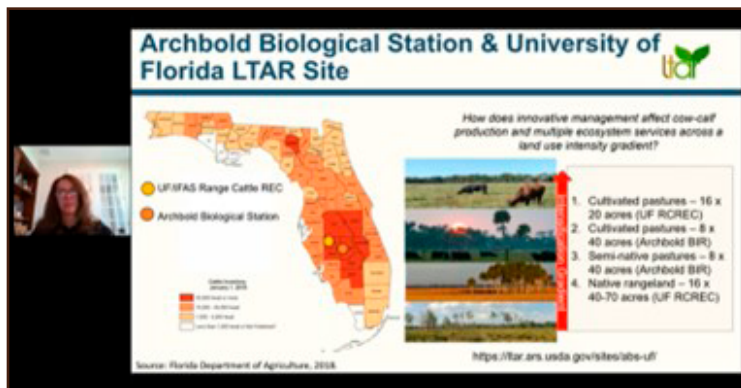
9/2022 - cancelled due to Hurricane Ian

10/2022 - Postponed to December

#### 'Long-term Agroecosystem Research (LTAR) Updates'

Dr. Maria Silveira

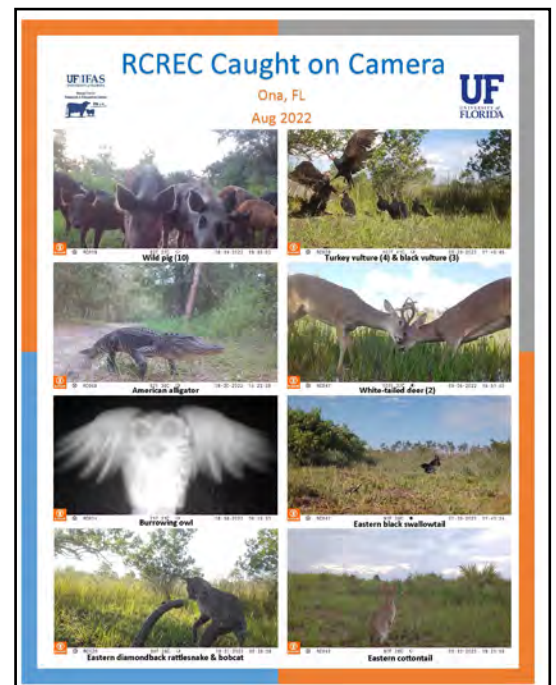
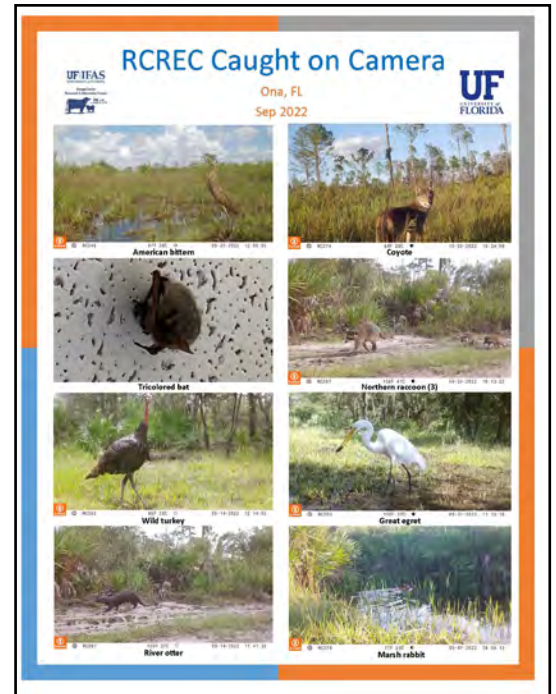
11/1/2022 - Run time: 40.34 minutes



### 'Caught on Camera'

A monthly feature with images collected from RCREC game cameras mounted throughout the property. Provided by the Rangeland Wildlife Ecology Program.

