

Medusahead:

What is being tested to reduce it?

Josh Davy – UCCE Tehama, Glenn, Colusa

Dr. Emilio Laca – UC, Davis

Larry Forero – UCCE Shasta, Trinity

Medusahead is a detriment to annual rangeland because of its awns, high silica content (low digestibility), and low forage production. The high silica content results in a long lasting thatch that suppresses desirable forage species. Medusahead matures later than most other annual grasses, and once it matures livestock tend to avoid it, which helps it to dominate the residual dry matter left for the next fall.

UC Cooperative Extension is currently conducting research on this pest. These projects are being conducted to better understand the biology of the plant in an effort to learn strategies that will ultimately reduce the amount of medusahead on rangelands. These projects included grazing, mowing, burning, livestock attractants (supplements), fertilization, as well as application of herbicides.

Heavy grazing just before seed head emergence – A first year project (2007) with sheep in Yolo County achieved a large reduction in medusahead cover and seed production by concentration of 10-30 sheep/ac for 1-3 weeks during early boot stage, the period of maximum weed susceptibility. To eliminate the ability for medusahead to produce seed, the grazing utilization reached 50-60% within 1-3 weeks. Because it is hard for producers to achieve high stocking densities in large areas, the project was repeated in 2008 with longer grazing periods and lower stocking densities.

Another grazing project was conducted in 2008 in Glenn County on a larger scale with cattle. In this experiment, four different methods of achieving approximately the same stocking rate were tested by varying the number of cattle and grazing time on infested sites. Yearlings were concentrated in 1.5-3 ac pastures using electric fencing just before the medusahead flowered. The ground was not as heavily impacted as had been with the sheep. Results of the sheep and cattle trials will be available after monitoring is completed in the spring of 2009. None of the treatments resulted in any detectable reduction in body condition of

the sheep or cattle, based on the evaluation of the owners of the livestock operations.

When spring grazing medusahead ranges, it is important to remember that success is achieved through heavy grazing pressure on the weed as it is beginning to mature. Correct timing is imperative. Yearly fluctuations in forage production change the number of cattle that need to be concentrated on a site to achieve the required high level of utilization. Future grazing projects will consider changing the intensity of grazing to mid-winter to ascertain the affect of cattle hoof action on breaking down medusahead stands. Condensing cattle in the spring showed limited hoof action at breaking down medusahead stands because the ground was dry.

Mowing – Mowing in late spring leaves a larger window for impacting medusahead than grazing because it can be done when medusahead has seed heads emerged. It is, however, necessary to make sure that mowing is completed before seeds are fully developed, which happens before the plants look yellow. While the beginning of the period susceptible to mowing is the same as for grazing, mowing can be effective for 1-2 weeks longer than grazing, because livestock strongly avoid medusahead once the seed heads emerge.

Burning – Results from a spring burn in Tehama County shifted the composition of medusahead from 80% to 2% of the species present. The composition shifted to the favor of filaree and wild oats. Forage production was reduced in the second year, but seemed to recover well in years three and four.

Attractants to encourage grazing – Tubs of low-moisture supplement with a molasses base were tested as attractants to concentrate grazing in heavily infested areas in several ranches over two years. Though cattle readily consumed the molasses, there was less control of medusahead than by the other methods. If supplementation is part of the normal management, this method achieves some control without additional expense. It is possible that by using attractants during mid winter when the ground is softer that hoof action can contribute to breaking up infested areas.

Continued page 2

We have had no success in tests using liquid molasses or salt applied directly on medusahead during the late and dry season, neither with cattle nor sheep. A pilot project was conducted during the dry season in Tehama County in 2008 to determine if spraying salt or molasses at varying rates on medusahead stubble would attract cattle to consume those areas more readily. The cattle were held off supplemental salt prior to being turned into the study site. A similar test was conducted in Yolo County with sheep. These pilot projects did not show additional forage consumption in the treated areas, but it may be necessary to repeat tests earlier in the growing season.

Fertilizer – Two studies are currently being conducted in Tehama and Colusa Counties to determine if varying rates of nitrogen fertilizer can lower the amount of medusahead and starthistle. Nitrogen fertilizer was applied in early December just after germination in an effort to see if desirable forages can out compete medusahead before its large growth surge that occurs in the spring. Initial results will be available in the spring of 2009.

Herbicide application – Current and future research in Tehama County is looking at the application of glyphosate (Roundup™) in the spring just before medusahead seeds are fully formed. Since most other desirable forages have already dropped seed by this point, it is hypothesized the herbicide application will only retard the seed production of medusahead and leave other desirable annuals to germinate the next fall. In the future, alternative herbicides will be evaluated for their ability to prevent medusahead germination through fall applications.

It is acknowledged that eradication of medusahead from rangelands will never be achieved; however, if methods of reduction are found to be effective, then these methods can be applied to key rangeland areas (i.e. the more productive sites). Since no single practice fits every location or operator, many different strategies are currently being tested for their applicability to rangeland production and effectiveness at reducing medusahead.

Irrigated Pasture Fertilization-Where do we go from here?

