

EOARC Advisory & Liaison Committee Meeting

Burns, OR
February 24, 2020

Juliana Ranches, Ph.D.
Assistant Professor – Extension Beef Specialist
Oregon State University, EOARC – Burns, OR



**Oregon State
University**





Presentation Overview

1. Personal background

Graduating training

2. Research and Extension at OSU

Personal Goals

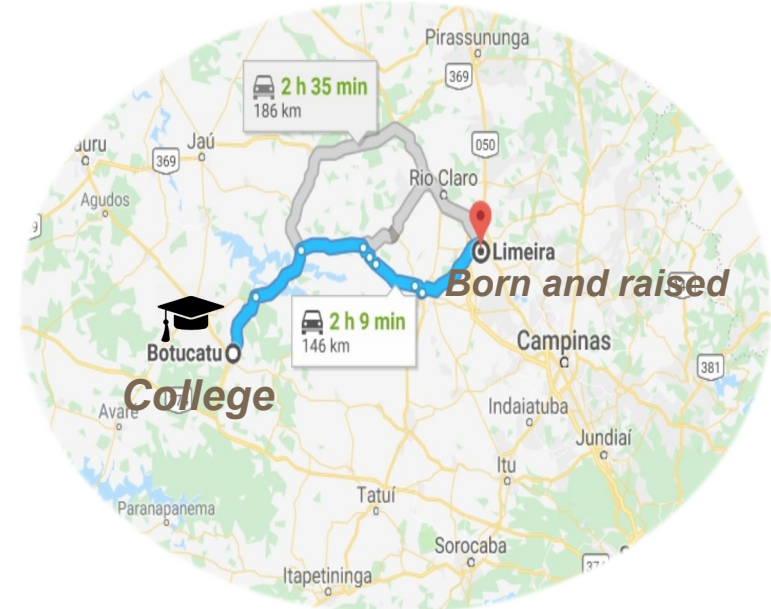
Research & Extension Topics

What is going on?





Personal Background





Personal Background

Undergraduate Degree – EOARC Internship



- May to November, 2013
- Required internship in Burns – OR
- Eastern Oregon Agricultural Research Center – EOARC
- **Mentored by Dr. Reinaldo Cooke**

- Graduate with a **B.S. Degree in Animal Sciences** in December, 2013:



UNIVERSIDADE ESTADUAL PAULISTA
"JÚLIO DE MESQUITA FILHO"
Campus de Botucatu





Personal Background

Graduate training



Range Cattle Research and Education Center
Ona, FL



Animal Sciences Department

Range Cattle Research and Education Center



- 2014 moved to Florida
- 2016 Master's Degree
- 2019 Ph.D. Degree
- **Mentored by Dr. John Arthington**



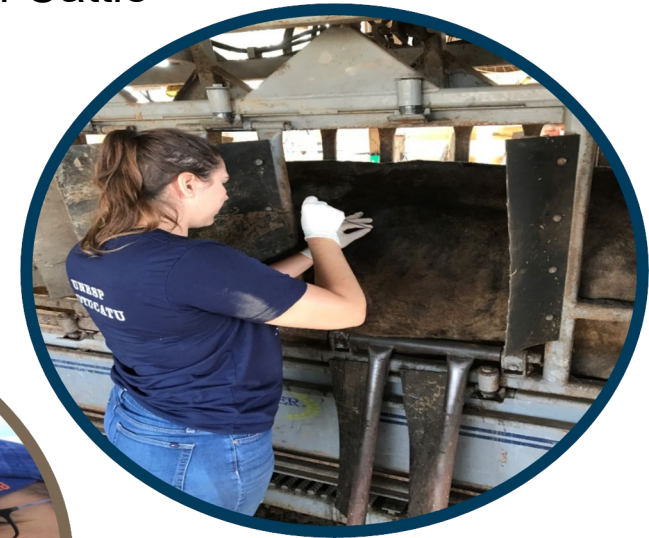
Animal Sciences Department
Gainesville, FL



Personal Background

Graduate training – Research

- **M.S. Thesis:** Effects of Selenium Biofortification of Hayfields on Measures of Selenium Status in Cows and Calves Consuming These Forages.
- **Ph.D. Dissertation:** Strategies of Trace Mineral Supplementation for Beef Cattle and Differences in Metabolism of Copper and Selenium between *Bos Indicus* and *Bos Taurus* Cattle.
- **Beef Cattle Nutrition > Trace Mineral Nutrition**
 - *Feed additives*
 - *Heifer development*
 - *Year-round vs. winter supplementation*
 - *Frequency of supplementation*
 - *Preconditioning*
 - *Pre weaning strategies*
 - *Cattle behavior*





Personal Background

Graduate training – Extension and Service

Extension:

- *Presentations at Extension meetings*
- *Publication of Extension articles*
- *Organization of field days*
- *Stakeholders tours at RCREC*

Service:

- *Southern Section of ASAS*
- *ANS Graduate Student Association*
- *Scientific Journal Reviewer*





Research and Extension at OSU

Assistant Professor – Extension Beef Specialist:

Appointment: 75% Extension and 25% Research.

Official start date 01/06/2020.

Personal Goals:

- 1. To develop an internationally recognized Research program;***
- 2. To develop an internationally recognized Extension program;***
- 3. To assist stakeholders and be a trustworthy source and reference;***
- 4. To assist in student development – mentoring undergrad and graduate students.***



Research and Extension at OSU

Research-based Extension Programs:

Research Topics (not limited to):

1. Identifying cost-effective **nutritional strategies for cow-calf operations** – strategies to improve **mineral nutrition**.
 2. Identifying **pre-weaning nutrition and management strategies** for improving calf health and performance.
 3. Understanding **cattle maternal behavior** and its impact on the calf at weaning.
 4. Understanding cattle and **wildlife interactions** to develop deterrent strategies.
- All Research efforts will be translated in Extension efforts – Publications, field days, workshops.



