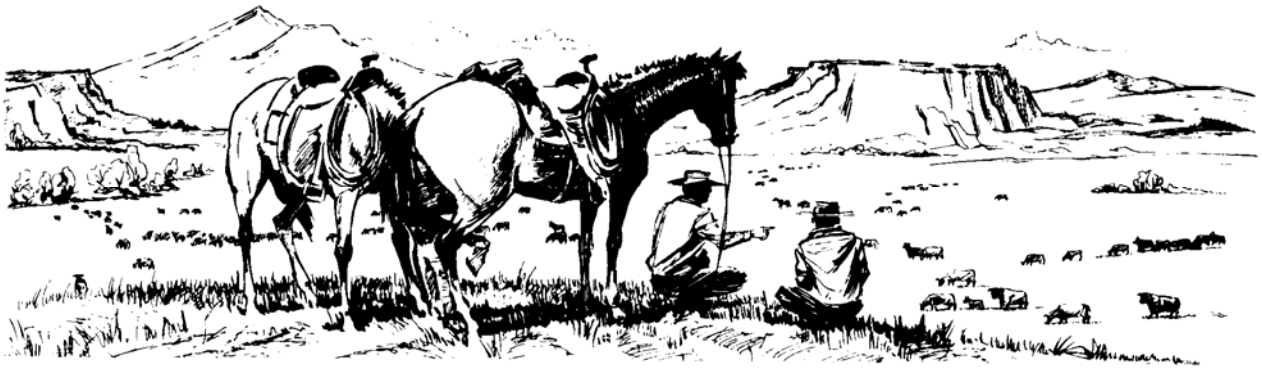

SISKIYOU STOCKMAN

What's New in the "Top of the State". A report for Siskiyou Livestock Producers put out by the Farm Advisors Office, Cooperative Extension of the University of California, located at 1655 South Main Street, Yreka, California 96097

September 2005

In This Issue

Calendar

Oct 29	Annual Dinner Meeting, Siskiyou County Cattlemen and CattleWomen, Community Center, Yreka, CA
Nov 16-18	California Cattlemen's Association Annual Convention, Reno, Nevada
Dec 4-7	California Farm Bureau Annual Meeting, Monterey, CA
Dec 13-14	California Alfalfa and Forage Symposium, Visalia, CA
Jan 6, 2006	Special Feeder Sale, Cottonwood, CA

Artificial Insemination and Reproduction Symposium

If you are a beef producer using artificial insemination (AI) or thinking about using AI in the future, the symposium on AI and Reproduction, October 27th and 28th in Reno, NV., is an excellent opportunity to gain new information. The symposium is designed to improve the understanding of the physiological processes of the estrous cycle, currently available procedures to synchronize estrus and ovulation and the proper application of these systems, and to improve the understanding of methods to assess bull fertility and how it affects the success of AI programs. The program features nationally recognized speakers from several universities and the beef industry. The program is designed for both producers and veterinarians and has received accolades in several other locations across the country. Continuing education hours for this symposium are pending approval.

The attached information provides the agenda, costs and registration process. Registration for both days, which includes lunch and proceedings, is $200. Registration discounts of $50 will be given to participants staying at the El Dorado Casino Hotel. Additional information is available at http://westcentral.unl.edu/beefrepro/. Make your reservation by September 25 to avoid late fees. The Western Beef Resource Committee, North Central Region Bovine Reproduction Task Force and the Cooperative Extension Service from multiple states are sponsoring the symposium.

Raising Replacement Heifers

Some producers are retaining more heifers in an effort to rebuild their herds or for expansion. As fall weaning approaches and selection occurs several key points might be helpful in having more heifers become pregnant with their first calf.

The key to successful breeding is cycling replacements. This is most strongly influenced by age and weight. At weaning select the older heavier heifers. It's pretty easy to select those few ideal heifers but what about those that might be considered marginal. Sorting the heifers into a lighter group and giving them additional feed might be just what is needed. Estimate the mature weight of the heifers and then recognize that by the start of the breeding season they should weigh about 60 percent of their mature weight. You can estimate the needed gain needed from their weight at selection time to the start of the breeding season. Then, be realistic as to whether under your feed and feeding conditions they will attain adequate gain to achieve 60 percent of their mature weight by the start of the breeding season. If they can't realistically make it, perhaps it is better to sell them on today's higher market.

