

UF/IFAS

Range Cattle Research & Education Center NEWS

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IN THIS ISSUE

Pasture Management Strategies to Increase Soil Carbon Sequestration and Greenhouse Gas Mitigation

by Dr. Maria Silveira and Julian D. A. Bernal



Experimental Area

Climate-smart agriculture

You may have heard about the term “climate-smart” recently circulating on media outlets. Although it has been widely disseminated, it often comes with limited explanation on what it exactly means.

The term “climate-smart agriculture” was first introduced in 2010 in a report by the Food and Agriculture Organization (FAO) entitled “Food Security and Agricultural Mitigation in Developing Countries: Options for Capturing Synergies,” which was launched at the Barcelona Climate Change workshop held in November of that year. One of the conclusions of this report was that while farming was adversely impacted by climate change, it also contributed to changes in global climatic patterns. The report also introduced the concept of climate-smart agriculture as mean to deal with the dual challenge of addressing agricultural greenhouse gas emissions and crop productivity.

Since it was first launched in 2010, the concept of climate smart agriculture has evolved to address the concerns of multiple stakeholders. In the U.S., the concept of climate smart agriculture has been endorsed by many local, state, and federal entities, including USDA, NRCS, and various for profit and non-profit organizations. Climate smart strategies are often associated with farming, ranching, or forestry management practices that reduce greenhouse gas emissions or sequester carbon while also maintain crop productivity. It typically includes 3 objectives: 1. increasing food security through increases in productivity and incomes, 2. building resilience and adapting to climate change, and 3. reducing greenhouse gas emissions compared to a business as usual or baseline scenario. Since these 3 objectives may not always be complimentary, there is a general recognition that possible trade-offs may exist. Also recognized is the importance of regional/locally specific solutions to address the dual challenges of increasing productivity and greenhouse gas emission reductions.

However, one of the main criticisms of any climate smart strategy is the lack of a clear methodology and/or a formal conceptual frame or tools to implement the approach. In general, there is no standardized guidance on

Center News	4
Faculty & Staff News	5
Student News	6
Upcoming Events	7
Connect With Us	8
UF News	10

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how to define a climate smart practice, or prioritize amongst objectives, to develop the site specific solutions. The relative rapid dissemination of the climate smart concept along with considerable variations in its interpretation has been a major source of controversy and skepticism around the concept.

The sustainability of the beef industry in the U.S.

The sustainability of the beef industry in the U.S. is a complex issue, balancing environmental challenges with significant economic, social, and food security benefits. The beef cattle industry in the U.S. plays a critical role in feeding a growing population and supporting rural economies. It also supports millions of jobs across farming, processing, and retail sectors, contributing billions to the U.S. economy. However, issues related to the overall sustainability of the beef industry have become increasingly contentious both nationally and internationally. Public misperception and lack of standardized metrics and assessment framework also contribute to this tension. Recent estimates suggest the beef cattle industry in the U.S. accounts for 52% of greenhouse gas emissions from animal agriculture and 25% of all agricultural emissions (White and Hall, 2017). However, when all greenhouse gas emission sources are considered, results from U.S. Beef Checkoff life-cycle analysis suggest that beef cattle production in the U.S., including all feed production, electricity use, fertilizer use, and fossil fuel combustion, represents 3.3% of total U.S. greenhouse gas emissions. Research also suggests that among the different beef cattle production sectors, the greatest greenhouse gas emissions contributions are associated with cow-calf operations, mainly due to methane emissions via livestock enteric fermentation.

Efforts are being made to enhance the sustainability of beef production through innovations such as im-

proved feed efficiency, better grazing management, and the adoption of climate smart practices. Advances in technology are helping reduce water usage, greenhouse gas emissions, and energy consumption, aiming for a balanced approach to beef production.