View all the issues on our website at:  
<https://rcrec-ona.ifas.ufl.edu/about/directory/faculty/hance-ellington/>



## UF News

### UF/IFAS Animal Sciences Have You HERD Program

This unique program for high school students is offered every fall and spring. It allows a small number of students the opportunity to be a UF animal science student for a day to see first-hand all that the program has to offer. Those interested in pursuing a degree to work in an animal industry are encouraged to apply between now and January 15, 2023. Teachers and 4-H club leaders are encouraged to nominate students they believe would benefit from a program such as this.

Requirements:

1. Applicant must be a current high school student or graduated from high school within the past year.
2. A guardian must be present but will not be allowed to attend classes.
3. Have an interest in or career goals related to the field of Animal Sciences.

[Click here](#) to view a UF Animal Science blog post for details.

To apply, [click here](#) or scan this QR code.



### Dr. Ben Sasse Selected as the 13th President of the University of Florida

University of Florida Board of Trustees unanimously voted to select Dr. Ben Sasse as the University of Florida's next president and the Board of Governors confirmed his hiring. He will step into the new leadership role on February 6, 2023.



Presently Dr. Sasse is serving as a Senator in Nebraska. He earned his Bachelors from Harvard University and his PhD in American History from Yale University. Previously he served as the president of Midland University in Fremont, Nebraska - his hometown - and before that was a faculty member at the University of Texas.

He is a 5th generation Nebraskan, and he and wife Melissa have three children.

Read more about Dr. Sasse: <https://www.sasse.senate.gov/public/index.cfm/about>

Visit <https://presidentsearch.ufl.edu/> for the latest information on the search.

## Upcoming Events

*View our online calendar for more info on events and links to register:*

<http://rcrec-ona.ifas.ufl.edu/calendar-of-events/>

### *Ona Highlight Webinar*

*– January 10, 11:00 - 11:45 AM*

*To be determined.*

### *40th Annual Florida Cattlemen's Institute & Allied Trade Show*

*– January 24, 8:30 AM - 3:00 PM*

*A SFBFP event to be held at the Okeechobee Agri-Civic Center. Scan the QR code below to register.*



