

UF/IFAS

Range Cattle Research & Education Center NEWS

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winter 2021

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State of the UF/IFAS RCREC Address - 2021

by Dr. Brent Sellers



We don't know what the future holds. In reflecting on 2020, we should probably start expecting the unexpected. Things were looking very good at the beginning of 2020 for many of us. Then, well, I don't think I have to tell anyone what happened next. As COVID-19 became more real across our communities, state, and nation, the way UF/IFAS and we at the center operated became drastically different. Initially, we limped in maintenance mode taking care of our animals and pastures with many of our research and extension efforts on pause. We became experts using Zoom and Microsoft Teams for virtual meetings, including job interviews and field days. Slowly, we were able to resume some research and extension activities with significant limitations. Even though we were faced with some very different circumstances in 2020, we had a successful

year at the research center.

Students

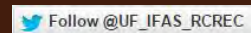
Student education is a top priority of the research center. We hosted six international interns and advised 7 PhD and 3 MS students in 2020. Three of the PhD students and one MS student completed the requirements for their degrees. Many of these students received awards during their time at the center. Elizabeth Palmer, PhD student advised by Dr. Philippe Moriel, received the American Society of Animal Science-Southern Section Joseph P. Fontenot Award and was one of four graduate students in the UF/IFAS Department of Animal Sciences to receive a scholarship from the Florida Feed Association. She also tied for 3rd place in the Graduate Student Poster competition at the



Liz Palmer

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Click on the images below to check us out on:



UF UNIVERSITY of FLORIDA
IFAS

American Society of Animal Science Annual Meeting. Leandro Vieira and Jaime Garzon also won awards at the American Society of Agronomy-Crop Science Society of America-Soil Science Society of America tri-society annual meeting. See the "Student News" section of this newsletter for details. If you would like to learn more about our current and former students, Bethany Wight of our Wildlife Ecology & Conservation Lab has written a series of blogs on each of our students: <http://blogs.ifas.ufl.edu/rcrec/>.



Dr. Joao Vendramini

In addition to faculty being recognized for our efforts, our refereed research publication and extension publication numbers for 2020 have remained strong, and I expect that the center will remain near the top of UF/IFAS departments and research centers with regards to research publications per research appointment.

The highlight of our faculty news is the hiring of Dr. Hance Ellington as our Grazinglands Wildlife Specialist. Given the pandemic, Hance began

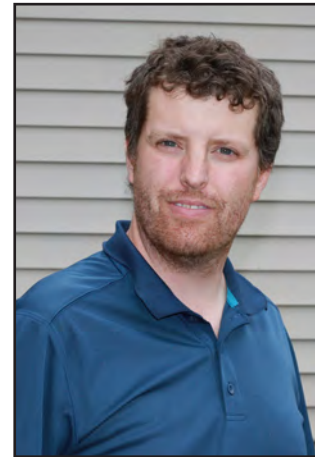
Faculty

Even in the midst of a pandemic, the RCREC faculty have had a successful year.

Dr. Maria Silveira was a co-author on one of eight publications that were selected as UF/IFAS High Impact Research Publications and she was also named Multi-state Project Chair of the multi-state project examining the beneficial use of residuals to improve soil health and protect public, and ecosystem health for a period of 5 years. Dr. Joao Vendramini received the Extension Award at the 2020 American Society of Animal Science Southern Section Meeting in January. Dr. Philippe Moriel was the recipient of two awards this past year including the UF/IFAS Richard Jones Outstanding New Faculty Award and the Christine Taylor Waddill Extension Professional Enhancement Award. Chris



Dr. Philippe Moriel



Dr. Hance Ellington

his employment working remotely from Canada until early 2021.

Looking to the Future

Although the pandemic disrupted much of our research and extension activities in 2020, we realized we must continue to plan for the future of the RCREC. Faculty met in early December to discuss updating our strategic plan for the next 5 years. During this meeting we established four strategic goals:

- 1) Attract and retain outstanding faculty and staff,
- 2) Enhance collaboration with state agencies, water management districts, conservation groups, and traditional and non-traditional clientele,
- 3) Improve infrastructure, and
- 4) Increase technology investments and applications by faculty, staff, and students.