Soil carbon sequestration

Soil carbon sequestration is an important strategy to enhance the sustainability of the U.S. beef industry. This process involves capturing atmospheric carbon dioxide and storing it in the soil. It is accomplished by 1) increasing crop yields through the use of management practices such as fertilization, irrigation, and grazing management, and 2) reducing decomposition of existing or new soil organic matter. Increasing carbon storage in soils offers significant accompanying benefits such as improved soil and water quality, reduced soil erosion, increased water conservation and resilience to drought, and greater crop productivity.

Our previous research demonstrated that native and improved pastures can retain significant amounts of carbon in the soil. For instance, our data demonstrated that bahiagrass pastures can sequester as much as -900 lbs of CO₂-C per acre⁻¹ per month while native rangeland can reach values as high as -320 lbs CO₂-C acre⁻¹ month⁻¹. On a yearly basis, both ecosystems act as strong carbon sinks sequestering between -1224 lbs CO₂-C acre⁻¹ year⁻¹ (native rangelands) and -2732 lbs CO₂-C acre⁻¹ year⁻¹ (bahiagrass pastures). Although we already provided scientific evidence that pastures in Florida are strong carbon sinks, it still is unclear to what extent management can shift carbon balance towards greater sequestration and/or reduction in greenhouse gas emissions. There is still debate in the scientific community as to what level carbon sequestration can be augmented by conservation practic-

es. Some argue that certain practices have been oversold while others may have significant trade-offs in terms of crop productivity and/or other ecosystem services such as biodiversity, water quality, etc. The impact of a specific management practices on carbon balance is often climate-dependent and also affected by soil type so a one size fits all approach is likely unrealistic. Another key question that remains unanswered is the cost and economic benefit associated with climate smart practices.

Field study at Ona

To address these concerns, we designed a field study at the UF/IFAS Range Cattle REC in Ona to: 1. quantify important environmental benefits associated with perennial pastures in Florida, 2. evaluate potential tradeoff associated with the adoption of climate-smart management strategies on pasture productivity, soil carbon sequestration, and greenhouse emissions, and 3. examine the economic returns of different management strategies. Treatments consist of a combination of cover crop, soil amendments, and nutrient manage-



Greenhouse gas data collection.



Soil sampling.



Biochar application to Bahiagrass pasture.



Chamber adaptation for gas collection.

ment strategies.

The following treatments were evaluated:

1. Bahiagrass monoculture
2. Bahiagrass overseeded with a mix of annual legumes (sunn hemp - *Crotalaria juncea* and aeschynomene - *Aeschynomene americana*)
3. Bahiagrass overseeded with perennial legume (perennial peanut - *Arachis glabrata*)
4. Bahiagrass fertilized with Inorganic N (ammonium nitrate at 200 lb N/A)
5. Bahiagrass fertilized with organic N (biosolids at 200 lb plant available N/A)
6. Bahiagrass amended with biochar (20 Mg ha⁻¹).
7. Bahiagrass amended with basaltic rock (10 and 20 Mg ha⁻¹)

Plots were overseeded in June 2023 and reseeded again in September 2023 and July 2024 due to poor germination. Inorganic fertilizer and biosolids were land applied in September 2023 and July 2024. Biochar was applied in December 2023 and July 2024. Basaltic rock was applied in March and July 2024.

Forage evaluation was conducted in September 2023, June 2024, and September 2024. Measurements in-

cluded herbage mass, ground cover, and frequency of the desirable grass species. Forage samples were analyzed for crude protein (CP), in vitro digestible organic matter (IVDOM), and tissue mineral concentrations.

Soil samples (0-4, 4-8, and 8-12 inches) were collected in June 2023 and were thoroughly characterized. Analyzes included bulk density, soil C, N, and Mehlich-3 extractable nutrients and soil health using the comprehensive Assessment of Soil Health (CASH) framework.

Greenhouse gas emissions have been constantly monitored using the static chamber technique. Gas samples have been collected by-weekly since the beginning of the experiment in June. Soil moisture sensors were deployed in July 2024.

Preliminary Results

Treatments intended to evaluate the impacts of native species failed due to poor seed germination. In December 2023, this treatment was replaced with biochar. Two additional treatments (basaltic rock applied at 10 and 20 Mg ha⁻¹) were imposed in March 2024.

