

UF/IFAS

Range Cattle Research & Education Center NEWS

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fall 2018

IN THIS ISSUE

Florida Beef Enhancement Funding – Nutrition of Beef Females

by *Philippe Moriel*



and at calving. Also, year-round supplementation of molasses and range cubes would improve calf development during pregnancy, and then, improve calf growth after birth. In June 2017, mature Brangus cows were allocated to bahiagrass pastures. Treatments consisted of control cows supplemented with molasses from calving until end of breeding season (November 2017 to April 2018; MOL-Fall/Winter), or cows receiving year-round supplementation of molasses (MOL-Year-round; June 2017 to May 2018) or

Body condition score (BCS) at calving is the most important factor that influences overall pregnancy rate and calving distribution of beef cows. Also, poor nutrition during gestation can alter fetal organ formation and decrease offspring's future performance (fetal-programming). In 2016, our group obtained funds from *The FL Beef Enhancement Board* to evaluate different supplementation strategies for pregnant beef females and its impacts on performance of cows and calves. In this newsletter, we will provide a draft summary of the results currently available for these studies.

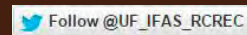
STUDY #1 – Does year-round supplementation of cows pay off?

We believed that year-round supplementation of molasses or range cubes will increase body condition score of cows throughout gestation



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range cubes (CUB-Year-round; June 2017 to May 2018). Total annual amount of supplement was similar among all treatments (600 lb/cow; Table 1). Trace mineral/vitamin supplementation is being provided during the entire year in a loose meal form for control cows or mixed into the molasses or range cubes for cows assigned to year-round supplementation.

Molasses and range cubes supplementation increased cow BCS in October and at calving (November) compared to cows receiving no supplementation (Figure 1). Although cows assigned to year-round supplementation of molasses and range cubes lost more BCS from calving until the start of the breeding season (Table 2), both treatments maintained greater BCS at the start of breeding season compared to control cow (MOL-Fall/Winter cows). However, no differences were detected for pregnancy rates among treatments (Table 2), which was unexpected but can be explained by the fact that the control cows (MOL-Fall/Winter) calved in an acceptable BCS (despite the lack of supplementation before calving) and had minimal BCS loss after calving. It is important to highlight that our group has only 1 year of data collection up to this moment. We are repeating this study for a second year to confirm such results. Despite the greater nutritional status of cows during late gestation (indicated by the greater BCS at calving compared to MOL-Fall/Winter cows), calf body weight at birth and weaning also did not differ among treatments.

Table 1. Supplement dry matter intake (lb/day) of cows offered molasses during Fall/Winter only or year-round supplementation of molasses or range cubes.

Treatments	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	<i>lb of dry matter/cow daily</i>											
Year-round Molasses	0.5	0.5	1.5	1.5	1.5	2.5	3.0	3.0	2.5	2.5	0.5	0.5
Year-round cubes	0.5	0.5	1.5	1.5	1.5	2.5	3.0	3.0	2.5	2.5	0.5	0.5
Fall/Winter Molasses	0	0	0	0	0	4.0	4.0	4.0	4.0	4.0	0	0

Figure 1. Body condition score of cows offered molasses from calving until the end of the breeding season (MOL-Fall/Winter; November 2017 to April 2018) or year-round supplementation of molasses (MOL-Year-round) or range cubes (CUB-Year round).^{ab} Within a month, means without a common superscript differ ($P \leq 0.05$).

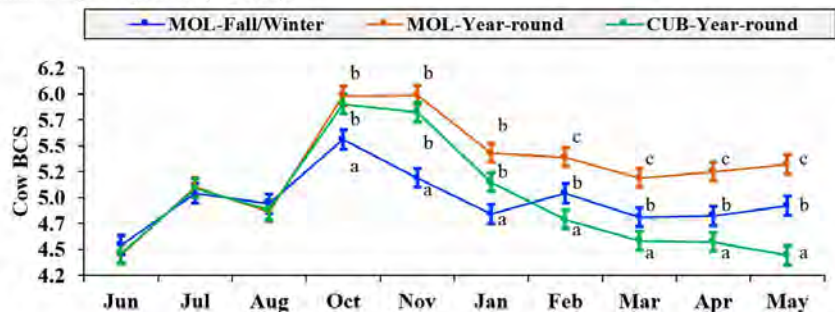


Table 2. Reproductive performance of cows and growth performance of calves during the pre-weaning phase (STUDY 1).