### *Ona Highlight Webinar with guest speaker Dr. Thomas Smith*

*– February 14, 11:00 - 11:45 AM*

*Information on his talk to be announce at a future date.*

### *Ona Highlight Webinar with Dr. Brent Sellers*

*– March 14, 11:00 - 11:45 AM*

*Join us for an update on broomsedge studies with Dr. Brent Sellers.*

**Refereed Publications**

- Cardoso, A.S., Silveira, M.L., Kohmann, M.M., Vendramini, J.M.B., Sellers, B., Baldo, A., & Sekiya, B.M.S. (2022). **Bahiagrass and soil responses to lime sources and application levels.** *Agronomy Journal*, 114: 3183-3192.
- de Paula, H. V. G., Vendramini, J. B. B., Sollenberger, L. E., Moriel, P., da Silva, H. M., Garzon, J., de Oliveira, H. M. R., Ferreira, I. M., & dos Santos, A. C. (2022). **Herbage accumulation, nutritive value, and persistence of new warm-season perennial grasses.** *Crop, Forage, & Turfgrass Management*. 8(1):e20168 doi.org/10.1002/cft2.20168
- Izquierdo, V., Vedovatto, M., Palmer, E. A., Oliveira, R. A., Silva, H. M., Vendramini, J. M. B., & Moriel, P. (2022). **Frequency of maternal supplementation of energy and protein during late gestation modulates preweaning growth of their beef offspring.** *Translational Animal Science* 6(3):txac110. doi.org/10.1093/tas/txac110
- Kleinman, P. J. A., Spiegel, S. A., Silveira, M. L., Baker, J. M., Dell, C. J., Bittman, S., Cibin, R., Vadas, P. A., Buser, M. D., & Tsegaye, T. (2022). **Envisioning the Manureshed: Toward comprehensive integration of modern crop and animal production.** *Journal of Environmental Quality*, 51:481-493. <https://doi.org/10.1002/jeq2.20382>
- Kohmann, M. M., Silveira, M. L., Brandani, C. B., Sanchez, J. M. D., da Silva, H. S., & Vendramini, J. M. B. (2022). **Plant litter chemical characteristics drive decomposition in subtropical rangelands under prescribed fire management.** *Rangeland Ecology and Management*, 84: 22-30. <https://10.1016/j.rama.2022.05.002>
- Lu, Y., Silveira, M. L., O'Connor, G. A., Vendramini, & Li, Y. C. (2022). **Biochar type and application methods affected nitrogen and phosphorus leaching from a sandy soil amended with inorganic fertilizers and biosolids.** *Agrosystems, Geosciences & Environment*, DOI: 10.1002/agg2.20236.
- Moriel, P., Palmer, E. A., Oliveira, R. A., Vedovatto, M., Izquierdo, V. S., Silva, H. M., Garzon, J., Oliveira, H. M. R., Dailey, J., Carroll, J., Burdick Sanchez, N. C., Martins, T., Binelli, M., & Vendramini, J. M. B. (2022). **Stair step strategy and immunomodulatory feed ingredient supplementation for grazing heat-stressed *Bos indicus*-influenced beef heifers.** *Journal of Animal Science*. 100(4):skac 107. doi:10.1093/jas/skac107
- Palmer, E. A., Vedovatto, M., Oliveira, R. A., Ranches, J., Vendramini, J. M. B., Poore, M. H., Martins, T., Binelli, M., Arthington, J. D., & Moriel, P. (2022). **Timing of maternal supplementation of dried distillers grains during late gestation influences postnatal growth, immunocompetence, and carcass characteristics of *Bos indicus*-influenced beef calves.** *Journal of Animal Science*. 100(2):skac022. doi:10.1093/jas/skac022
- Palmer, E. A., Vedovatto, M., Oliveira, R. A., Ranches, J., Vendramini, J. M. B., Poore, M. H., Martins, T., Binelli, M., Arthington, J. D., & Moriel, P. (2022). **Effects of maternal winter vs. year-round supplementation of protein and energy on post-natal growth, immune function, and carcass characteristics of *Bos indicus*-influenced beef offspring.** *Journal of Animal Science*. 100(3):skac003. doi:10.1093/jas/skac003
- Sanchez, J. M. D., Vendramini, J. M. B., Silveira, M. L., Kohmann, M. M., Silva, H. M. S., Moriel, P., Hendry, D. D., Hendry, F. (2022). **Ruminal digestibility and in-vitro methane emissions of native plant species in subtropical rangelands.** *Rangeland Ecology & Management*, 82:42-50. DOI: 10.1016/j.rama.2022.02.002
- Silva et al., Silveira, M. L., (2022). **Greenhouse gas mitigation and carbon sequestration potential in humid grassland ecosystems in Brazil: A review.** *Journal of Environmental Management*, 323. <https://doi.org/10.1016/j.jenvman.2022.116269>.
- Silva, L. S., Sollenberger, L. E., Mullenix, M. K., Kohmann, M. M., Dubux, J. C. B., & Silveira, M. L. (2022). **Soil carbon and nitrogen stocks in nitrogen-fertilized grass and legume-grass forage systems.** *Nutrient Cycling in Agroecosystems*, 122:105-117. DOI: 10.1007/s10705-021-10188-9
- Sousa, J. T. L., Vendramini, J. M. B., Moriel, P., Sanchez, J. M. D., da Silva, H. M., Alencar, N., de Sousa, L. F., de Oliveira, H. M. R., & Palmer, E. (2022). **Monensin and concentrate supplementation level effects on forage ruminal parameters and forage in-situ disappearance of beef cattle receiving bermudagrass.** *Applied Animal Science*. 38:141-149. doi:10.15232/aas.2021-02249