Greenhouse gas fluxes recorded in the current study were within the range reported in previously published studies. Our preliminary results demonstrated that biosolids resulted in modest but significant increases in daily and cumulative annual CO₂ emissions relative to control treatments (25.4 Mg ha⁻¹ yr⁻¹ vs. 19.4 Mg ha⁻¹ yr⁻¹, respectively; $P < 0.001$). Compared to control (bahiagrass alone), other treatments showed no effect on CO₂, N₂O, or CH₄ fluxes. Larger daily fluxes were associated with periods of greater rainfall and temperature. There was no treatment effect on mean daily CO₂, CH₄, and N₂O fluxes.

Nitrogen increased forage production by 129% (average of 5897 lbs/A for inorganic N and biosolids treatments vs. 2360 lbs/A for other treatments; $P < 0.001$). Other treatments showed no agronomic benefits. The proportion of legume in the mix was relatively small (3-4% of total ground cover) because of the short period between plot establishment and forage evaluation.

Conclusions

Results of the 1-yr study demonstrated that management practices such as N addition can increase pasture

productivity; however, no conservation treatment was effective at reducing greenhouse gas fluxes compared to bahiagrass alone. Additional years of data collection are necessary to understand the role of pasture management on carbon sequestration and climate change mitigation. Our data also demonstrated that adoption of certain conservation practices such as the use of native grass species and overseeding legumes into established pastures may be impractical/uneconomical for commercial ranchers.

Although extensive literature supports the idea that the use of legumes and proper soil fertility management confer multiple agronomic and environmental benefits, the cost

associated with these management practices and the monetary benefits of soil and plant improvements and ecosystem services are unknown. Economic benefits from climate smart practices can be a result of improved forage production, greater cattle weight gains, lower fertilizer costs, and lower cost of weed control due to maintenance of healthy forage stands. Enhancing soil carbon storage can also provide greater system resilience (e.g., lesser effect of drought or adverse climate events). We expect this project will help us understand the extent that pastures in Florida can be manipulated to increase carbon sequestration and climate change mitigation.

Acknowledgement

We thank the Florida Cattle Enhancement Board for providing funds to support this project. This project is also partially supported by the USDA, Long-Term Agroecosystem Research (LTAR) network. This research was a contribution from the Long-Term Agroecosystem Research (LTAR) network. The LTAR network is supported by the United States Department of Agriculture (USDA).

* * *

Questions?

Contact Dr. Silveira at mlas@ufl.edu.

Julian is a MS student, advised by Dr. Silveira.

Center News

Forage Workers Tour - 10/1

A Forage Workers Tour was held in October for faculty, staff, students, and Extension agents. Forage teams from across the state provided research and project updates at the UF/IFAS Range Cattle REC in Ona and enjoyed an evening tour and meal. The following morning attendees visited Lightsey Cattle Company and toured their ranch in Lake Wales. There were about 35 in attendance.



Annual Braford Heifer Offer - 11/14

Thank you so much to Adams Ranch and to Don Quincey, purchaser of our 2 Braford heifers at the Adams Ranch Sale in Ft. Pierce. They sold for \$3,000 each. The total sale will be matched by Adams Ranch and the full amount

(\$12,000) will be added to the Adams Ranch Endowment.

This endowment was generously established by the family in 2015 to support UF/IFAS RCREC teaching, research, and Extension activities that strengthen and improve the natural resources associated with South Florida's grazinglands.

These two UF/IFAS RCREC heifers are descendants from the original herd donated to the Center in the 1980's by the Adams' family.



Notable Weather Events -

Hurricane Helene (Sept. 25-27) made landfall as a category 4 storm on 9/26 at 11:10 p.m. in Florida's Big Bend (10 mi WSW of Perry, FL). Our worst weather in Ona was 9/26 in the after-

noon and early evening as it passed by Tampa in the Gulf of Mexico. At it's closest point, the eye was approximately 115 miles offshore from Tampa (this distance was noted at the 6 p.m. advisory). Top wind gust recorded by FAWN, 45 mph; total rainfall 1.38". Hardee Co. government offices and the Center were closed on 9/25 due to the threat of high winds and tornadic activity in the outerbands of the very large system.