Item	MOL-Fall/Win	MOL-Year-round	CUB-Year-round	SEM	P
Pregnant cows (May palpation), %	96.3	88.5	88.9	5.60	0.53
Calf birth weight, lb	79	76	80	3.2	0.64
Calf weaning weight, lb	559	539	566	10.9	0.14
Calf average daily gain, lb/day					
Birth to weaning (August 2018)	1.85	1.74	1.82	0.045	0.18



STUDY 2 – Evaluating cost-effective supplementation programs for cows during late-gestation

This study: (1) evaluated if dry distillers grains (DDG) supplementation of cows during the entire late-gestation (2.25 lb/day for 12 weeks = 189 lb per cow; August to November) would increase cow reproductive success and calf performance after birth, and (2) investigated if concentrating cow DDG supplementation during the period of lowest nutrient demand (first 6 weeks after weaning) would be more cost-effective than cows supplemented during the entire late-gestation. First, we believed that cows supplemented before calving, regardless of length of supplementation, would have greater reproductive performance than non-supplemented cows. Second, we believed that supplementing 4.50 lb/day for 6 weeks after weaning would reduce feed costs, have the greatest impact on cow reproduction success, but not cause fetal-programming effects (due to the shorter supplementation period), whereas the supplementation of 2.25 lb/day for 12 weeks would increase feed costs, cause less impact on reproduction, but enhance calf growth after birth.

At the time of calving (November), cows that received supplementation for 6 weeks or 12 weeks had similar BCS (Figure 2). This response indicates that a 6-week period of supplementation was more cost effective than a 12-week supplementation period, because cows supplemented for 6 weeks achieved the same BCS at calving and had half of the feeding labor costs compared to cows supplemented for 12 weeks. Also, cows supplemented for 6 weeks or 12 weeks had greater BCS at the time of calving AND at start of the breeding season compared to control cows that did not receive supplementation before calving. However, no differences

were observed for cow reproductive performance during the 2018 breeding season. As observed in STUDY 1, control cows (NoSUP) calved in an acceptable BCS and had minimal BCS loss after calving, which likely benefited their subsequent reproductive performance. This study is being repeated for an additional year to confirm such results.

Contrary to STUDY 1, we observed differences in calf pre-weaning performance in STUDY 2. Calves born

from cows that received supplementation for longer periods (SUP 12 weeks) were heavier at weaning compared to remaining treatments. These results (if confirmed after the second year of data collection) indicates that in terms of calf performance, longer periods of supplementation (with smaller amounts of supplement) was required to increase calf weaning weights, and that decreasing the length of cow supplementation period prevented increments on calf weaning weights.

Figure 2. Body condition score of cows that received no supplementation before calving (No SUP), and cows that were supplemented with 4.50 lb/day of dried distillers grains for 6 weeks after weaning (SUP 6 weeks) or with 2.25 lb/day of dried distillers grains for 12 weeks after weaning (SUP 12 weeks). After calving, all cows received 4 lb/day of molasses dry matter until the end of the breeding season. ^{a-b} Within month, means without a common superscript differ ($P \leq 0.05$).

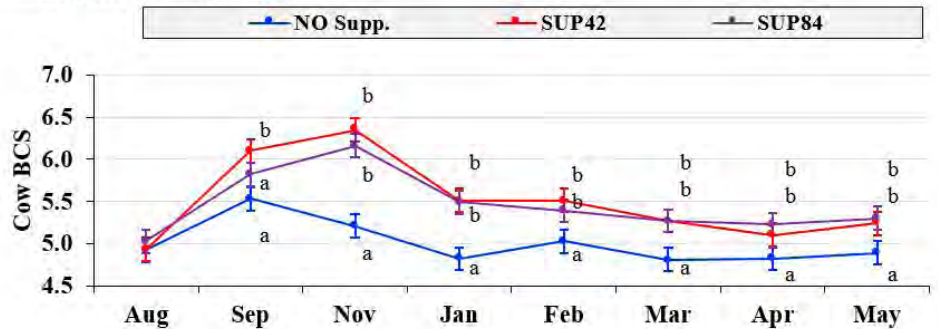


Table 3. Reproductive performance of cows and growth performance of calves during the pre-weaning phase (STUDY 2). ^{a-b} Means without a common superscript differ ($P \leq 0.05$)

Item	NO Supp.	SUP84	SUP42	SEM	P
Pregnant cows (May palpation), %	96.3	96.2	84.6	5.15	0.19
Calf birth weight, lb	76.1	75.7	78.4	2.36	0.60
Calf weaning weight, lb	554 ^a	580 ^b	561 ^a	9.7	0.10
Calf average daily gain, lb/day					
Birth to weaning (August 2018)	1.82	1.97	1.83	0.047	0.12



Photo by Julie Warren.