Dr. Maria Silveira



Chris Prevatt

Prevatt received state and national awards for his extension programming efforts from the Florida Association of Agricultural Agents and the National Association of County Agricultural Agents. I was humbled by the Florida FFA Association with a Honorary State FFA Degree.

With regards to infrastructure, we hope to make significant strides improving our cattle handling facilities and upgrading our internet capabilities.

We continue to modify our action steps for these goals, and plan to have the entire strategic plan finalized by the end of the 2021 first quarter.

As 2020 drew to a close, all departments and centers were allowed to submit two priority faculty positions to IFAS administration. We have been granted permission to begin the search and screen process for a watershed hydrologist faculty position, which we feel will complement our current faculty programs; however, there is no guarantee that we will receive funding for the position due to the uncertainty surrounding the state budget.



You're Invited

We invite you to join us on October 7 for our next field day and our 80th anniversary celebration. Save the date and watch for details in the spring.

Through the years many things have changed, but one will not, our dedication to be progressive, providing the

science-based information you need for continued success, year after year.

Wishing you and yours health and prosperity in 2021.

Dr. Brent Sellers
Professor & Center Director
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Center News



Adams Ranch Endowment Annual Heifer Offer

The annual Adams Ranch Endowment Heifer Offer was held at Adams Ranch during their annual sale on Nov. 12, 2020. The two UF/IFAS Range Cattle REC Braford heifers offered this year were purchased by the Ehrhard family of the Lucky L Mitigation Bank in Kenansville, FL, strong supporters of education, science, and the natural

environment.

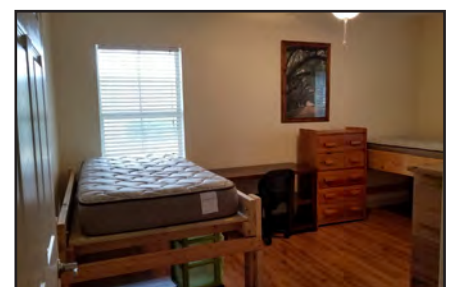
Pictured here with the heifers is Malone Ehrhard – he loves his heifers.

The Adams Ranch Endowment aims to support activities that strengthen and improve the natural resources associated with Florida's grazinglands. This endowment was established to support teaching, research, and extension activities associated with the natural resources on southern Florida grazinglands.

To strengthen the endowment, two Braford heifers from our center's herd - a Braford herd originally donated to the Center by the Adams' family in the '80s – are offered each year during Adams Ranch annual sale. Proceeds from the sale of these two heifers is matched by Adams Ranch and the full amount added to the Adams Ranch Endowment.

Graduate Student House Improvements

With fewer than usual students living at the Center, due to the COVID pandemic, we've taken the opportunity to make some improvements. This house recently received a fresh coat of paint and a deep cleaning.



Christmas Party & Annual Recognition Ceremony Highlights

In December, the following persons received recognition.

UF/IFAS Range Cattle REC 2020 Superior Accomplishment Award: Jeff Steele



In the fall, Jeff was selected by faculty and past honorees from a pool of nominees. He received a certificate and cash award in December.

Recently we learned Jeff is one of 3 people selected to receive the UF/IFAS Superior Accomplishment in the Scientific/Technical category. He will be receiving from UF/IFAS a cash award, a certificate, a commemorative coffee mug and a gift bag. Now he will be considered for the campus-wide Superior Accomplishment Award in that category.

Jeff is a senior agriculture technician who has been employed at the Center since 2001, working on the farm crew. He performs many tasks related to the farm, farm infrastructure, feral hog removal, and general night and weekend security. Over the past year, Jeff has taken initiative in managing two invasive species, coral ardisia and smutgrass. Coral ardisia is toxic to cattle and removing this species from our wooded areas is a challenging task, but necessary to protect

the well-being of our cattle herd, and he spent quite a bit of time treating smutgrass this summer to help prevent eventual spread across our pastures. Additionally, he spent hours on a loader clearing unwanted wax myrtle trees as well as trees that had fallen during previous storm events. Without Jeff we would have expended several thousand dollars to hire a contractor to do that work. Jeff also volunteered to check cattle on the weekends at the start of the COVID pandemic, making it unnecessary for our other employees to travel to the center and potentially expose themselves. Most importantly, Jeff is our security on nights and weekends, making sure that poachers stay out and cattle remain safe.

