

### Bermudagrass Renovation Demonstration Trial

by Drs. Joao Vendramini and Maria Silveira



Bermudagrass (*Cynodon dactylon*) is one of the most important species in the southeastern USA with about 20 million acres of planted areas for livestock grazing and hay. Some of the bermudagrass cultivars used for grazing, hay, or silage production in Florida includes Coastal, Tifton 85, Alicia, Jiggs, Russell, Tifton 44, and Mislevy.

Forage and beef cattle producers in Pasco Co., FL had the perception that bermudagrass hayfield production declines every 5 years and disking the hayfields periodically would renovate the field and increase forage production. There was a misperception that the decline in forage production was due to soil compaction due to frequent traffic of machines for forage harvest. However, there is strong evidence from research projects conducted at the UF/IFAS Range Cattle Research and Education Center that pasture disking does not increase forage production, and it may actually decrease production. In addition, research projects have demonstrated that one of the main causes for a decrease in production

and persistence of bermudagrass hayfields in Florida was insufficient potassium fertilization and harvest practices.

In association with Ed Jennings, former Livestock Extension Agent in Pasco Co., we conducted an on-farm demonstration to evaluate the effects of disking and fertilization in a Tifton 44 hay field. A Tifton 44 hay field with declining production and persistence was identified by a producer and 10 acres selected for the trial. Half of the area (5 acres) was disked with a tandem disk 3 times and rolled, as recommended by the producers. The area was disked on February 2nd. The other half of the area was not disked. The entire area was fertilized with 300 lb/acre of 21-00-21 on February 23rd.

The forage production and nutritive value in the hayfield was evaluated

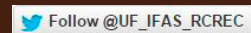


Disked

Non-disked

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on May 2nd and September 15th.

Forage production was 2.5 times greater in the non-disked than disked hayfield in the first harvest (Table 1). In the second harvest, the forage production was still 1.2 times greater for the non-disked than disked area. Considering the 2 harvests, the non-disked area produced a total of 7,000 lb DM/acre versus 5,200 lb DM/acre for the disked area.

The disked area had greater crude protein and TDN in the first harvest (Table 1) because the forage was from new plants germinating from the rhizomes and tops, while the plants in the non-disked area were established and had greater proportion of stems and older tissues. There was no difference in nutritive value in the second harvest. After the second harvest, the ground cover was evaluated and there was 93 vs. 82% bermudagrass ground

cover in the non-disked vs. disked area.

This extension demonstration proved that disking hayfields for renovation purposes decreases forage production, increases cost due to disking, and increases the chances of soil erosion and nutrient loss. Proper fertilization, primarily with potassium, is an effective management practice to increase bermudagrass

forage production and persistence. It is expected that approximately 35 forage producers and 7,000 acres of bermudagrass hay production in Pasco, Sumter, Citrus, Hernando, and Hillsborough counties were impacted by this educational effort.

Questions, contact: [Dr. Vendramini at jv@ufl.edu](mailto:Dr.Vendramini@ufl.edu) or 863-735-1314 ext. 205.

Treatment	Harvest 1			Harvest 2		
	Forage Production (lb DM/acre)	CP (%)	TDN (%)	Forage Production (lb DM/acre)	CP (%)	TDN (%)
Non-disked	1,800	11.8	53	5,200	15.8	53
Disked	700	17.4	57	4,500	15.3	53

## 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

Mar. 2021 - 'The use of sunn hemp as cover crop and forage in Florida' by Dr. Joao Vendramini

Apr. 2021 - 'Boosting precalving nutrition of beef cows in Florida' by Dr. Philippe Moriel and Liz Palmer

May 2021 - 'Building on Past Achievement and Looking Forward: A closer look at calf loss' by Dr. Hance Ellington

#### Florida Cattle Market Price Watch

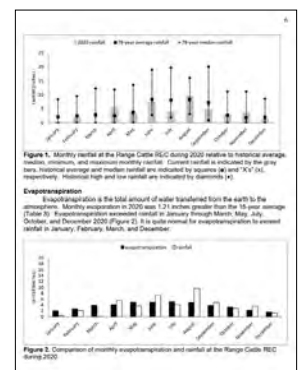
This helpful resource is provided monthly by Chris Prevatt, State Specialized Agent II, Beef Cattle and Forage Economics. View a complete listing of past reports on our website, [click here](#).



### Climatological Report 2020

View this and reports through 2000 on our website at: <http://rcrec-ona.ifas.ufl.edu/publications/>

This annual research report presents a summary of weather conditions observed during 2020 at the Range Cattle Research and Education Center (RCREC), located in Ona at 81o 56.406'W and 27o 23.733' N in south central Florida approximately 45 miles (72 km) east of the Gulf of Mexico and 100 miles (160 km) west of the Atlantic Ocean. Observations have been collected since June 1942.