Hurricane Milton (Oct. 9-10) made landfall on 9/9 at 8:30 p.m. near Siesta Key, FL as a category 3 storm with maximum sustained winds of 120 mph. Our worst weather at the UF/IFAS RCREC in Ona was on the evening of 9/9 as the storm passed over us. The edge of the eye passed over the Center around 10:15 p.m. Total rainfall associated with Milton



Center News (continued)

was 2.93" and the maximum wind gust recorded was 81 mph. According to [FOX 13 News](#) the passage of Hurricane Milton caused the most tornado warnings ever issued in a single day in Florida. Hardee County government offices and the Center were closed from 10/9 - 10/11. Power was restored on 10/12. The Center had minor damage to a few buildings, a few broken power poles, and many small limbs down, but overall the Center fared well.

Group Visit - 11/20

Kept inside by the threat of rain, Leadership Desoto visitors were able to learn about the work being done by some of our programs and a little about our Center's history.

Here, MS student Julian D. A. Bernal shares about climate smart agriculture.



Faculty News

Dr. Maria Silveira - Soil Science Society of America (SSSA) Fellow Fellow is the highest recognition bestowed by the Soil Science Society of America. Members of the Society nominate worthy colleagues based on their professional achievements and meritorious service. Up to 0.3



percent of the Society's active and emeritus members may be elected Fellow. The award consists of a certificate, a complimentary ticket to the award ceremony, and SSSA Fellow pin.

Attending the ASA/CSSA/SSSA meeting in San Antonio, Texas, Nov 10-13 were (L to R) Namrata Ghimire, Dr. Maria Silveira, Joao Lazarin, Dr. Joao Vendramini, and Nikitha Reddy Kovvuri. Missing from the photo is Julian Bernal.



Multi-State Group Hosted

Drs. Philippe Moriel and Joao Vendramini hosted the USDA Multi State Group S1093: Management Systems for Beef Cattle Reared in Subtropical and Tropical Environments in Orlando, Florida on October 31 and November 1, 2024.



Dr. Maria Silveria's program & UF/IFAS RCREC featured in [CSA NEWS](#)

The USDA Agricultural Research Service Long-Term Agroecosystem Research (LTAR) Network is working collaboratively to address challenges including food insecurity, climate change, environmental degradation, and rural prosperity issues. Learn more about the strategies and impacts, [click here](#).



Staff News

STAFF CHANGES

Farm Manager Retires

In August, our long-time farm manager/research coordinator Dennis Kalich retired. Dennis came to work at the Center from Texas in 1993 and worked under the leadership of 3 center directors during his 31 years of service – Dr. Findlay Pate, Dr. John Arthington, and Dr. Brent Sellers. We wish him all the best on this new adventure!



Dennis with wife, Audry, receives framed photo gift from Dr. Sellers.



It was a pleasure to have many RCREC retirees attending the party. Among them were Jean Triebwasser, Toni Wood, Shirley Searcy, Carol Piacitelli, Dennis Kalich, Dr. Paul Mislevy, and (retired from UF/IFAS GCRC) Jose Moreno.

Staff News (continued)

Biological Scientist Departs

On Sept. 30 a farewell social was held to say goodbye and best wishes to Dr. Hiran M. S. da Silva, who has served as the Forage Extension Lab manager and biological scientist for Dr. Joao Vendramini's forage program



Hiran surrounded by UF/IFAS RCREC faculty, staff, and students at his farewell gathering.

since 2016. He has moved to Raleigh, North Carolina where he plans to work as a research associate at North Carolina State University. ***