Larry Forero, Rollie Meyer, Glenn Nader, Josh Davy

The year 2008 was filled with uncertainty. It started off with record high fertilizer prices coupled with high hay prices and a beef cattle market that was at least steady. As the year progressed, we saw a rapid decline in the cost of fertilizer, a weakening in the hay market and a significant drop in the price of beef cattle. As a result, 2008 could be summarized as being “unpredictable.” Trying to figure out what to do in 2009 is even more challenging. The beef cattle market situation coupled with availability of adequate irrigation water and lack of rainfall across northern California continue to make decision making difficult. This is a year to really think about forage management and production in as cost effective method as possible. It goes without saying that consideration should focus on resources (water and fertilizer) for the pastures with the most productive species and consider pasture rotation to provide plant rest.

Here are a couple of things to think about:

1. Many producers routinely apply a given amount of a particular blend of fertilizer of annually (i.e., 200 lbs of 16-20-0. It is important to remember that 200 lbs of 16-20-0 provides less nitrogen (but more phosphorus) than 21-0-0. Think about what your field needs and adjust the blend and application rate to meet those needs.
2. Generally for each pound of nitrogen applied, you will produce about 20-30 lbs of forage.
3. Urea fertilizers can be very volatile compared to ammonium, particularly in warm weather. A plan for adequate water application or soil incorporation should be made before urea applications to avoid waste.
4. For each pound of phosphorus as P_2O_5 applied you will produce about 15-20 lbs of forage (if the crop is deficient).

The question is what it costs for that forage increase. Table A shows that at least at the theoretical level, Urea is the most cost effective fertilizer.

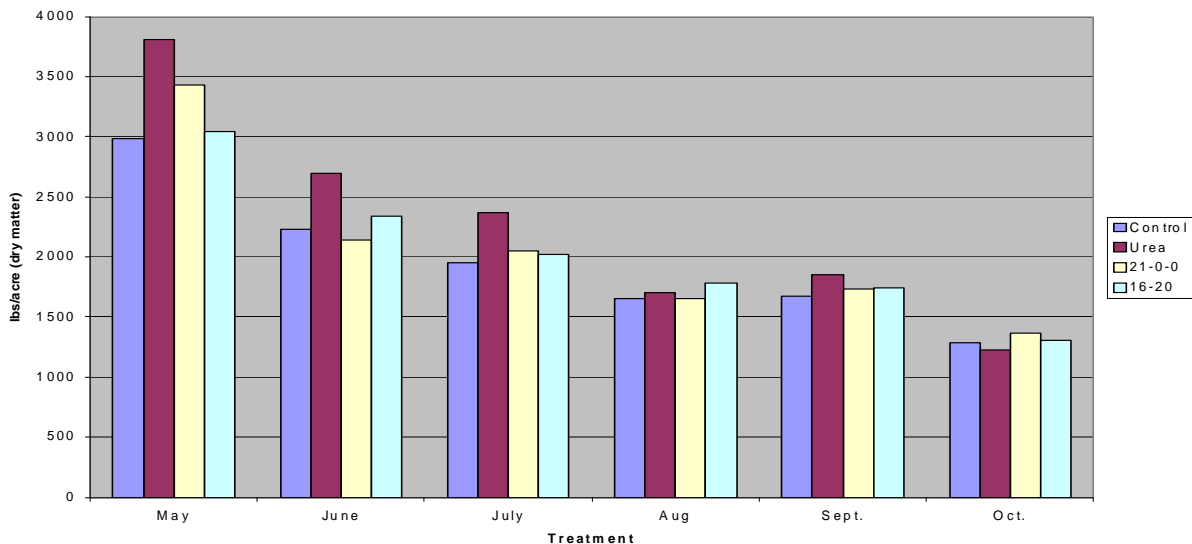
The math is easy in the office—a lot tougher in the field. The table assumes adequate water and no other limiting nutrients than **nitrogen and phosphorus**. Take soil samples and submit them to a lab for analysis for phosphorus and potassium and plant tissue samples for nitrogen and sulfur. This is not a year to try to guess **what is needed** and purchase nutrients that are not required. If you need help taking samples or interpreting results, call your local cooperative extension farm advisor.

Pasture uses nitrogen at the rate of about 1 lb N/acre/day. One application of nitrogen does not last the season. Figure 1 graphically displays the monthly production in Shasta County at 1700 feet elevation that was fertilized with Urea (92 lbs N), 21-0-0 (42 lbs N) and ammonium phosphate (16-20-0) in April. In all cases the response has diminished by August. Over several years of time, fertilizing with 16-20-0 or 11-52-0 should increase the amount of clover present in the pasture and greatly reduce nitrogen fertilizer required. Make sure subsequent year tests are conducted as phosphorus and sulfur applications can last multiple years. Also, phosphorus will stimulate clover, which will provide nitrogen for higher forage production and quality during the July-August period if adequate irrigation water is available.