Enhancing Marbling Potential

Several researchers are finding nutrition during the pre-weaning or early post-weaning period will significantly affect marbling. Cells that are to become fat cells (marbling when found intra-muscular or at fat thickness when found externally) may be influenced by diet. This phenomenon is readily seen in calves started on a high energy, high starch diet early in life, depositing more marbling relative to backfat than those started on the same diets later in life. It appears that forage-based diets which favor digestion to acetate emphasize external fat deposition and little intramuscular fat, while grain-rich diets increase digestion to propionate which favors intramuscular fat deposition and not external fat covering.

The starch diets typically consist of grain, but could also include grain hay that is mature with starch in the seed heads. Those "starchy" diets fed to 400 to 600 pound cattle may provide the increased propionate to enhance intra-muscular fat cells that become marbling during the finishing phase.

In practice producers could attempt to increase the amount of starch near or just after the weaning period. This might be accomplished by feeding grain or grain in the form of mature grain hay with adequate protein. This could be profitable for those participating in alliances or other marketing situations that provide financial incentives for higher marbling and grading cattle.

Cow Longevity

High costs of raising replacement heifers or high purchase costs place an emphasis on cow longevity. What are some of the factors that contribute to longevity? It's easier to identify factors NOT closely associated with longevity, according to workers at Washington State University. They used records of crossbred cows from the USDA research station at Miles City, Montana. Longevity was not affected by age at first calving or calf birth weight. Selection among heifers based on their birth weight, 200-day preweaning gain or 365-day weight also had no effect on longevity. The heifer's weaning and yearling weight were not predictive of her total life-cycle efficiency — presumably because of the lack of effects on longevity.

They did find that cow weight at weaning was associated with reduced culling (reduced longevity) and increased maternal breeding value (increased weaning weight of calves and increased milk production) lead to increased culling risk. They concluded that heavier-milking cows may expend more energy reserves, have reduced weight at weaning and therefore not be in adequate condition to rebreed. The result is culling. None of the measures in early life of the heifers were closely associated with longevity. The work suggests that longevity may be increased by matching the genetic potential of cows for size and milk production to feed resources and local conditions such that rebreeding performance is not reduced.

Adapted from Rogers et al. 2004. J Anim Sci 82:860 and Beef Cattle Research Update, Spring 2004, Ritchie et al, Michigan State University.

THURSDAY, OCTOBER 27

7:30 am Registration

8:00 Welcome—Ron Torell

8:10 Follicular growth & the estrous cycle
Mike Smith

8:50 $PGF_{2\alpha}$ in estrous synchronization: history, efficacy and utilization
Jim Lauderdale

9:20 Estrous synchronization systems - GnRH
Darrel Kesler

10:00 Break

10:30 Estrous synchronization systems- MGA
Dave Patterson

11:10 Estrous synchronization systems - CIDR
Cliff Lamb

11:50 Questions for morning speakers

12:00 pm Lunch

1:00 Recommended estrous synchronization strategies
Ron Torell

1:15 Factors that influence fertility in natural and synchronized breeding programs
George Perry

1:55 Timing of vaccinations in estrous synchronization programs
Doug Hammon

2:25 Cost and comparisons of estrous synchronization systems
Sandy Johnson

3:00 Break

3:20 Puberty and anestrus: dealing with non-cycling females
Jeff Stevenson

4:00 Nutrition & reproduction interactions
Rick Funston

4:35 Supplementation and weaning strategies to optimize reproductive performance
Steve Paisley

5:15 Questions for afternoon speakers

FRIDAY, OCTOBER 28

7:30 am Registration

8:00 Welcome—Benton Glaze

8:15 Breeding soundness exams
Duane Garner

9:00 Insemination related factors affecting fertilization in estrous-synchronized cattle
Richard Saacke