New Farm Supervisor Hired- Introducing Clay Newman



Hello! I am a Hardee County native; blessed to have a wonderful wife and 3 awesome kids. I am very active in my local

church and serve as a deacon. In my teen years I was very involved in 4-H and later in High school I joined FFA showing swine and cattle, and I was an officer for two years. I graduated from Hardee Senior High in 2005. I always knew I wanted to pursue a career in agriculture and in 2006 I joined the UF/IFAS Range Cattle Station family. I started working under Dr. Joao Vendramini in his agronomy program and soon after transferred to the farm crew. After a short time, I was promoted to Assistant Herdsman. After leaving the station to work in the private sector for a few years, I returned to the

Center in 2022. The few years in the private sector allowed me the opportunity to grow and have the experience needed for the farm supervisor roll. As farm supervisor I look forward to implementing new technologies to improve land management and recordkeeping while supporting our faculty, staff and student's research and extension needs.

Student News

CONGRATULATIONS!

Alex Furst Defends MS Thesis and Plans to Graduate in December



Alex's thesis title is "Incorporating population estimates into the active management of Argentine black and white tegu in Charlotte County,

FL, USA." In his research he sought to estimate the abundance of Argentine black and white tegus (*Salvator merianae*) in the core introduction area of Charlotte County, FL, assess the potential tegu expansion in the peripheral area of Fred C. Babcock/Cecil M. Wildlife Management Area, and determine potential landcover overlaps between tegu and native wildlife that might be prey or competitors of tegus in Fred C. Babcock/Cecil M. Wildlife Management Area. He used a combination of live traps in the core introduction area and camera traps in the peripheral area. He generated population estimates using a robust open removal model framework with tegu removal data collected from 2019 - 2024. There were 492 tegus removed from February 2019 to August 2nd, 2024. Tegu abundance decreased in 2019, followed by a stable trend from 2020-2023, with an increasing trend seen in 2024. He deployed a network of trail cameras in the peripheral area to capture tegu observations and gather occupancy data on wildlife that would face impacts from tegu presence. He identified

landcover types that would likely see tegu and native wildlife interactions, and therefore outlined locations for future removal efforts to mitigate impacts. The estimates of abundance and spatial spread of tegus in Charlotte County will be informative for future management efforts and will help assess the invasion status of tegus in the county.

After graduation, Alex plans to return to the Nonnative Program with the Florida Fish and Wildlife Conservation Commission as the Rules and Risk Assessment Coordinator. He'll be developing and implementing risk screening tools for the assessment of nonnative fish and wildlife and outline future high priority invasions.

Alex is advised by Dr. Hance Ellington, UF/IFAS RCREC, Grazinglands Wildlife Specialist.



In August, Julian D. Avila Bernal was awarded an UF/IFAS Graduate Student Travel Grant which helped him to attend the ASA/CSSA/

SSSA 2024 meeting in San Antonio, Texas in Nov.

Julian is a MS student under the advisement of Dr. Maria Silveira.

STUDENT ACTIVITIES



On Oct. 4, Seyed M. B. Seighalani, Julian D. Avila Bernal, and Nikitha Reddy Kovvuri took part in the UF/IFAS Gulf Coast Research and Education Center's Inter-REC Competition.

Student News (continued)

ACTIVITIES (Continued)



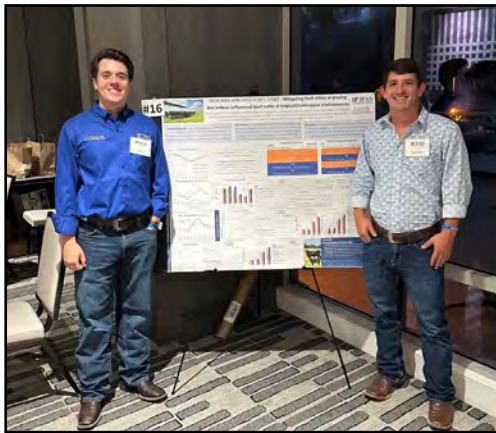
UF/IFAS RCREC staff and students participated in the Environmental Stewardship Day on Nov. 7 at Archbold Biological Station in Venus, FL and Buck Island Ranch. Attending from the Center were Saba Shaghghi Khajehdehi, Seyed M. B. Seighalani, Drilon Voca, Mohamed Khalil Meliane, Nikitha Reddy Kovvuri, Julian D. A. Bernal, Mike Trevino, and Namrata Ghamire. During the event Seyed presented, 'Evaluating Agricultural Best Management Practices on Groundwater quality in subtropical grazinglands of Florida.' Posing for a picture at top right, with Saba, Seyed, and Nikitha is Dr. Amartya Saha who is with Archbold.