	Urea (46-0-0)	21-0-0	16-20-0	11-52-0
Cost/Ton*	\$480	\$265	\$340	\$490
Rate	200 lbs/acre	200 lbs/acre	200 lbs/acre	200 lbs/acre
Cost/Acre	\$48	\$27	\$34	\$49
N applied	92 lbs	41 lbs	32 lbs	22 lbs
P ₂ O ₅ applied	0	0	40 lbs	104 lbs
Expected additional production from N	2300 lbs	1025 lbs	800 lbs	550 lbs
Expected additional production from P ₂ O ₅ (if the field is deficient)	0	0	600	1560
Total expected additional production from N and P ₂ O ₅	2300	1025	1400	2110
Cost/ton of forage	\$42/ton	\$53/ton	\$49/ton	\$47/ton

*Feb. 2009 price

Average (6 year) Irrigated Pasture Production by month by treatment



Weaned Calf and Yearling Natural and Implant Trends and Prices

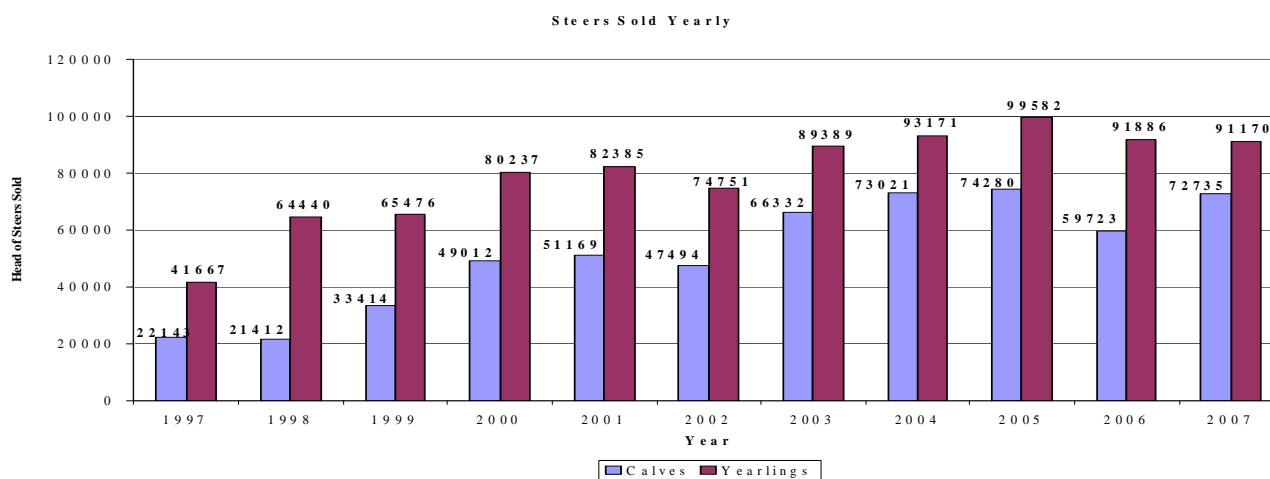
Glenn Nader, Larry Forero, Steve Blank, and Annie Maddalena

Ranchers are interested in management methods that increase the value of their calves. A University of California study analyzed eleven years of data to determine the market trends and price premiums for each identifiable management method. Anonymous cattle sales from January of 1997 to December 2007 from Western Video Market (WVM) were analyzed to determine changes and trends in management practices associated with the marketing and sale of steer calves at weaning (500 to 625 pounds) and yearling steers destined for the feedlot (750 to 925 pounds). Table 1 below shows a summary of the data studied. The number of calves and yearlings sold annually by video marketing increased during the eleven year period and can be seen in Graph 1 below.

Table 1.

Class:	Calves	Yearlings
Total Head Studied	470,735	874,154
# of Lots	4,116	5,147
Smallest Lot Sold	40	42
Largest Lot Sold	920	2,500
Average Lot Size	139	170

Graph 1. The number of calves and yearlings sold by WVM has nearly doubled since 1997.



In the study, cattle management information was coded according to the terms provided by the seller and used in the sales catalog. The management practices considered included: bunk broke, uniformity, forward contracting, adherence to a Quality Assurance Program (QAP), preconditioning, weaning, participation in the WVM Natural program, implanted, Certified Angus Beef (CAB), Western Rancher's Beef (WRB), age and source verification, born and raised in the USA, location of the cattle sold, yearlings from grass or haylots, and breed. Complex price modeling estimated the premium for each variable (management practice).

For the purpose of this study, **preconditioning** was defined as the use of two killed viral vaccines for IBR, PI3, BVD and BRSV, or the use of a single vaccination of modified live vaccine before shipment, or one application of a modified live intranasal immunization, such as Nasalgen, at any time up to loading on the truck.

QAP designations were given to any lot advertising the use of a quality assurance program, including BQA, QAP, WRB signed and certified, or any state QAP. Those lots stating that vaccinations had been given only in the neck did not receive QAP designation. In 2003, WVM required a QAP certification number for use of this market term or label.

Management at **weaning** was considered. If there was no designation of the weaning process, it was assumed that they were weaned at the time of sale. Weaning was divided into three categories: on the truck (Weaning 0 days), under thirty days (Weaning <30 days), or thirty days and greater (Weaning >30 days).