Connect with us

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



- Rick Moyer, general manager of Adena Farms.
Topic: Pasture-finished beef production in Florida.
(Run time: 17.58 min.)



- Dr. Maria Silveira, Soil and Water Scientist at the UF/IFAS Range Cattle REC.
Topic: During Sep. 8-9, 2018 Florida Cattlemen's Association quarterly meeting held in Bartow, beef cattle producers discussed the importance of educating the general public about the impor-

tance and benefits of recycling biosolids in Florida grasslands. Land application of biosolids in Florida is subject to federal, state, and local regulatory requirements intended to protect human health and the environment. To address the concern of the Florida Cattlemen's Association, the Joe What? Podcast interviewed Maria about her research on biosolids application to pastures in Florida.
(Run time: 14.39 min.)

These monthly podcasts can be found on:

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

Upcoming Events

Ona Highlight Guest Presenter - Betsey Boughton
- Nov. 13, 11:00 a.m.

Presenting, "Archbold-UF LTAR project - Manipulating fire and grazing to enhance the delivery of ecosystem services from subtropical humid grasslands."

Register for this webinar by [clicking here](#).

Establishment and Management of Bahiagrass
- Nov. 13, 11:00 AM An American Society of Animal Science Southern Section Extension Webinar

To join the presentations [click here](#) at the time of the event.

Cool-Season Annuals – Fall grazing

- Nov. 15, 11:00 AM An American Society of Animal Science Southern Section Extension Webinar

To join the presentations [click here](#) at the time of the event.

Ona Rangeland Wildlife & Ecosystems Program Highlight with Raoul Boughton

- Dec. 11, 11:00 a.m.

Presenting, "Wild Hogs and Big Data: How to deal with 4 million game camera images to answer questions on hog biology and management."

Register for this webinar by [clicking here](#).



Photo by Julie Warren

Ona Highlights

Save the date and join us for an upcoming Ona Highlight webinar. You can view the webinar from any device with internet or come to the Center and join us in person.

[Click here to watch a short video](#) to learn more about the process, including: registering, connecting, tips on viewing a webinar and how to ask a question, ending the webinar, providing feedback, and where you can access the recordings and a PDF for each of our past presentations.

These informative presentations are held in the Grazinglands Education Building. They begin at 11:00 a.m. and last about 45 minutes.

Upcoming Ona Highlights

Nov. 13 - **Ona Highlight Guest Presenter - Betsey Boughton**

Betsey is the Program Director at the MacArthur Agro-ecology Research Center.

She will be presenting, "Archbold-UF LTAR project - Manipulating fire and grazing to enhance the delivery of ecosystem services from subtropical humid grasslands."

Dec. 11 - **Ona Rangeland Wildlife & Ecosystems Program Highlight with Raoul Boughton**

Raoul will be presenting, "Wild Hogs and Big Data: How to deal with 4 million game camera images to answer questions on hog biology and management."

To attend a future event in person call 863-735-1314 to register or register for a webinar. Access the registration links on our online calendar [here](#).

Recent recordings:

Ona Agronomy Highlight with Joao Vendramini

"Nitrogen Use Efficiency of Limpograss" – 9/11/2018

Ona Graduate Student Highlight with Wes Anderson

"Impact of wild pigs on wetlands and aquatic communities across a Florida rangeland" – 10/9/2018

Past webinars (recordings and slides) are available on the RCREC website, in the [Virtual Classroom](#).

