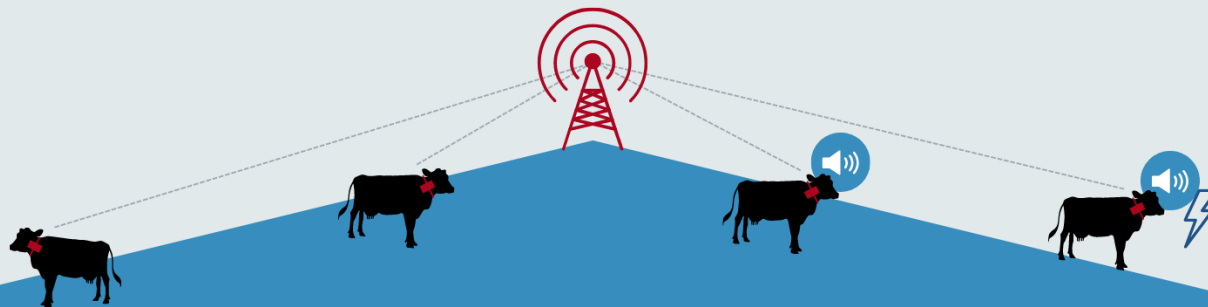


Exploring the Boundaries of Virtual Fencing

August 10
AZSRM Summer
Meeting

Ten-X Campground
Grand Canyon
Village, AZ



Supported by USDA NIFA WSARE (WPDP22-016),
AFRI IDEAS (2022-10726), Arizona Experiment
Station & the Marley Endowment for Sustainable
Rangeland Stewardship



THE UNIVERSITY OF ARIZONA
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COLLEGE OF AGRICULTURE & LIFE SCIENCES
**Natural Resources
& the Environment**

The University of Arizona Virtual Fence Program

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Natural Resources
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rangelandgateway.org/virtual-fence

Exploring the Boundaries of Virtual Fencing
Thursday, August 10, 2023
Ten-X Campground, Grand Canyon Village, AZ

Sponsored by Western Sustainable Agriculture Research and Education

- 9:00am **Welcome & Animal Welfare**
Joslyn Beard, Livestock Extension Specialist, Arizona Cooperative Extension
- 9:45am **Virtual Fence 101**
Andrew Antaya, Research Professional, University of Arizona
- 10:15am **HerdManager Demonstration**
Brandon Mayer, Research Professional, University of Arizona
- 11:00am **Base Station & Placement Demonstration**
Brandon Mayer, Research Professional, University of Arizona
- 12:15pm **Lunch**
- 1:15pm **Collaring Demonstration**
Andrew Antaya, Research Professional, University of Arizona & VF Team
- 2:15pm **Policy Considerations; Agency Data Access**
Aaron Lien, Assistant Professor, University of Arizona
- 2:45pm **Closing Remarks and Adjourn**
Aaron Lien
Wrap up & Evaluation

ANIMAL WELFARE & VIRTUAL FENCE

Dr. Joslyn Beard

State Livestock Extension Specialist
University of Arizona Cooperative Extension





Understanding Animal Behavior

Behavior



Management



Health



Influences of Behavior

- Developed through play/social contact
- Environmental and genetic factors
- Sex, breed, physiological status, etc.



What is animal welfare?



How do we measure animal welfare?