Lots advertised as WVM Natural Beef candidates and lots that were advertised as “owner will sign affidavit, no antibiotics, no implants, and no ionophores” were given the designation of **WVM Natural**.

Study Findings

First it should be noted that just because there is a price premium associated with a management practice that does not mean that the cattle will be profitable in a ranchers operation. The data in Table 2 below represents the 11 year premium (+) or discount (-) for each management practice.

Table 2. Premiums and discounts for selected management practices for weaned calves and yearlings (\$/cwt).

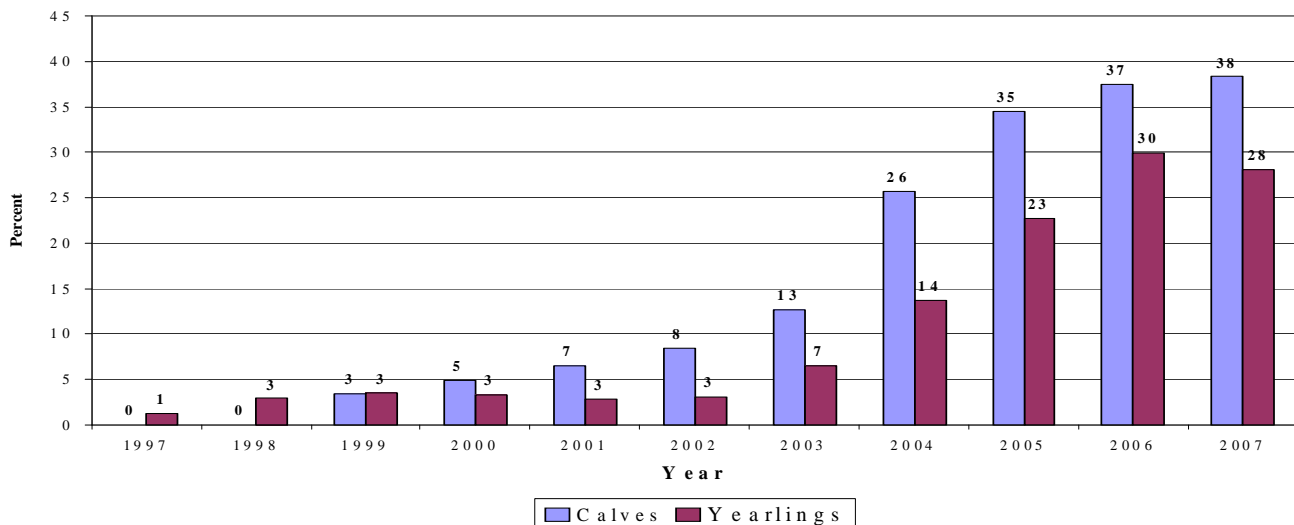
	<u>Weaned Calves</u>	<u>Yearlings</u>
Weaning 0 days	-\$3.59	
Weaning <30 days	-\$1.29	
Yearling in haylots verses on Grass		-\$0.72
Implants used	-\$0.5	-\$0.22
Natural Beef	+\$2.25	+\$3.78
Certified Angus Beef	+\$1.38	+\$0.67
Preconditioned	+\$1.37	+\$1.03

A single value estimating the premium or discount for a management practice over the 11 years of the study data provides an overall trend, but ignores the dynamic nature of market conditions that influence prices, principally the supply of animals with certain market attributes and the demand by buyers (larger macro-economic factors are also influential but not discussed here). The graphs below provide a visual reporting of the trends in the frequency of terms used or the prevalence of management practices that ranchers used to represent their calves and yearlings, followed by a graph showing the price premium for the same management practice by year. Price premiums/discounts were reported only in the years when the price premium/discount was statistically significant.

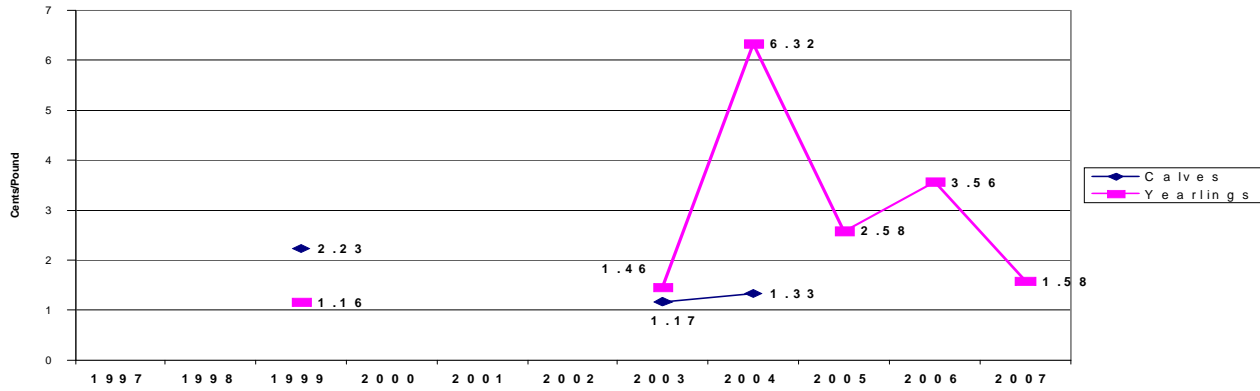
Trends in Management Practices

One of the most notable market trends is the increase in the percent of cattle marketed as “natural beef” (Graph 2). While a consistent increase can be seen for both wean calves and yearlings, the graph may be showing signs of this niche market beginning to level off near 38% in 2006 and 2007 for weaned steers and 28% for yearling steers. It can also be seen that the proportion of natural lots in the yearlings are lower than in the weaned steers. It is unknown whether this is a proactive decision by stocker operators to implant in order to receive greater gains, or merely the attrition of cattle from the program due to illnesses and the use of antibiotics or other unplanned events that exclude them from “natural beef”.