9:45 Semen quality assessment and sexed semen
Duane Garner

10:05 Break

10:30 Industry application of technology in male reproduction
Mel DeJarnette

11:20 Questions for morning speakers

11:45 Lunch

1:00 pm Embryo transfer
Cliff Lamb

1:30 Reproductive tract scoring
Dave Patterson

1:50 Ultrasound - early pregnancy diagnosis and fetal sexing
Cliff Lamb

2:10 Break

2:30 Veterinarian panel — Utilizing advanced reproductive technologies

4:00 Adjourn

MODERATORS

Thursday, October 27
Morning **Jack Whittier**
Afternoon **Clay Mathis**

Friday, October 28
Morning **Dave Bohnert**
Afternoon **Dale Zobell**
Questions/Panel **Clell Bagley**

SPEAKERS

Mel DeJarnette, MS
Reproduction Specialist
Select Sires, Inc., Plain City, OH

Rick Funston, PhD
Assistant Professor, University of Nebraska
West Central Research and Extension Center

Duane Garner, PhD
Professor Emeritus, Animal Biotechnology
University of Nevada

Doug Hammon, DVM, PhD
Clinical Assistant Professor
Utah State University

Sandy Johnson, PhD
Assistant Professor and Livestock Specialist
K-State Research & Extension

Darrel Kesler, PhD
Professor, Animal Sciences and Veterinary Clinical Medicine, University of Illinois

Cliff Lamb, PhD
Associate Professor, NC Research/Outreach Center, University of Minnesota

Jim Lauderdale, PhD
Lauderdale Enterprises, Inc., Augusta, MI

Steve Paisley, PhD
Assistant Professor, Animal Science
University of Wyoming

David Patterson, PhD
Professor, Animal Science
University of Missouri

George Perry, PhD
Assistant Professor, Animal Science
South Dakota State University

Richard Saacke, PhD
Professor Emeritus, Dairy Science
Virginia Polytechnic Institute

Mike Smith, PhD
Professor and Department Head
Animal Science, University of Missouri

Jeff Stevenson, PhD
Professor, Animal Science & Industry
K-State Research and Extension

Ron Torell, MS
Area Livestock Specialist
University of Nevada Cooperative Extension

PANEL MEMBERS

James England, DVM, University of Idaho
John Maas, DVM, University of CA-Davis
Doug Hammon, DVM, Utah State University

COMMERCIAL DISPLAYS

Commercial products are an integral part of Applied Reproductive Strategies in Beef Cattle. Exhibitors will be present to discuss their products.

CONTINUING EDUCATION CREDIT HAS BEEN APPLIED FOR AND IS PENDING

OBJECTIVES OF ARSBC

1) Improve the understanding of the physiological processes of the estrous cycle, the procedures available to synchronize estrus and ovulation and the proper application of these systems.
2) Improve the understanding of methods to assess male fertility and how it affects the success of AI programs.

REGISTRATION FORM

Applied Reproductive Strategies in Beef Cattle
October 27-28, 2005

Name _____

Company Affiliation _____

Address _____

City, State, ZIP _____

Daytime Phone Number _____

E-Mail Address _____

Registration fee includes lectures, proceedings, lunch & refreshment breaks.

___	Registration for Thur., Oct. 27 on or before Sept. 26	**$150**
___	Registration for Fri., Oct. 28 on or before Sept. 26	**$150**
___	Registration for Thur. and Fri., Oct. 27 & 28 on or before Sept. 26	**$200**
___	Save $50 if staying at the El Dorado Casino Hotel	**-$50**
___	Registration after Sept. 26, add late fee	**$25**

TOTAL ENCLOSED _____

Make check payable to: **University of Nevada-Reno Board of Regents**

Refunds, less a $25.00 handling charge, will be made if notification is received by Oct. 17, 2005.

RETURN FORM AND PAYMENT TO:
Ron Torell
Area Livestock Specialist
University of Nevada Cooperative Extension
701 Walnut
Reno NV 89801
(Please photocopy this form for additional registrations.)

PRESENTED BY

This program is sponsored by the Cooperative Extension Service and Western Beef Resource Committee from Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. This program is coordinated by the North Central Region Bovine Reproductive Task Force; a multi-state extension activity in cooperation with the North Central Agriculture and Natural Resources Program Leaders Committee and the Cooperative State Research, Education and Extension Service.