**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:

'Cull Cow Considerations' with Dr. Todd Thrift  
2/9/2021

Run time: 58.07 minutes

'The use of Sunn Hemp as a Cover Crop and Forage in Florida' with Dr. Joao Vendramini  
3/9/2021

Run time: 29.12 minutes

'A SFBFP Appetizer' with guest presenters Lauren Butler and Lindsey Wiggins  
4/13/2021

Run time: 36.35 minutes

'Identifying predators involved in livestock loss' with Dr. Hance Ellington  
5/11/2021

Run time: 47.57 minutes

**PROGRAM RECORDINGS**

**AVAILABLE** - click the title to watch

**Become a Bluebird Watcher sessions**

Session 4, 2/27/21- Checking nest boxes and nest development

Session 5, 3/27/21 - Nest box check/nesting development

Session 6, 5/15/21 - Nest box check/role of birds in rangeland systems

**Alvin C. Warnick Beef Cattle Reproductive Management Video Series** - final videos added 5/18/21

'Heat Detection'

'Artificial Insemination for Beef Cattle'

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



Feb. 2021 - Dr. Nicolas DiLorenzo, an associate professor at the UF/IFAS North Florida Research and Education Center in Marianna. Dr. DiLorenzo talks about methane emissions in beef cattle and gives an update on the latest Florida Bull Test. (Run time: 21.48 min.)



Mar. 2021 - Jim Strickland of Blackbeard's Ranch in Manatee County and the Vice Chairman of Florida Conservation Group. They discuss the importance of conservation programs in Florida. Originally released June 2017. (Run time: 14.52 min.)



Apr. 2021 - Dr. Adegbola Adesogan a professor in the UF/IFAS Animal Sciences Department and the director of the Feed the Future Innovation Lab for Livestock Systems in Gainesville. They discuss the labs current and future activities. (Run time: 10.38 min.)



May 2021 - Dr. Todd Thrift an associate professor in cow-calf management, beef cattle nutrition, and stocker feedlot management in the UF/IFAS Animal Sciences Department in Gainesville. They discuss management and marketing options for cull cows in Florida. (Run time: 17.59 min.)

These monthly podcasts can be found on:

[Podbean](#)

[YouTube](#)

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

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](#).

## Faculty News

### UF/IFAS RCREC High Impact Research Publications Announced by Brent Sellers

In 2020, UF/IFAS Range Cattle REC faculty published 37 peer-reviewed articles in scientific literature. Each year faculty select 1 to 2 articles, published within the last 2 years, they consider to have high impact in science, agricultural production, human welfare, the environment, communities and the economy, etc. These high impact publications are recognized on the Dean of Research website and at the annual UF/IFAS Dean of Research Awards Ceremony. At this ceremony a handful of publications, submitted from across all of IFAS, will receive special recognition. We would like to recognize the 2 articles being submitted as High Impact Research Publications:

Risch, A. C., Zimmermann, S., Ochoa-Hueso, R., Schutz, M., Frey, B., Firn, J. L., Fay, P. A., Hagedorn, Borer, E. T., Seabloom, E. W., Harpole, W. S.,

Knops, J. M. H., McCulley, R. L., Broadbent, A. A. D., Stevens, C. J., Silveira, M. L., Báez, S., Biederman, L. A., Blair, J. M., Brown, C. S., Caldeira, M. C., Collins, C. L., Daleo, P., di Virgilio, A., Ebeling, A., Eisenhauer, N., Esch, E., Eskelinen, A., Hagenah, N., Hautier, Y., Kirkman, K. P., MacDougall, A. S., Moore, J. L., Power, S. A., Prober, S. M., Roscher, C., Sankaran, M., Siebert, J., Speziale, K. L., Tognetti, P. M., Virtanen, R., Yahdjian, L., & Moser, B. (2019). **Soil net nitrogen mineralisation across global grasslands.** *Nature Communications*, 10, 4981. DOI: 10.1038/s41467-019-12948-2 [Click here](#) to view the abstract.

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. [Click here](#) to view the abstract.

Congratulations Maria and Philippe. Best of luck at the IFAS level. Both publications are highly deserving.



Dr. Maria Silveira



Dr. Philippe Moriel

## Student News

### Congratulations Liz Palmer!

Liz won the ASAS Southern Section Emerging Scholar Award. The award will be presented at the 2021 joint ASAS-CSAS-SSASAS Annual Meeting and Trade Show in July. She is advised by Dr. Philippe Moriel.



### UF Student Alumni News

**Gleise M. da Silva** completed her MS in Animal Science with Dr. Philippe Moriel here in 2017 and continued her ed-



ucation with UF at the North Florida REC with Dr. Nicolas DiLorenzo to acquire her PhD in beef cattle nutrition in spring 2021.