Graph 2 - Percent Calves & Yearlings described as “Natural Beef”



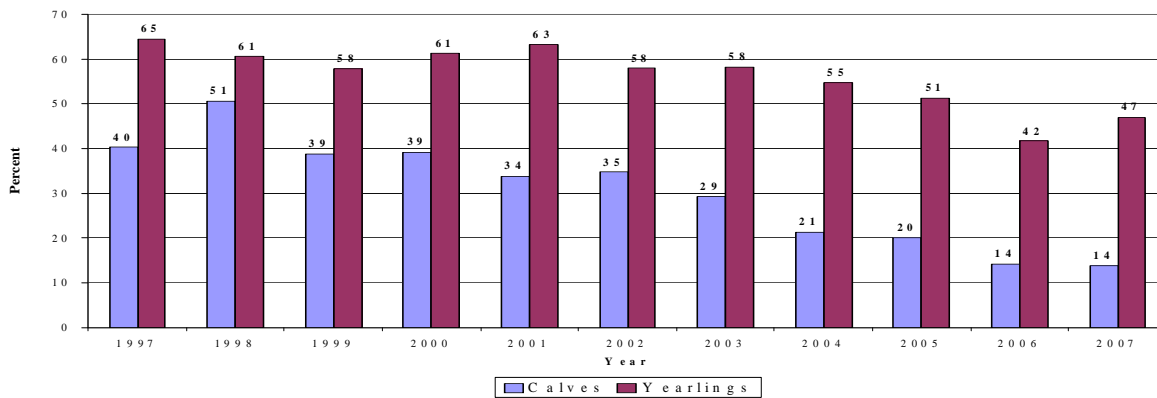
Graph 3 – Price Premium (cents/lb.) for calves and yearlings marketed as “Natural Beef”



7

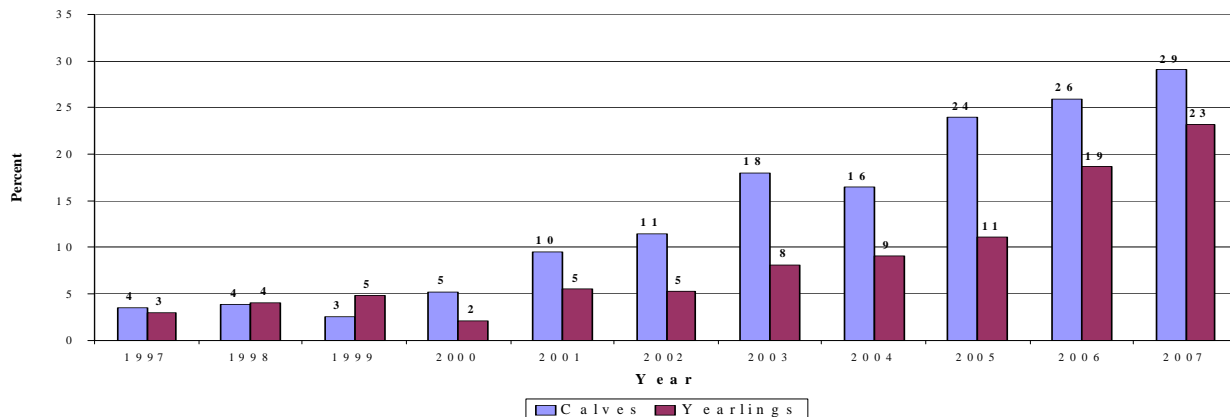
Implants are the inverse trend of “natural beef”, for the weaned steers with consistent declining use since 2002, implanted calves seem to be leveling off at roughly 14%. The trend for implants in the yearling steers shows nearly half of the lots sold in 2007 were implanted and that more yearlings are implanted than calves.

Graph 4 – Percent weaned calves & yearlings receiving implants.