* * *

Oct. 31 - Nov. 1, Vinicius de Souza Izquierdo (PhD student) and Conner Crawford (MS student) attended the 10th Annual UF/IFAS Animal Sciences Graduate Symposium in St. Augustine, FL.



Vinicius presented, 'Mitigating heat stress in grazing *Bos indicus*-influenced beef cattle in tropical/subtropical environments' and won 2nd place.



Both he and Conner are advised by Dr. Philippe Moriel.

* * *

On October 17th, Julian D. A. Bernal was a speaker at the American Association of Environmental Engineers and Scientists (AAEES) Autumn Summit, an online event. He presented about climate change, climate-smart agriculture and opportunities to improve C estimates.

Upcoming Events

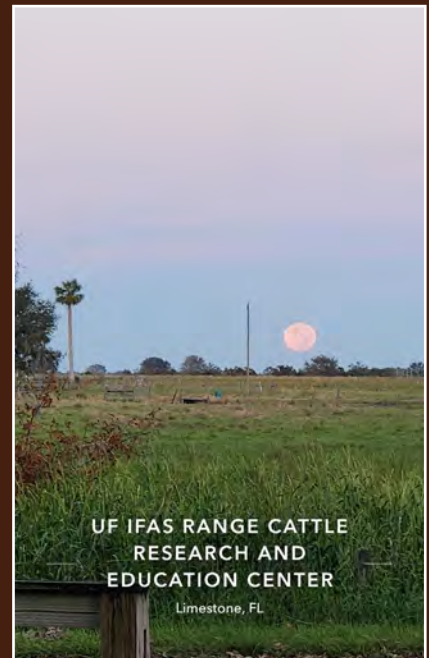
View our online calendar for more info on events and links to register:
<http://rcrec-ona.ifas.ufl.edu/calendar-of-events/>

Ona Highlight - 'Groundwater modeling, quantity, and quality'
 with Dr. Golmar Golmohammadi
 - Dec. 10, 11:00 - 11:45 AM

Cattle Management for Women
 18724 Hancock Farm Road, Dade City
 Space is limited. Registration is \$40.
 - Dec. 12, 9:00 AM - 3:00 PM
 Learn more & register on Eventbrite.

Florida Cattlemen's Institute and Allied Trade Show
 Okeechobee Agri-Civic Center, 4601 Hwy 710 E, Okeechobee
 Registration is \$5, includes lunch.
 - Jan. 23, 8:30 AM - 3:30 PM
 Learn more & register on Eventbrite.

Field Day - UF/IFAS RCREC
 - April 17, 8:00 AM - 3:00 PM
 Research presentations, field tour, learn about student research, and enjoy a steak lunch.
 Registration opens Feb. 1.
 Questions, contact us at 863-735-1001 or ona@ifas.ufl.edu

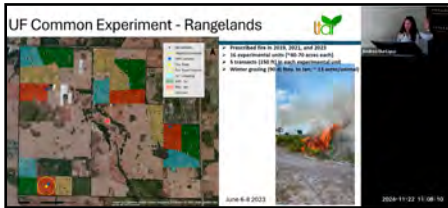


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 Limestone, FL

CONNECT WITH US

Ona Highlight Recordings

Save the date and join us for an upcoming Ona Highlight by Zoom broadcast. 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:

August 2024
[Florida Cattlemens Association](#) guest presenters - Pres. Dale Carlton and Pres. Elect Rick Moyer