Blog Posts

Impacts of wild pigs on wetlands and aquatic communities across a Florida rangeland

by Wes Anderson, PhD Candidate

Sid and Georgiann Sumner – Memorial Giving

by John Arthington, Professor

Body Condition Score Trainings in Florida

by Philipe Moriel, Assistant Professor

Training Available

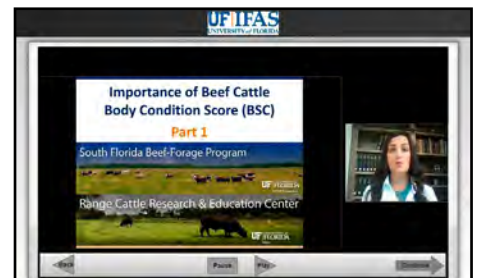
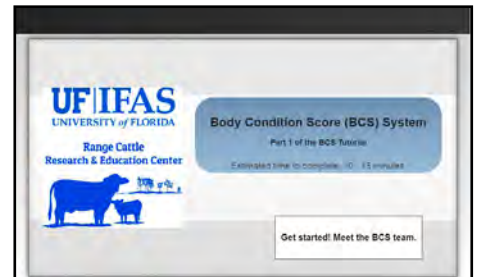
Beef Cattle Body Condition Scoring (BCS) Tutorial

[Click here](#) to take this training (recommended browsers: Google Chrome or Firefox)

The training will take approximately 1 hour to complete.

Part. 1
Importance of Beef Cattle Body Condition Score (BCS): How it affects the fertility and profitability of your cow-calf operation

Part. 2
The Body Condition Score (BCS) System: What it is and how to use it



Job Opening

Must be at least 18 to apply.

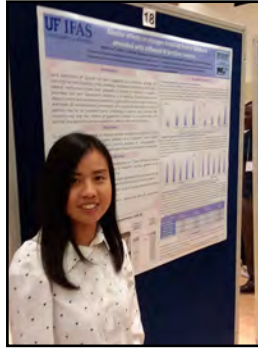
Pay: \$13.50 per hour, 20+ hours a week (flexible) Tasks to include: pressure washing, landscaping, and exterior building cleaning.

Call 863-735-1314 for more information.

Student News

On Oct. 15 a group from the UF/IFAS Range Cattle REC Soil and Water Science program attended the 19th Annual Soil and Water Science Forum in Gainesville.

Congratulations to Ph.D. Student Yanyan Lu who was one of 4 winners of the 'Best Graduate Student Poster Presentation.' Yanyan is advised by Dr. Maria Silveira.



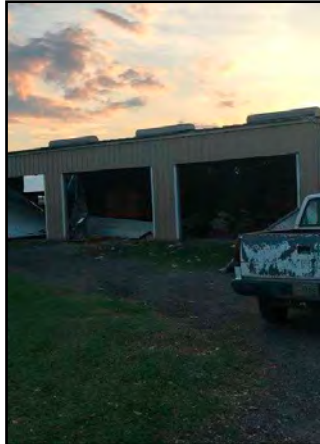
Yanyan Lu



Postdoctoral associates attending: Dr. Carolina Brandani and Dr. Marta Kohmann

Staff News

Recovery efforts underway in Marianna after Hurricane Michael



Photos display some of the damage at UF/IFAS North Florida REC in Marianna. (Taken by Tom Fussell)

On October 10 Hurricane Michael, a category 4 hurricane with maximum sustained winds of 155 mph, brought extensive damage to Florida's panhandle. It quickly traversed the state to hit SE Alabama and Georgia as a category 3.

Read More -

[Michael is the strongest hurricane to hit the continental US since Andrew](#)

Losses to personal property, industry, and agriculture are great. It will be weeks, if not months before some have power restored. The estimated agriculture losses are astronomical.

Read More -

[UF/IFAS Economists: Hurricane Michael Caused \\$158 Million in Florida Agricultural Production Losses](#)

[Hurricane Michael Shreds Trees, Crops from Florida into Southern Georgia](#)

Clean up is underway and many are stepping in to help.

The UF/IFAS North Florida Research and Education Center (NFREC) in Marianna was hit hard, with damage to its facilities, equipment, fences, and fields.

Read More -

[UF/IFAS Employees help hard-hit North Florida REC](#)

Many NFREC employees suffered significant personal losses to their homes and property. Several UF/IFAS RECs have stepped in to help including West Florida REC, North Florida REC – Suwannee Valley, Plant Science REC, and the Range Cattle REC. Help with cleanup and generators has also been provided by the main campus in Gainesville. Those from RCREC farm crew assisting were Tom Fussell, Ryan Nevling, and David Womble. Tom and Ryan went up the week of Oct. 15th to assist with fence repairs and David drove up a load of supplies.