She will be joining the faculty of Agricultural, Life, and Environmental Sciences in the Department of Agricultural Food and Nutritional Sciences at the University of Alberta in Edmonton, Canada as the inaugural assistant professor and Beef Cattle Research Council – Hays Chair in Beef Production Systems. In her role as chair, Silva will work with beef producers, translating her and her colleagues' research on cow-calf production into practical advice. Her work will help producers save money, maintain forage lands, and advance the Canadian beef industry's leadership in sustainable production. The

position, beginning July 1, is funded by the Beef Cattle Research Council (BCRC) and the Hays family, with additional support from McDonald's Restaurants of Canada and Cargill. The position has responsibilities in teaching, research and extension and will be housed in the University of Alberta's Faculty of Agricultural, Life & Environmental Sciences (ALES). The chair will work with other faculty researchers and build a team of graduate students and support staff to create a powerful research group.

Read all about it Univeristy of Alberta's Folio article '[New research chair will collaborate with beef producers to bring research into practice](#)' (5/4/21).

## UF/IFAS News

### 70th Annual University of Florida Beef Cattle Short Course

This year's short course was held virtually, May 4 - May 6. The recordings for each evening's program is below.

#### May 4 - watch now YouTube: <https://youtu.be/wleeY0hdw0E>

2021 Market Outlook - Randy Blach, Cattle Fax

The Environmental Impact of the Beef Cattle Industry -  
Dr. Frank Mitloehner, UC Davis

#### May 5 - watch now YouTube: <https://youtu.be/dINzQGwRJPU>

A Basic Overview of Feed Efficiency, Feed Conversion, and RFI -  
Dr. Nicholas DiLorenzo, UF/IFAS

What are the Impacts of Selection for RFI on Calf Performance,  
Carcass Quality, and the Cow Herd? - Dr. Gordy Carstenes, Texas  
A&M University

#### May 6 - watch now on YouTube: <https://youtu.be/woH664mHofc>

Genetics/Genomics of Reproduction -  
Dr. Milton Thomas, Colorado State University

Genetics of Cow Efficiency-  
Dr. Larry Kuehn, USDA MARC

For more information about this event contact:

Shelby O. Thomas: 352-392-1916 or [soesterreicher@ufl.edu](mailto:soesterreicher@ufl.edu)

Todd Thrift: 352-538-3146 or [tathrift@ufl.edu](mailto:tathrift@ufl.edu)

## Youth Field Day - this year in-person & virtual!



Don't miss our upcoming Youth Field Day! An educational event for students ages 8 - 18, youth leaders, and parents.

[Click here to register on Eventbrite.](#) Registration includes access to the online booklet and the in-person event includes lunch. Both types of registration offer the option to purchase a t-shirt. To receive your shirt at the event you must order by June 10. Shirts ordered after 6/10 will be shipped a couple of weeks after the virtual event.

View the flyer attached for all the details!

## 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/>

### Ona Highlight with Guest Presenter Dr. Marcelo Wallau

- June 8, 11:00 - 11:45 AM

Dr. Marcelo will be presenting "The importance of variety selection on forage production systems."

### 12th Annual Youth Field Day - In-person

- June 29, 9:00 AM - 12:00 PM

### 12th Annual Youth Field Day - Virtual

- July 6, 9:00 - 11:00 AM (time estimate)

### Ona Animal Science Program Highlight with Dr. Philippe Moriel

- July 13, 11:00 - 11:45 AM

Dr. Moriel will be presenting "Heat stress on beef cattle."

### Become a Bluebird Watcher: Session 7, Nest box check / cleaning out nest boxes

- July TBD, 1:00 - 2:00 PM

### Become a Bluebird Watcher: Session 8, Wrap-up and preliminary results

- Aug. or Sept. TBD, 1:00 - 2:00 PM

### Ona Highlight with Guest Presenters Cliff Coddington and Jim Handley

- August 10, 11:00 - 11:45 AM

They will discuss the current issues and initiatives of the Florida Cattlemen's Association.

### Field Day and 80th Anniversary Celebration

- October 7

Details will be announce in the summer!