September 2024
[‘An Overview of the Cattle Market & Planning for the Future’](#) - Hannah Baker

October 2024
[‘Probiotic Supplementation for Beef Females’](#) - Dr. Philippe Moriel

Ona Reports - published in the Florida Cattleman & Livestock Journal:

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



September 2024
 ‘Movement Behavior of Coyotes in Florida’s Rangelands’ - Dr. Hance Ellington

October 2024
 ‘The Cost of Keeping an Open Replacement Heifer’ - Hannah Baker

November 2024
 ‘Probiotic Supplementation for Beef Heifers’ - Dr. Philippe Moriel

Caught on Camera:

This feature is assembled by the UF/IFAS RCREC Rangeland Wildlife Ecology Program with images collected from RCREC game cameras mounted throughout the property near Ona, FL.

View this and all previous editions on our website: [click here](#).



Florida Cattle Market Update - published in the Florida Cattleman & Livestock Journal:

View these on Hannah’s webpage: <https://rcrec-ona.ifas.ufl.edu/about/directory/staff/hannah-baker/>

This is a new monthly feature provided by Hannah Baker, state specialized extension agent II in beef and forage economics. At the link above see ‘Florida Cattle Market Update’ dropdown menu. Questions? Contact Hannah at h.baker@ufl.edu or 863-374-7051.

August 2024
 ‘Calf Prices & Supplies’

September 2024
 ‘Seasonality Price Trends in Florida’

October 2024
 ‘Still No Sign of Heifer Retention’

Recent Presentation available for viewing on Hannah’s page:

Winter Supplementation Program held September 19 in Kenansville.
 ‘Economics of Winter Supplementation: How the Present Affects the Future’



CONNECT WITH US (continued)

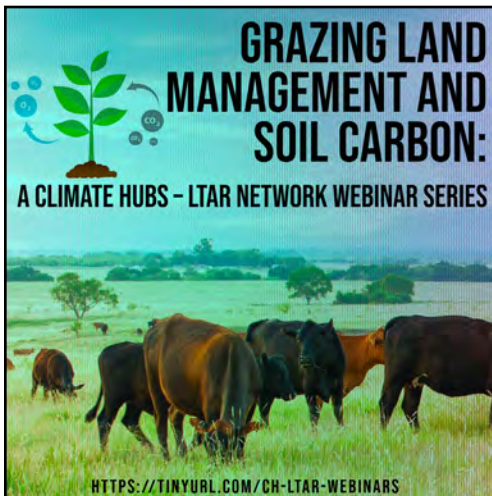
New Video

Dr. Hance Ellington spoke at the Wild Hog Management Workshop that was held at the UF/IFAS Range Cattle Research and Education Center on Aug. 23, 2024.

View his presentation - [‘Invasive Wild Pigs in Florida: The what, the why, the how’](#).



* * *



Held at 12:00 - 12:45 pm CT / 1:00 - 1:45 pm ET.

Dec. 16, webinar 11: “Depth Distribution of Soil Organic Carbon and Nitrogen Fractions in a Tallgrass Prairie in Oklahoma” with Dr. Alan Franzluebbers, North Carolina State University

See details and register: <https://ltar.ars.usda.gov/2024/07/12/ch-ltar-webinar-series-2024/>

A South Florida Beef Forage Program Event

DECEMBER 12

CATTLE MANAGEMENT FOR WOMEN

UF IFAS Extension
UNIVERSITY of FLORIDA

Sprayer calibration, Forage Testing, Planting & Economics, Forage Management & Tour

\$40 Includes lunch & resources

9:00-9:30 CHECK-IN
CONCLUDE BY 2:30

Must pre-register
Limited to 30 participants

<https://cmw2024.eventbrite.com>

Information:
Laura Bennett
352-518-0156
laurahbennett@ufl.edu

Hancock Seed Co.
18724 Hancock Farm Road
Dade City, 33523

HANCOCK SEED CO.