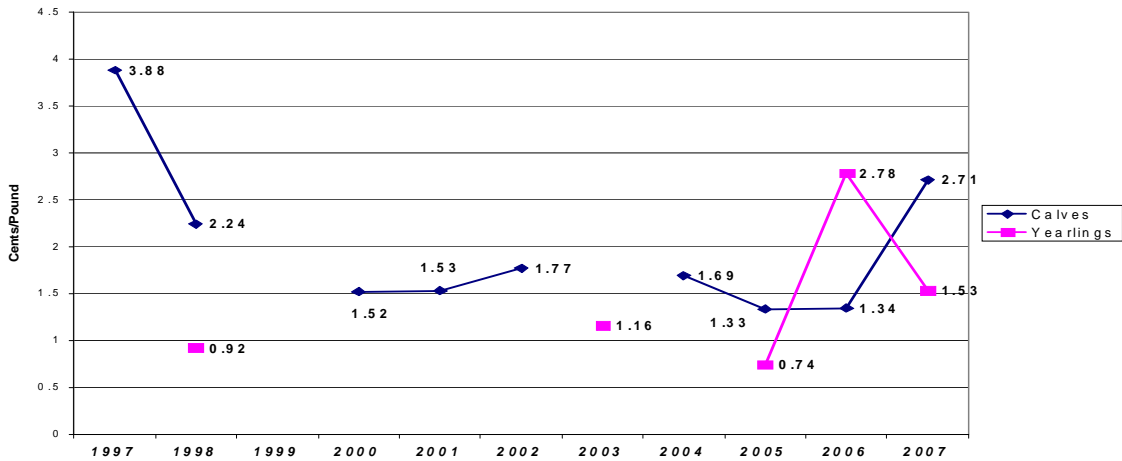


Certified Angus Beef marketing has increased steadily during the eleven years of study (Graph 5). It also is one of the more consistent price premiums for both calves and yearlings (Graph 6). The fact that nearly 80% of the calves and yearlings on WVM video were identified as black or black hided further supports the assumption that Angus are preferred by the buyers. Despite the consistent price premiums, some producers question whether they are adequate to compensate for losses associated with not crossbreeding.

Graph 5 – Percent calves and yearlings that were marketed as “Certified Angus”

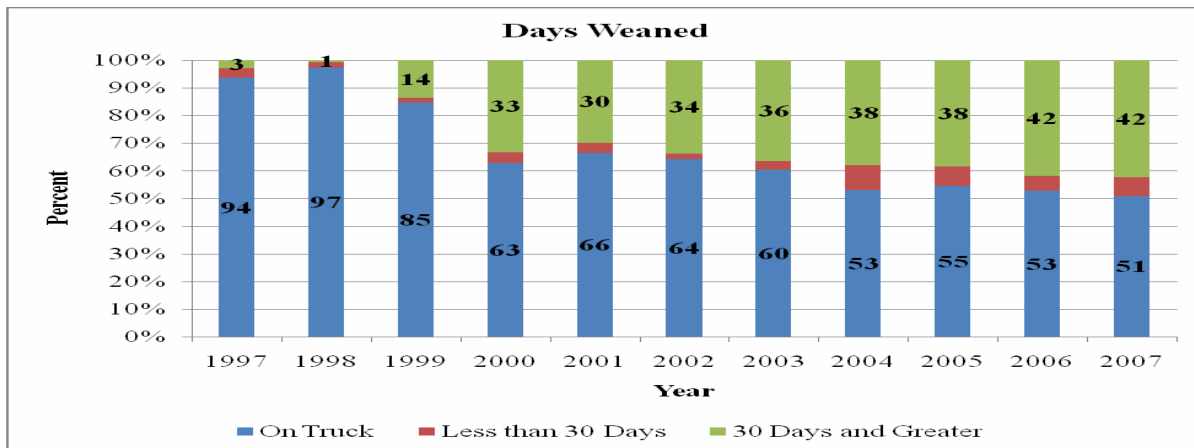


Graph 6 – Price premiums for cattle marketed as “Certified Angus”.



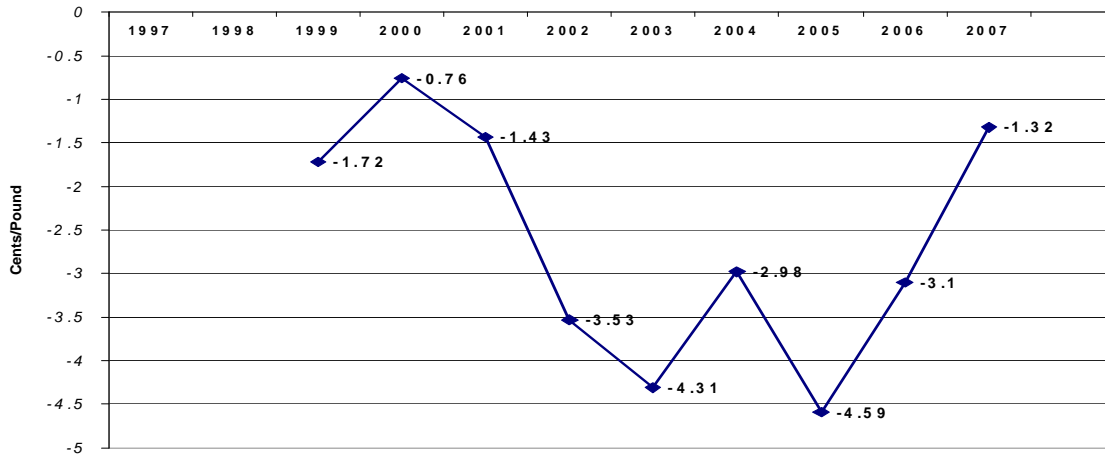
Weaning practices had a dramatic change during the study period, as producers responded to the price premium offered by buyers that wanted to take less risk with fresh weaned calves. The percent of calves marketed as weaned directly onto the truck declined dramatically from practically the universal practice to only about half of all weaning methods. Calves weaned for more than 30 days increased nearly four fold. Each ranch needs to evaluate the price premiums for weaning to see if the additional facilities, labor requirements, and weight loss associated with weaning on their ranch makes it a profitable venture.