ACCOMMODATIONS

El Dorado Hotel Casino
345 N Virginia Street
Reno NV 89501
(800) 648-5966
eldoradoreno.com

Specify "Applied Reproductive Strategies in Beef Cattle" and group code SUR1026 when reserving rooms. Please reserve rooms by September 26 for special rates. Deluxe sleeping rooms are $50 for weeknights and $90 for Friday through Sunday.

QUESTIONS? PLEASE CONTACT:

Ron Torell
(775) 738-1721
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Rick Funston
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http://westcentral.unl.edu/beefrepro/

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APPLIED REPRODUCTIVE STRATEGIES IN BEEF CATTLE

October 27 & 28, 2005
El Dorado Hotel Casino
Reno, Nevada

Sponsored by:

Western Beef Resource Committee

USDA Risk Management Agency

North Central Region Bovine Reproduction Task Force

Feed Efficiency

Feed efficiency has dramatic effects on feed costs whether for the feedlot steer or the breeding cow. New research on the subject suggests progress on selecting and breeding for improved feed efficiency.

Feed to gain ratio (feed conversion ratio) has been used as a measure of feed efficiency. However, research has shown that selection for improved conversion may lead to increased mature size resulting in lower overall efficiency of beef production. More recently a new measurement, residual feed intake (RFI) shows great potential as a measure of efficiency and does not suffer from potential increases in mature size. RFI is the numerical value from the actual feed intake minus the expected feed intake. Low numerical values of RFI indicate high feed efficiency; cattle consume less feed without reducing daily gain, and similar carcass traits.

Research at the Lacombe Center in Canada showed that dams of more efficient steers were also more efficient. Table 1 shows measurements of high and low efficiency cows, based on RFI, for various traits.

	Cow Efficiency Group	
Item	High	Low
No. of cows	20	17
Age, years	5.4	5.8
RFI, lb/day	-3.31[a]	5.91[b]
Dry matter intake, lb/day	28.9[a]	36.4[b]
Body wt., lb	1645	1649
Daily gain, lb/day	-0.05	0.06
Body condition score	3.3	3.6

[a,b] Values with different superscripts differ significantly (P<.001)

[c] On a 1 to 5 scale.

In the 84 day cow test, high efficiency cows consumed 7.5 lb less dry matter each day (-21%) than low efficiency cows. There were no measurable effects on cow weight, daily gain or body condition score. The test started during the second trimester of pregnancy for the cows and ended in the early third trimester. They were on a diet of barley straw (56.6%), barley silage (40%) and supplement (3.4%). With $100 per ton ration costs, this would have been a savings of $0.37 per cow per day.

Table 2 shows feedlot and carcass performance of steers progeny from these same cow groups of high or low efficiency based on RFI.

	Cow Efficiency Group	
Item	High	Low
No. of progeny	20	17
RFI, lb/day	0.24[a]	1.28[b]
Dry matter intake, lb/day	18.3[a]	20.1[b]
Daily gain, lb/day	2.91	2.82
Feed/gain	6.29	7.12
Slaughter wt., lb	1153	1202
Backfat, inches	0.27	0.30
Yield grade	1.4	1.3
Quality grade (Canadian)		
A, %	29.4	26.7
AA, %	52.9	60.0
AAA, %	11.8	6.7
B4	5.9	6.6

[A,b] Values with different superscripts differ significantly (P<.05)

This shows RFI is useful for both feedlot cattle as well as breeding cattle. Cow calf producers selecting for RFI not only may reduce their feed costs but produce calves more economical in the feedlot. With increasing record keeping ability, those calves will be known and should demand a premium price.

RFI is being researched and used increasingly throughout the world. Look for expanded information about RFI.

Adapted from Basarab. 2004 Alberta Agriculture Lacombe Research Center Newsletter, Volume 8, Issue 2, and Beef Cattle Research Update, Fall 2004, Ritchie et al, Michigan State University.

This is your copy of the Siskiyou Stockman, which you requested, or which we thought would be of interest to you.

Sincerely,

Daniel J. Drake, Ph.D., PAS
Farm Advisor - Livestock & Range
530/842-2711

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