Spiegel, S., Vendramini, J. M. B., Bittman, S., Silveira, M. L., Gifford, C., Rotz, C. A., Ragosta, J. P., & Kleinman, P. J. A. (2022). **Recycling nutrients in the beef supply chain through circular manure sheds: Data to assess tradeoffs**. *Journal of Environmental Quality*, 51, 494-509. <https://doi.org/10.1002/jeq2.20365>

Vedovatto, M., Leccioli, R. B., Lima, E. A., Rocha, R. F. A. T., Coelho, R. N., Moriel, P., Silva, L. G., Ferreira, L. C. L., Silva, A. F., Reis, W. V. A., Oliveira, D. M., & Franco, G. L. (2022). **Impacts of body condition score at beginning of fixed-timed AI protocol and subsequent energy balance on ovarian structures, estrus expression, pregnancy rate and embryo size of *Bos indicus* beef cows**. *Livestock Science*. 256:104823. doi:10.1016/j.livsci.2022.104823

Vedovatto, M., Izquierdo, V., Palmer, E. A., Oliveira, R. A., Silva, H. M., Vendramini, J. M. B., & Moriel, P. (2022). **Monensin supplementation during late gestation of beef cows alters maternal plasma concentrations of insulin-like factors 1 and 2 and enhances offspring preweaning growth**. *Translational Animal Science*, 6(3):txac105. doi.org/10.1093/tas/txac105

Williams, M., Welikhe, P., Bos, J., King, K., Akland, M., Augustine, D., Baffaut, C., Beck, E. G., Bierer, A., Bosch, D., Boughton, E., Brandani, C., Brooks, E., Buda, A., Cavigelli, M., Faulkner, J., Feyereisen, G., Fortuna, A., Gamble, J., Hanrahan, B., Hussain, M. Z., Kohmann, M., Kovar, J., Lee, B., Leytem, A., Liebig, M., Line, D., Macrae, M., Moorman, T., Moriasi, D., Nelson, N., Ortega-Pieck, A., Osmond, D., Pisani, O., Ragosta, J., Reba, M., Saha, A., Sanchez, J., Silveira, M., Smith, D., Spiegel, S., Swain, H., Unrine, J., Webb, P., White, K., Wilson, H., Yasarer, & L. (2022). **P-FLUX: A phosphorus budget dataset spanning diverse agricultural production systems in the U.S. and Canada**. *Journal of Environmental Quality*, 51, 451-461. <https://doi.org/10.1002/jeq2.20351>.

## UF/IFAS Range Cattle REC Faculty -

Dr. Brent Sellers, [sellersb@ufl.edu](mailto:sellersb@ufl.edu) - Pasture and Rangeland Weed Management

Dr. Maria Silveira, [mlas@ufl.edu](mailto:mlas@ufl.edu) - Soil and Water Science

Dr. Joao Vendramini, [jv@ufl.edu](mailto:jv@ufl.edu) - Forage Management

Dr. Philippe Moriel, [pmoriel@ufl.edu](mailto:pmoriel@ufl.edu) - Beef Cattle Nutrition & Management

Dr. Hance Ellington, [e.ellington@ufl.edu](mailto:e.ellington@ufl.edu) - Grazinglands Wildlife Specialist

Dr. Golmar Golmohammadi, [g.golmohammadi@ufl.edu](mailto:g.golmohammadi@ufl.edu) - Watershed Hydrology and Biogeochemistry

## E-News Available

Help us protect the environment and reduce expenses by receiving this and other publications by e-mail. Give us a call to sign up for e-news.

## About this newsletter

This newsletter is a publication of the UF/IFAS Range Cattle Research and Education Center (RCREC) located in South Central Florida in the heart of Florida's cattle country. Its intention is to keep you up to date on RCREC happenings, publications, research, faculty, staff and student news, and upcoming events with the goal of providing beneficial information to assist you in your beef cattle or land operation.

## Contact us

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