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## Refereed Publications

Garzon, J. A., Vendramini, J. M. B., Silveira, M. L., Moriel, P., da Silva, H. M., Dubeux, J. C. B. Jr., Kaneko, M., Carnelos, C. C., & Mamede, P. A. (2021). Harvest management and genotype effects on sunn hemp forage characteristics. *Agronomy Journal*, 113, 298-307.  
<https://doi.org/10.1002/agj2.20465>

Kohmann, M. M., Saha, A., Silveira, M. L., Boughton, E. H., Swain, H., & Brandani, C. B. (2021). Farm-scale phosphorus budgets of beef cow-calf operations. *Nutrient Cycling in Agroecosystems*, 119, 389-403.  
<https://doi.org/10.1007/s10705-021-10130-z>

Koriakin, K. & Boughton, R. K. (2021). Vaginal birthing sensors as a tool to monitor calving on large scale applications. *Computers and Electronics in Agriculture*, 182, 106035.  
<https://doi.org/10.1016/j.compag.2021.106035>

Lu, Y., Silveira, M. L., O'Connor, G. A., Vendramini, J. M. B., Erickson, J. E., & Li, Y. C. (2021). Assessing the impacts of biochar and fertilizer management strategies on N and P balances in subtropical pastures. *Geoderma*, 394, 115038.  
<https://doi.org/10.1016/j.geoderma.2021.115038>

Ranches, J., Alves, R., Vedovatto, M., Palmer, E., Moriel, P., Drouillard, J., & Arthington, J. (2021). Low moisture, cooked molasses blocks: A limited intake method for supplementing trace minerals to pre-weaned calves. *Animal Feed Science and Technology*, 273, 114793.  
<https://doi.org/10.1016/j.anifeedsci.2020.114793>

Silva, G. M., Chalk, C. D., Ranches, J., Schulmeister, T. M., Henry, D. D., DiLorenzo, N., Arthington, J. D., Moriel, P., & Lancaster, P. A. (2021). Effect of rumen-protected methionine supplementation to beef cows during periconception period on performance of cows, calves and subsequent offspring. *Animal*, 15, 100055.  
<https://doi.org/10.1016/j.animal.2020.100055>

Vendramini, J.M.B., Rios, E., Dubeux Jr., J. C. B., Quesenberry, K., & Munoz, P. (2021). Registration of Mislevy bermudagrass. *Journal of Plant Registrations*, 15(1), 7-15.  
<https://doi.org/10.1002/plr2.20093>

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

Chris Prevatt, [prevacc@ufl.edu](mailto:prevacc@ufl.edu) - Beef Cattle and Forage Economics

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

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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.

### CONTACT INFORMATION

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Newsletter Contact: Andrea Dunlap





# *UF/IFAS Range Cattle Research and Education Center* **Youth Field Day**

## **Two Options**

**In-person:** Attend in-person on **June 29** from 9:00 a.m. - 12:30 p.m. at the center. Preregistration is required for all students & adults attending - space is limited. A box lunch will be provided. Fee: \$10

**Virtual:** Attend a Zoom broadcast of the youth field day class sessions on July 6. Virtual registrants will have an opportunity to engage with each of the class session teachers through Zoom as their field day class recording plays. A broadcast schedule will be provided prior to the 7/6 event which will begin at 9:00 a.m. and last approximately 2 hours. Fee: \$0

## **Registration**

See details and register at:

**<https://rcrec-2021-yfd.eventbrite.com>**

Field day e-booklet included.

T-shirt purchase optional.

3401 Experiment Station Ona, FL

**[ona@ifas.ufl.edu](mailto:ona@ifas.ufl.edu)**

863-735-1314 ext. 204

## **Class Sessions**

### **“Help! The calf is stuck!”**

Calves are sometimes incorrectly positioned for birth. You need to know the correct position and what to look for in a cow that is struggling. You will learn strategies to help reposition the calf and assist a cow that is giving birth when problems arise. Using the dystocia simulator from UF Animal Science, students will get hands-on practice.

### **“Calf 911 - Caring for newborn calves, dobies, and addressing health problems”**

Sometimes calves need a little extra help to get off to a good start. Dealing with problems early can help save a calf and help them lead a healthy, productive life. You will learn diagnostic methods to evaluate calf health and ways to resolve problems. We will cover common calf issues i.e., feet and leg problems, naval care, suckling/eating issues, supplements, vaccines, and more. Students will have hands on practice with young calves.

### **“Stick’ it out in the cowpens”**

Carry your weight on the cow crew: hands-on opportunities to tail bleed a cow and interactive activities to teach students about properly handling pharmaceuticals and medical equipment.

### **“So You Wanna Start a Business”**

Are you interested in starting your own Ranch operation? Let’s get your business started right! We’ll start with a discussion on developing a written business plan, calculating costs and knowing your numbers \$\$, understanding risks (liabilities), and developing a long-term competitive advantage... Join us and leave with a template on considerations for your new business.

### **“Blue Birds on the Ranch”**

Learn about Eastern bluebirds and how Florida rangelands are important habitat for them! You will learn about bluebird biology, how to build a nest box, and how researchers monitor nest boxes. We will also share some bluebird research we have been doing at the center.