Graph 7 – Percent calves weaned before and on the sale date showed dramatic changes. At the start of the study period almost all of the calves were weaned onto the truck while 11 years later about half were weaned for more than 30 days prior to sale.

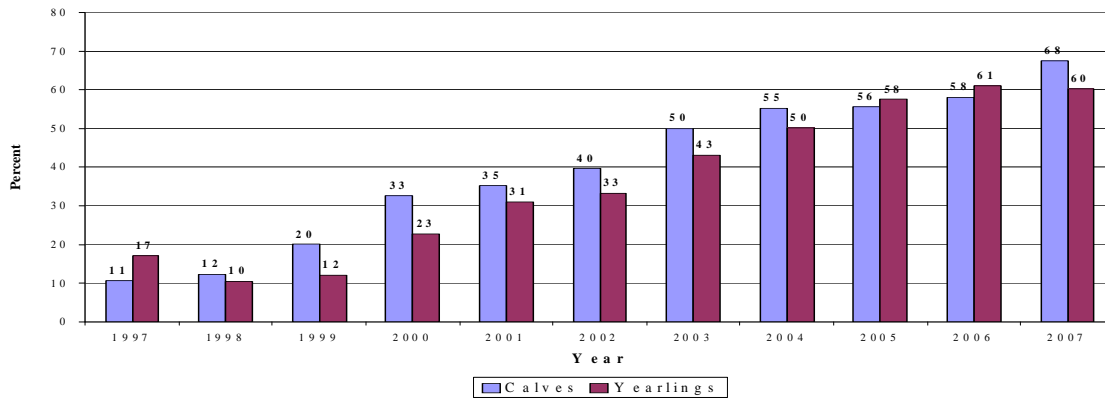


Graph 8 – Price discount of calves weaned at the sale compared to calves weaned for over 30 days

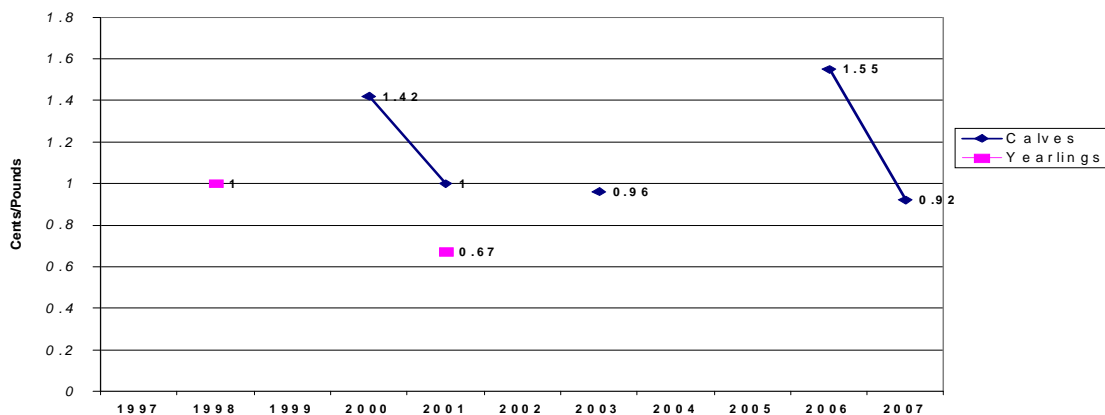
Preconditioning vaccinations are one way that ranchers build a reputation of cattle that perform for buyers. The right kind of vaccination program is also essential for natural programs. A steady increase in the trend to vaccinate cattle can be seen in the data (Graph 9). The price premiums (Graph 10) generally cover the cost of the vaccine.



Graph 9 – Percent weaned calves and yearlings receiving preconditioning vaccinations.

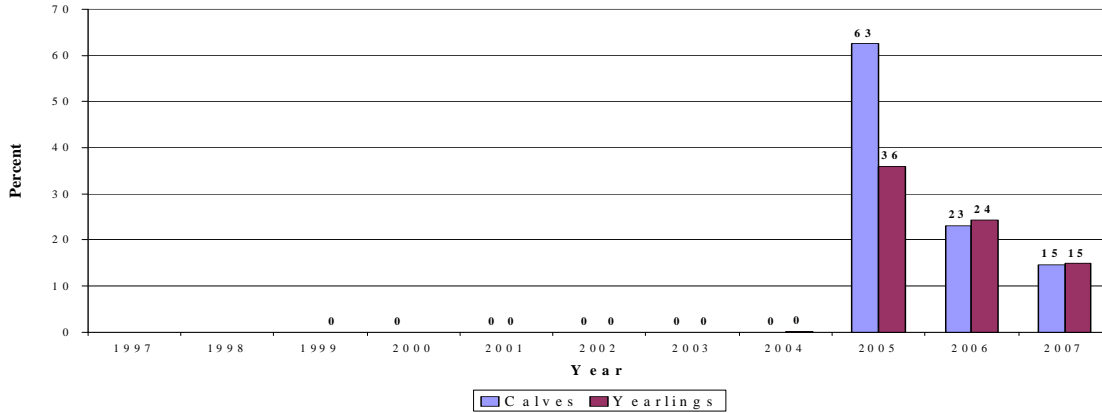


Graph 10 – Price premiums for weaned calves and yearlings marketed as “precondition due to vaccinations”.