How UF/IFAS Extension is helping and how you can help -

[UF/IFAS Extension helps Panhandle farmers after Hurricane Michael](#)



Ryan Nevling and Tom Fussell

Faculty News

UF/IFAS Center Directors Meet in Ona

This year's annual UF/IFAS Center Director's retreat was held at the UF/IFAS RCREC in Ona. The noon to noon program included a group meeting time and discussion time along with UF/IFAS updates from Jerry Fankhauser, Assistant Director with Facilities and Jeanna Mastrodicasa, Associate Vice President for Operations. Staff presentations were provided by Andrea Dunlap (of the RCREC) on Exchange Visitor Programs and Tammy Siegel (of the CREC) on Pre-Grants. During their time at Ona, Dr. John Arthington gave them a walking tour of RCREC

facilities and a wagon tour of the farm and some field sites. Pictured are the center directors in the Cattlemen's Conference Room: Left to Right, Dr. Gilly Evans (Tropical REC), Dr. Kelly Morgan (Southwest Florida REC), Dr. Ron Cave (Indian River REC), Dr. Roger Kjellgren (Mid-Florida REC), Dr. Jorge Rey (Florida Medical Entomology Laboratory), Dr. John Arthington (Range Cattle REC), Dr. Wes Wood (West Florida REC), Dr. Glen Aiken (North Florida REC), Dr. Michael Rogers (Citrus REC), and Dr. Micheal Allen (Nature Coast Biological Station). (include photo) Also attending was Robin Giblin-Davis (Fort Lauderdale REC), who took the photo.



Recent Publications

Pearsaul, D., Leon, R., Sellers, B., Silveira, M., & Odero, D. (2018). Evaluation of Verticutting and Herbicides for Tropical Signalgrass (*Urochloa subquadriflora*) Control in Turf. *Weed Technology*, 32(4), 392-397.

Prince, C., MacDonald, G., Ferrell, J., Sellers, B., & Wang, J. (2018). Impact of Soil pH on Cogongrass (*Imperata cylindrica*) and Bahiagrass (*Paspalum notatum*) Competition. *Weed Technology*, 32(3), 336-341.

Sanglard, L. P., Nascimento, M., Moriel, P., Sommer, J., Ashwell, M., Poore, M. H., Duarte, M. de S., and Serao, N. V. L. (2018). Impact of Energy Restriction During Late Gestation on the Muscle and Blood Transcriptome of Beef Calves After Preconditioning. *BMC Genomics*, 19:702 <https://bmcbgenomics.biomedcentral.com/articles/10.1186/s12864-018-5089-8>

P. J. A. Kleinman, S. Spiegel, J. R. Rigby, S. C. Goslee, J. M. Baker, B. T. Bestelmeyer, R. K. Boughton, R. B. Bryant, M. A. Cavigelli, J. D. Derner, E. W. Duncan, D. C. Goodrich, D. R. , K. W. King, M. A. Liebig, M. A. Locke, S. B. Mirsky, G. E. Moglen, T. B. Moorman, F. B. Pierson, G. P. Robertson, E. J. Sadler, J. S. Shortle, J. L. Steiner, T. C. Strickland, H. M. Swain, T. Tsegaye, M. R. Williams & C. L. Walthall. (2018) Advancing the Sustainability of US Agriculture through Long-Term Research. *Journal of Environmental Quality*, 47:6, 1412-1425

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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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Range Cattle Research and Education Center

Annual IFAS Braford Heifer Offering

November 8

at the Adams Ranch 2018 Bull & Heifer Auction

Adams Ranch Endowment Est. 2015



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, Adams Ranch and the Center have partnered to offer two Braford heifers from the Range Cattle Research and Education Center - a Braford herd originally donated by the Adams' family in the '80s. The buyer will have the opportunity to select two yearling heifers retained as replacements.



Proceeds from this heifer sale will be matched by the Adams Ranch and the full amount added to the Adams Ranch Endowment.

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UF/IFAS HILLSBOROUGH COUNTY



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**Where: UF/IFAS Extension, Hillsborough
5339 County Rd. 579, Seffner, FL 33584**

**Cost: \$10 PER PERSON
(covers lunch and materials)**

Ages 11 & up!

Register @ <https://4-hpasturetoplate.eventbrite.com/>

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