Years of Service Anniversaries



Austin Bateman, 15 years



Randy Crawfis, 10 years



Jacob Miller, 5 years

'Certificate of Appreciation' awarded to the South Florida Beef Forage Program 2020 Extension Agents:

- Lauren Butler, Co-Chair*
- Taylor Davis, Co-Chair*
- Bridget Stice* *Sara Bostick*
- Christa Kirby* *Clay Cooper*
- Laura Bennet* *Aaron Stam*
- Lindsey Wiggins* *Colleen Larson*
- Sonja Crawford* *Jonael Bosques*



Faculty with the SFBFP agents in 10/2019.

'Friend of Ona' recognition awarded to Adams Ranch of Ft. Pierce



Christmas Party & Annual Recognition Ceremony Highlights... continued

Cornhole Tournament

Participants: Caetano Sales, Andrea Dunlap, Brent Sellers, Julie Warren, Leandro Vieira, Chris Prevatt, Jaime Garzon, and Hugo Oliveira.

Winning team: Julie Warren and Brent Sellers



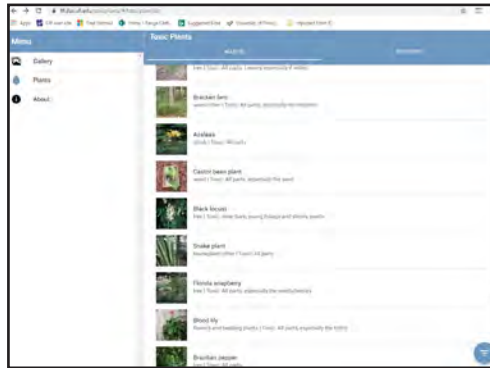
RCREC Giving

Special thanks to all the faculty, staff, and students who gave toys and food in Nov./Dec. These gifts benefited the needy in Hardee County through the Hardee Help Center.



New Online Tool Offers Assistance with Toxic Plant Identification

In December UF announced the release of a new app to help folks identify toxic plants. The app is a webpage which is accessible here: <https://ffl.ifas.ufl.edu/toxicplants/#/tabs/plant/list>.



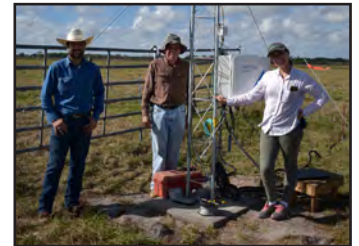
“This app focuses on the most common and the most toxic plants in Florida, considering the plants and weeds that people, pets and livestock are most likely to encounter in landscapes and other places,” said Chris Marble, an assistant professor of environmental horticulture at the UF/IFAS Mid-Florida Research and Education Center in Apopka, Florida in an interview with Brad Buck.

The site provides photos, the common and scientific names, family, category (tree, shrub, vine, etc.), toxic parts, toxic level, and gives the potential symptoms people and livestock may experience with contact. [Click here](#) to view an article with more information.

USDA LTAR Network News

In 2014, the Range Cattle Research and Education Center (RCREC) in partnership with the MacArthur AgroEcology Research Center/ Archbold Biological Station was selected as a joint site representing sub-tropical pastoral systems in the recently launched USDA Long Term Agroecosystem Research (LTAR) network. [Read more about it's start.](#) See the [9/2020 update](#).

Last week Drs. Joao Sanchez, Rosvel Bracho, and Marta Kohmann (below) successfully completed the installation of the second eddy covariance tower at the Center. This tower measures fluxes of gases between grazed pastures and the atmosphere.



tower 2



tower 1

Student News

2020 ASA-CSSA-SSSA International Annual Meeting

In November two of our students received awards at the 2020 ASA-CSSA-SSSA International Annual Meeting, which was held virtually.