The University of Florida is committed to providing universal access to all of our events. For disability accommodations such as sign language interpreters and listening devices, please contact Laura Bennett at least 2 weeks in advance. Advance notice is necessary to arrange for some accessibility needs. 352-518-0156

Refereed Publication

Boughton, E., Silveira, M. L., Swain, H., DeLong, A., Sclater, V., Azad, S., Bracho, R., Saha, Amartya, & Sonnier, G. (2024) The LTAR Grazing Land Common Experiment at Archbold Biological Station-University of Florida. *Journal of Environmental Quality*, 53,6, 802-813. <http://doi.org/10.1002/jeq2.20593>

DeLong, A. N., Friedrichsen, C., Boughton, E. H., Swain, H., Silveira, M., & Sellers, B. (2024) Collaborative grazing land science: using the nominal group technique (NGT) to facilitate decision making. *Rangelands*, 46, 155-162. <https://doi.org/10.1016/j.rala.2024.05.005>

Izquierdo, V. S., Cappellozza, B. I., Silva, J. V. L., Santos, G. C. M., Miranda, A., Bittar, J. H. J., Pickett, A., Mackey, S., Cooke, R. F., Vendramini, J. M. B., & Moriel, P. (2024) Maternal pre- and postpartum supplementation of a *Bacillum*-based DFM enhanced cow and calf performance. *Journal of Animal Science*, 102, skae110 (in progress) <https://doi.org/10.1093/jas/skae110>

Refereed Publication (continued)

Moriel, P., Vedovatto, M., Izuierdo, V., Palmer, E. A., & Vendramini, J. M. B. (2024) Maternal prepartum supplementation of protein and energy and body condition score modulated the performance of *Bos indicus*-influenced cow-calf pairs. *Animal Reproduction Science*. 262, 107433. <https://doi.org/10.1016/j.anireprosci.2024.107433>

Silveira, M. L., da Cruz, P. J. R., Vendramini, J. M. B., Boughton, E., Bracho, R., & Cardoso, A. S. (2024) Opportunities to increase soil carbon sequestration in grazing lands in the southeastern USA. *Grassland Research* <https://doi.org/10.1002/glr2.12074>.

Vieira, L. O., Silveira, M. L., Kohmann, M. M., Sollenberger, L. E., Sanchez, J. M. D., Cardoso, and A. S., and Ricken E. C. (2024) Agronomic impacts of new regulations governing land application of class B biosolids in Florida. *Agronomy Journal* 116, 141-152. DOI: 10.1002/agj2.21510.

University of Florida News

Recent UF news you may find interesting. Click the title to view the full article or visit <https://news.ufl.edu/> to learn about all the latest happenings.

[Announcement of University of Florida Presidential Search Committee](#) - 10/29/24 by Mori Hosseini, Chair, University of Florida Board of Trustees

"I am pleased today to appoint and introduce the members of the University of Florida Presidential Search Advisory Committee. The members are a distinguished group representing the UF Board of Trustees, student body, faculty, administration, alumni and other stakeholders and supporters of the University of Florida." - [click here to continue](#)

[Campus Leader to Serve as New UF College of Agricultural and Life Sciences Dean](#) - 10/31/24 by Megan Winslow

"The University of Florida has selected Kati Migliaccio, Ph.D., UF/IFAS Department of Agricultural and Biological Engineering chair, as the new College of Agricultural and Life Sciences dean. She will assume her new role Jan. 1." - [click here to continue](#)

UF/IFAS Range Cattle Research and Education Center Faculty -

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

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

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

[Dr. Philipe Moriel](#), pmoriel@ufl.edu - Beef Cattle Nutrition & Management

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

[Dr. Golmar Golmohammadi](#), g.golmohammadi@ufl.edu - Hydrology and Water Quality

[Hannah Baker](#), h.baker@ufl.edu - Beef Cattle and Forage Economics

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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. Our goal is to keep you up to date on RCREC happenings, publications, research, faculty & student news, upcoming events and bring you beneficial information you can use in your beef cattle or forage operation.

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