Fear and distress

Discomfort due
to environment

Thirst, hunger
and malnutrition

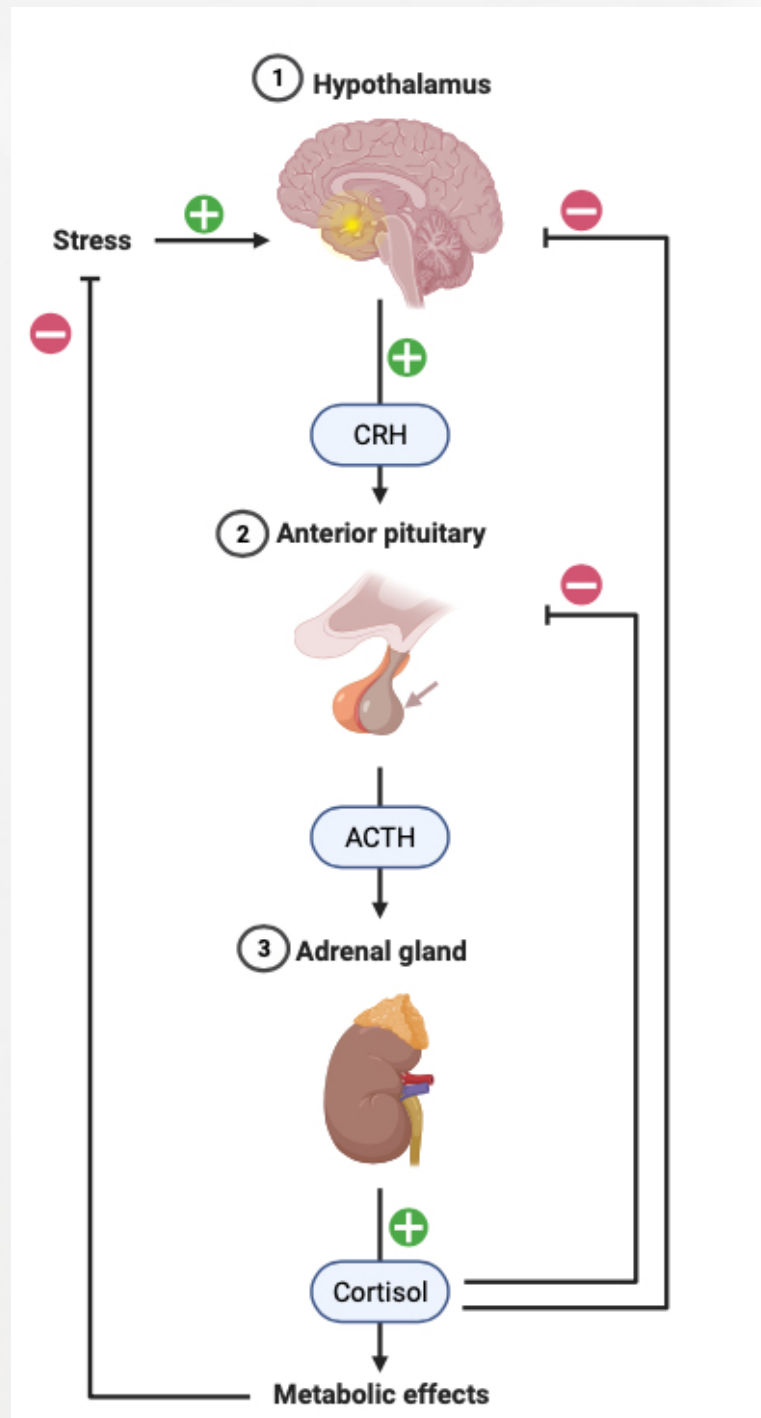
The 5 Freedom

Pain, injury
and disease

Express normal
behavior



How does stress work?





Acute Stress

- Fight or flight
- Hormone or behavior related



Chronic Stress

- Long term
- Altered performance
- Pathological consequences (generation impact)

What does stress do to livestock

- Low birth BW
- ↓ feed efficiency
- ↑ death loss
- ↓ body composition
- ↓ health
- ↓ carcass wts
- ↓ carcass merit

Annual Losses

8% of product or...

- 3 million beef calves
- 930,000 dairy calves
- 530,000 lambs

Loss of \$2.5 billion



We don't want:

↓ movement of neck

↓ grazing behavior/selection

↑ stress (i.e. pressure on neck)

↑ mortality rates







What we know...

- Cattle body condition score will fluctuate
 - BW +/- 150 lbs within 2 - 3 mo
- Cattle will go to water
 - Most collars lost around water troughs
- Cattle will walk while they graze
 - Tripping? Hooking?



Food for thought:

- Understanding Acute vs. Chronic stress impact
- Management decisions
- You don't have to "keep up with Joneses"



Get Connected With Me!

Contact Information



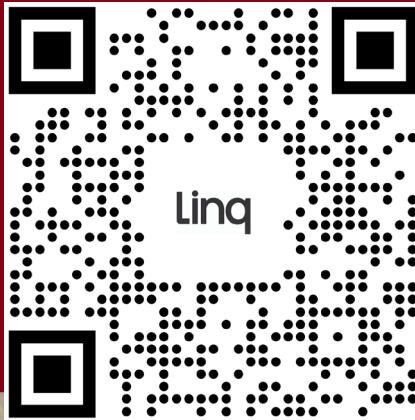
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