Leandro Otavio Vieira Filho won 2nd place in the Soil & Water Management & Conservation grad student poster competition with his poster, "Flooding Duration and the Phosphorus Solubility in Biosolids-Amended Soils –Soil Incubation Experiment." Leandro is a Ph.D. student in the UF Soil and Water Science Department, advised by Dr. Maria Silveira.



Jaime Garzon won 1st place in the Robert F. Barned Ph.D. oral competition for his presentation "Ecosystem services of overseeding aescynomene into bahiagrass pastures in Florida" during the Forages and Grazingland division (C6) meeting with the Crop Society Sciences of America (CSSA). Jaime is a PhD Student in the UF Agronomy Department, advised by Dr. Joao Vendramini. His presentation shared partial results of his dissertation project, an ongoing experiment at Ona with Dr. Vendramini and the forage team.

UF Student Alumni News

Dr. Sutie Xu

In the fall, while working as a post-doctoral research at the University of Tennessee, Dr. Sutie Xu was offered a position at South Dakota State University. She accepted and is now

an Assistant Professor in the Department of Agronomy, Horticulture, and Plant Science at South Dakota State University, stationed in Pierre. Sutie has conducted studies on soil health, carbon dynamics, nutrient cycling, and microbial activities in a variety of ecosystems types under different climate conditions. Her future research will focus on soil health under sustainable natural and agroecosystem management and precision farming. The research will rely on interdisciplinary studies to understand the influence of anthropogenic, environmental, and biotic factors on physical, chemical, and biological processes in soils. The goal is to increase producer awareness of the importance of soil health management in agroecosystems and motivate the adoption of sustainable management strategies such as cover cropping, diversified crop rota-



tion, livestock integration, and precision nutrient management.

Sutie is a fall 2014 soil and water sciences graduate of

UF. She was advised by Dr. Maria Silveira.

CONNECT WITH US

Articles published in the Florida Cattleman & Livestock Journal:

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

Ona Reports

Dec. 2020 - 'Pre-calving nutrition of beef females' by Elizabeth 'Liz' Palmer and Dr. Philippe Moriel

Jan. 2021 - 'Potassium May Play a Role in Reducing Broomsedge Densities' by Dr. Brent Sellers and Dr. Maria L. Silveira

Feb. 2021 - 'UF/IFAS Range Cattle Research and Education Center Update' by Dr. Brent Sellers

Florida Cattle Market Price Watch

This helpful resource is provided monthly by Chris Prevatt, State

Specialized Agent II, Beef Cattle and Forage Economics. View a complete listing of past reports on our website, [click here](#).



Dr. Jose Luiz Carvalho de Souza Dias

In November, Dr. Dias left his post-doctoral researcher position with the University of Wisconsin, moving to California to join University of California Cooperative Extension as an agronomy and weed management advisor in Merced, Stanislaus and San Joaquin Counties.



Jose is a summer 2019 agronomy graduate of UF. He was advised by Dr. Brent Sellers.

New Videos

Ona Highlights 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:

'Pre-calving Nutrition of Beef Females' with Liz Palmer
11/10/2020
Run time: 38.57 minutes

'Impacts of an Invasive Ecosystem Engineer Upon Wetlands and Aquatic Communities Across a Subtropical Agroecosystem' with Wes Anderson
12/08/2020
Run time: 52.48 minutes

'Broomsedge Management in Bahiagrass Pastures' with Dr. Brent Sellers
1/12/2021
Run time: 52.48 minutes

Check out our latest blogs:

Check out our latest UF/IFAS RCREC blog posts: <http://blogs.ifas.ufl.edu/rcrec/>

Become a Bluebird Watcher!, posted 12/4 by Dr. Hance Ellington



Impacts of an Invasive Ecosystem Engineer Upon Wetlands and Aquatic Communities Across a Subtropical Agroecosystem, posted 12/11 by Wes Anderson



PROGRAM RECORDINGS

AVAILABLE - click the title to watch

Become a Bluebird Watcher sessions - 12/5, 12/12, 1/9, & field updates

Alvin C. Warnick Beef Cattle Reproductive Management Video Series - posted 11/2020

The 38th Annual Florida Cattle-men's Institute & Allied Trade Show - recorded 1/21/21

You can view all of our our past webinars, program recordings, field day videos, and other recordings on YouTube or on our website's [Virtual Classroom](#).