Research and Extension at OSU

What is going on?

- *Applying for grants. Applied for 8 grants (5 as PI and 3 as Co-PI)
5 funded, 3 under review.*
- *Planning/organizing two studies that will be conducted this year.
Virtual Fence
Mineral study*
- *Coordinating state-wide Extension effort on spent hemp biomass.*
- *Coordinating Extension events.
Calving School
New Technologies Project – Drones
RanCHER*
- *Creating/developing **social media content** – Goal: to create a platform to highlight beef cattle production in the west trough Research and Extension material.*



Research and Extension at OSU



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RESEARCH FOUNDATION

Mineral Study

Mineral supplementation of pre-weaned calves: What is the current recommendation?

Hypothesis: we hypothesized that the mineral requirements of calves prior to weaning are greater than the current NRC (2016) recommendations for mature cattle. Further, calves supplemented at NRC (2016) recommended levels are more likely to develop mineral deficiencies at weaning, which could result in poor health and performance in the post-weaning phase.

Objectives: The objective of this study is to evaluate mineral status at weaning and subsequent performance of calves supplemented prior to weaning, with limit-fed supplements fortified with trace minerals at the NRC (2016) recommendation or five times above the current NRC (2016) recommendation.



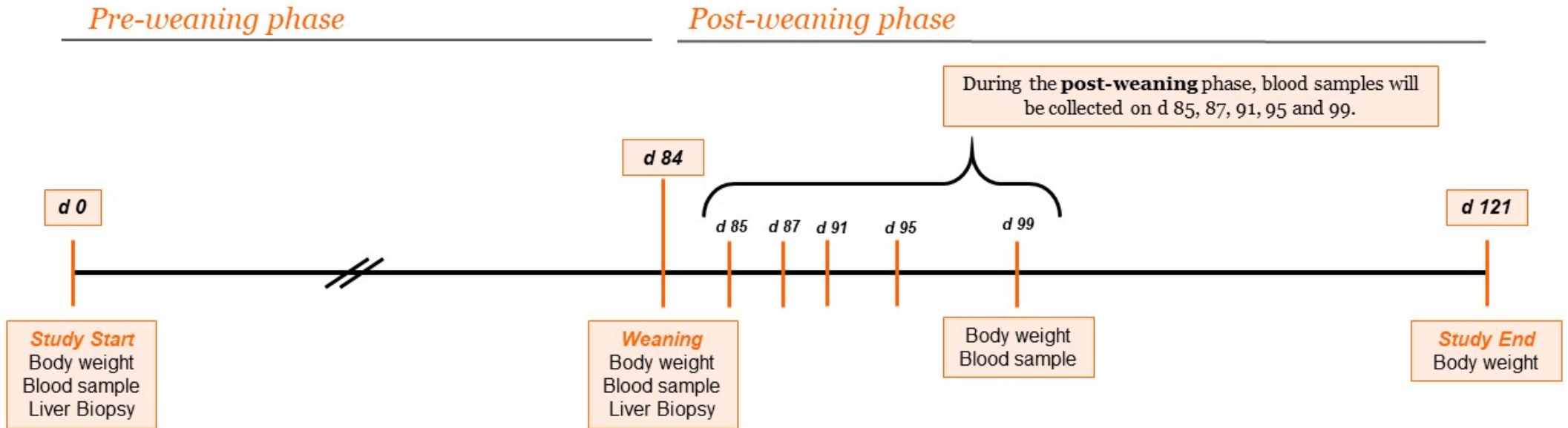
Research and Extension at OSU



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Mineral Study

Mineral supplementation of pre-weaned calves: What is the current recommendation?



During the **pre-weaning phase** calves will be assigned to one of two treatments **(1) Control (NRC)**, or **(2) Super-nutritious (5x NRC)**. Calves will be offered the respective treatments 3 times weekly (Monday, Wednesday, and Friday)

During the **post-weaning phase** calves will be individually fed and housed giving the opportunity to evaluate individual intake of feed. Treatments will be discontinued after weaning.



Research and Extension at OSU



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Oregon State University
Extension Service

Spent Hemp biomass

Project Objective: The objective of this proposal is to collect information regarding hemp processing, and hemp by-products availability and nutritional (chemical) characteristics. The final objective of this proposal is to create a database on hemp by-products nutritional (chemical) characteristics with information on the residual CBD and THC concentrations.



New Technologies

Project Objective: The objective of this project is to review the current literature for three advancing and promising technologies (drone, virtual fencing, and GPS collars for livestock) and develop a broad understanding to help producers around the state who want to try it, as well as help facilitate the acceptance and adoption of these and other technologies in the future.





Research and Extension at OSU

Under review:

OSU
WOMEN'S
GIVING
CIRCLE

RancHER



Objective: *RancHER* aims to highlight women in agriculture by providing an educational program for women in the beef cattle industry, focusing on the research conducted by women in Ag. and students at Oregon State University. *RancHER* will be the first agricultural field day at OSU to focus on women in Ag., specifically those in the livestock industry.

Calving Schools

Objective: the objective of this project is to better prepare producers for the calving season, by providing theoretical knowledge and hands-on activity.

* Will seek funding through education grants.



Next Calving School: At **EOARC 03/13**. Register online.



Questions?

THANK YOU!

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Beef Extension Specialist

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