UF/IFAS 'Florida Moment' features the the UF/IFAS RCREC.

We were surprised and honored recently to be featured in one of UF/IFAS Florida Moment productions. [Click here](#) to check it out. Run time is 1.5 min.

Florida Moment playlist click here.

Take a video tour of he Center! [Click here](#). Run time 47.5 min.

Listen or download the latest **Joe What? Podcasts:**



Nov. 2020 - David McCullers of Crooked Lake Ranch. They discuss the opportunities to use the Hereford breed in commercial crossbreeding programs. (Run time: 11.40 min.)



Dec. 2020 - Woody Larson, of Larson Dairy in Okeechobee. A revisit to Joao's interview with Mr. Larson from May 2019. They discuss the history and current situation of dairy production in Florida. (Run time: 19.15 min.)



Jan. 2021 – Dr. Mario Binelli, an assistant professor in the UF Animal Sciences Department. They discuss puberty of crossbred beef heifers in Florida. (Run time: 19.29 min.)

These monthly podcasts can be found on:

[Podbean](#) [YouTube](#) [UF/IFAS Range Cattle REC Website](#)

UF/IFAS News

Thousands of Acres, Thousands of Possibilities

Gift announced 11/2020

A recent article by David Finnerty tells more about this generous land gift to UF. [Click here to view the article.](#)

More than 27,000 rural acres near Yeehaw Junction in Florida’s southern Osceola County has been gifted to the University of Florida to protect one of the last natural areas of its kind and to serve as a living classroom and laboratory for students and faculty throughout the university. Elisabeth DeLuca’s contribution is among the largest gifts of real estate ever to any university in the nation.

“Few things in this world are as precious — and threatened — as our untamed lands and the wild animals that live there,” DeLuca said. “We need to preserve what we can for the benefit of all of us. These acres are in good hands with the University of Florida, and it pleases me to know that UF will use them to learn more about our natural world and to train new generations of scientists and environmentalists.”

The property — which includes

DeLuca Preserve Visit

On February 1, faculty and staff from the center were joined with scientists and staff from Archbold Biological Station, Avon Park Air Force Bombing Range, US Fish & Wildlife Service, and Ducks Unlimited to discuss the various habitats and management techniques involved in the preservation of the endangered Florida Grasshopper Sparrow

cattle ranchlands, citrus groves, wetlands and forests — is one of the last refuges for the endangered Florida grasshopper sparrow, and hosts many other state and federally listed species such as the Florida panther, gopher tortoise and the red-cockaded woodpecker. The property provides a critical nature corridor between the Kissimmee Prairie Preserve State Park and the Three Lakes Wildlife Management Area. The land is also a conservation focal area for the Everglades Headwaters National Wildlife Refuge and Conservation Area. In addition to protecting threatened wildlife, UF will use the property to, among other things: measure hunting’s impact on the ecosystem to control wild boars; determine how cattle grazing affects plants, insects and animals; teach land and forest management; study water storage and conservation; and conduct student and researcher fieldwork. The site is expected to host classes ranging from plant and soil sciences to entomology and wildlife ecology. The ranch provides a centralized location for Extension-related services as well as offering a unique natural classroom for students taking part in Florida 4-H.

[Click here to continue reading this article.](#)

at the newly acquired DeLuca Preserve.



Upcoming Events

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

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

Become a Bluebird Watcher: Session 4, Nest box check / learning about bluebird ecology in the field

– February 27, 1:00 - 2:00 PM

Ona Agronomy Program Highlight with Dr. Joao Vendramini

– March 9, 11:00 - 11:45 AM

Dr. Vendramini will be presenting “The use of sunn hemp as cover crop and forage in Florida.”

Become a Bluebird Watcher: Session 5, Nest box check / bluebird diet in the field

– late-March (TBD), 1:00 - 2:00 PM

Ona Highlight featuring the South Florida Beef Forage Program (SFBFP)

– April 13, 11:00 - 11:45 AM

Guest presenters Lauren Butler and Lindsey Wiggins with the UF/IFAS Extension group, South Florida Beef Forage Program (SFBFP) will present, ‘South Florida Beef Forages Program Appetizer’ a brief summary of each of the programs they offer throughout the year.

Become a Bluebird Watcher: Session 6, Nest box check / role of birds in rangeland systems

– late-April (TBD), 1:00 - 2:00 PM



According to [FAWN](#) we had a low of 28.67 °F on 2/4 with the temperature at or below 32 °F at 2’ from 3:00 a.m. to 8:00 a.m.- air temperature readings are collected at 2’, 6’, and 30’. This was the first freeze at the Center since 1/22/20 which reached a low of 32 °F, the coldest temp of 2020. Prior to that the last freeze was 2/20/15 with a low of 28 °F.

Refereed Publications

- Cappelozza, B. I., Vedovatto, M., Ferraretto, L. F. & Moriel, P. (2020). Different profiles of fatty acids in Ca soaps on dissociation and modification by biohydrogenation in vitro. *Revista Brasileira de Zootecnia*, 49:e20200172. DOI: 10.37496/rbz4920200172
- Cooley, K. D., Sollenberger, L.E., Kohmann, M.M., Blount, A.S., Dubeux, Jr., J.C.B., Silveira, M.L., da Silva, L.S. & Aryal, P. (2020). Rhizoma peanut herbage and root-rhizome responses to extended regrowth periods. *Crop Science*, 60(5), 2802-2813. DOI: 10.1002/csc2.20236
- Ellington, E. H., Lewis, K. P., Koen, E. L. & Vander Wal, E. (2020). Divergent estimates of herd-wide caribou calf survival: Ecological factors and methodological biases. *Ecology and Evolution*, 10(15), 8476-8505. DOI: 10.1002/ece3.6553
- Gouvea, V. N., Vendramini, J. M. B., Sollenberger, L. E., Leite de Oliveira, F., Dubeux Jr., J. C. P., Moriel, P., Cecato, U., Soares Filho, C. V., Sanchez, J. M. D., Yarborough, J. K. & Kuhawara, F. (2020). Inoculant effects on fermentation characteristics, nutritive value and mycotoxin concentrations of bermudagrass silage. *Crop, Forage, and Turfgrass Science*, 6(1), e20054. DOI: 10.1002/cft2.20054
- Kohmann, M. M., Sanchez, J. M. D., Silveira, M. L., Brandani, C. B., Balbo, A., Borges, B. M. N., Ribeirinho, V. S. & Vendramini, J. M. B. (2020). Intensification enhances litter carbon and nitrogen decomposition dynamics in subtropical grazinglands. *Agrosystems, Geosciences, and Environment*, 3(1), e20075. DOI: 10.1002/agg2.20075
- Liu, L., Amorin, R., Moriel, P., DiLorenzo, N., Lancaster, P. & Peñagaricano, F. (2020). Differential network analysis of bovine muscle reveals changes in gene coexpression patterns in response to changes in maternal nutrition. *BMC Genomics*, 21,684. DOI: 10.1186/s12864-020-07068-x
- Lu, Y., Silveira, M. L., Vendramini, J. M. B., Erickson, J. E. & Li, Y. (2020). Biosolids and biochar application effects on bahiagrass herbage accumulation and nutritive value. *Agronomy Journal* 112(2), 1330-1345. DOI: 10.1002/agj2.20101
- Lu, Y., Silveira, M. L., Cavigelli, M. A., Vendramini, J. M. B., Erickson, J. E. & Li, Y. (2020). Biochar impacts on nutrient dynamics in a subtropical grassland soil: 2. Greenhouse gas emissions. *Journal of Environmental Quality*, 49(5), 1421-1434. DOI: 10.1002/jeq2.20141
- Martin, L. J., Sellers, B. A., Dias, J. L. C. S., Ferrell, J. A., Leon, R. G. & Vendramini, J. M. B. (2020). Tolerance of pinto peanut to PRE and POST herbicides. *Weed Technology*, 34(6), 870-875. DOI: 10.1017/wet.2020.82
- Moriel, P., Palmer, E., Vedovatto, M., Piccolo, M. B., Ranches, J., Silva, H. M., Mercadante, V. E. G., Lamb, G. C. & Vendramini, J. M. B. (2020). Supplementation frequency and amount modulate post-weaning growth and reproductive performance of *Bos indicus*-influenced beef heifers. *Journal of Animal Science*, 98(8)1-11. DOI: 10.1093/jas/skaa236
- Moriel, P., Vedovatto, M., Palmer, E. A., Oliveira, R. A., Silva, H. M., Ranches, J. & Vendramini, J. M. B. (2020). Maternal supplementation of energy and protein, but not methionine hydroxy analog, enhanced postnatal growth and response to vaccination in *Bos indicus*-influenced beef offspring. *Journal of Animal Science*, 98(5), 1-12. DOI: 10.1093/jas/skaa123
- Orrico Junior, M. A. P., Vendramini, J. M. B., Erickson, J., Moriel, P., Silveira, M. L. A., Aguiar, A. D., Sanchez, J. M. D., Silva, W. L. & Silva, H. M. (2020). Nutritive value and fermentation characteristics of silages produced from different sweet sorghum plant components with or without microbial inoculation. *Applied Animal Science*, 36, 777-783. DOI:10.15232/aas.2020-02027
- Palmer, E. A., Vedovatto, M., Oliveira, R. A., Silva, H. M., Ranches, J., Vendramini, J. M. B. & Moriel, P. (2020). Maternal supplement type and methionine hydroxy analogue fortification on performance of *Bos indicus*-influenced beef cows and their offspring. *Livestock Science*, 240, 104176. DOI: 10.1016/j.livsci.2020.104176
- Panhans, M. H., Mason, K. M., Mullenix, M. K., Prevatt, C. G., Moisa, S. J. & Muntifering, R. B. (2020). Cow-calf performance, forage utilization, and economics of warm-season annual baleage in beef cattle winter feeding systems. *Translational Animal Science*, 4(1), 376-384. DOI: 10.1093/tas/txz171
- Raynor, E. J., Gersie, S. P., Stephenson, M. B., Clark, P. E., Spiegel, S. A., Boughton, R. K., Bailey, D. W., Cibils, A., Smith, B. W., Derner, J. E., Estell, R. E., Nielson, R. M., Augustine, D. J. (2021). Cattle Grazing Distribution Patterns Related to Topogra-

Refereed Publications continued

phy Across Diverse Rangeland Ecosystems of North America. *Rangeland Ecology & Management*, 75, 91-103. View online: <https://doi.org/10.1016/j.rama.2020.12.002>

Silveira, M. L., Brandani, C. B., Kohmann, M. M., Erickson, J. E., Reyes-Cabrera, J., Leon, R. G., Sollenberger, L. E., Piotto, V., Quadros, D. G. & Mello, S. Q. S. (2020). Short-term effects of bioenergy cropping on soil carbon and nitrogen dynamics in a Florida Ultisol. *Soil Science Society of America Journal* 84(4), 1233-1246. DOI: 10.1002/saj2.20081

Tabak, M. A., Norouzzadeh, M. S., Wolfson, D. W., Newton, E. J., Boughton, R. K., Ivan, J. S., Odell, E. A., Newkirk, E. S., Conrey, R. Y., Stenglein, J. L. and Iannarilli, F., Erb, J., Brook, R. K., Davis, A. J., Lewis, J., Walsh, D. P., Beasley, J. C., VerCauteren, K. C., Clune, J. & Miller, R. S. (2020). Improving the accessibility and transferability of machine learning algorithms for identification of animals in camera trap images: MLWIC2. *Ecology and Evolution*, 10(19), 10374–10383. DOI: 10.1002/ece3.6692

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