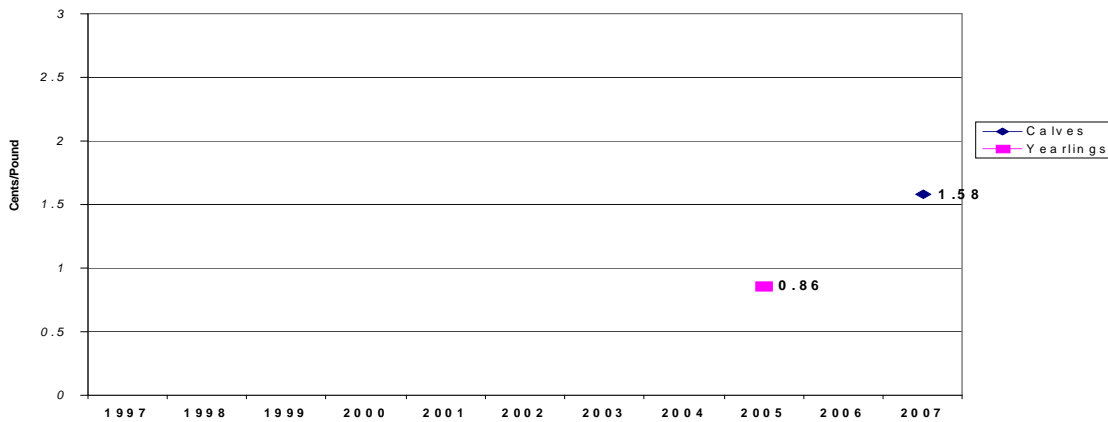


Age and Source verified is a new marketing option that rose dramatically when all it required was an affidavit (Graph 11 year 2005). When the addition up front costs of a third party audit was required (after 2005), then it dropped dramatically as a reported marketing practice at WVM. Due to the low number of lots sold only two price premiums are reported (Graph 12).

Graph 11 – Percent calves identified as age and source verified.



Graph 12 – Price premiums for cattle sold as age & source verified.



Conclusions

Trends, premiums and discounts anticipated by knowledgeable cattle persons are documented and quantified. Several management practices have increased in use and are returning premiums. Producers can use these results to help evaluate specific production practices in their operations. However, the devil is in the details as past performance is no guarantee of future performance and fluctuations both from sale-to-sale, week-to-week and over years occurs.

Regular registration rate ends 4/3/09



2009 Beef Improvement Federation Research Symposium

Sheraton Grand Hotel,
Sacramento
April 30-May 3, 2009

California cattle producers will have a rare opportunity to attend an international conference in their own backyard in 2009. The CBCIA and CCA will host the Beef Improvement Federation (BIF) Conference at the Sheraton Grand Sacramento and the Sacramento Convention Center from **April 30 – May 3, 2009**. Some 500 to 600 beef cattle breeders and commercial producers, researchers and allied industry will take part in the three-day program. Educational sessions will feature world-experts on issues relating to genetic improvement and selection technologies in beef cattle featuring session on cow efficiency and developments in DNA.

CONFIRMED SPEAKERS: *Dr. Michael Goddard, University of Melbourne, Australia; Harvey Freetly, U.S. Meat Animal Research Center, Nebraska; Jerry Taylor, University of Missouri; Tom Field, National Beef Cattlemen's Association; Ben Brophy, Manager of Value-Added Alliances, Cargill Meat Solutions; Dorian Garrick and John Lawrence, Iowa State University; Gordon Carstens, Texas A&M University; Dave Daley, California State University Chico; Bill Beal, Virginia Tech; Herb Holzapfel, California Cattle Producer; Mike Smith, Harris Ranch*

Proposed Agenda

Wednesday April 29th

Thursday April 30th

Friday May 1st

Saturday May 2nd

Sunday May 3rd

Early Registration

Eastern Tour "Foothill Bovines, Equines and Fine Wines"

Evening Reception at the Sheraton Grand followed by Opening session and program by National Association of Animal Breeders

Morning session "Is There Gold in Those Genomes?" Sheraton

Afternoon breakout sessions in the Sacramento Convention Center
Spouse Tour

Evening Dinner at The State Railroad Museum (Buckhorn Catering)

Morning session "Panning for Efficiency" Sheraton Grand

Afternoon breakout sessions in the Sacramento Convention Center

Evening on your own in Sacramento

Western Tour "Ocean Wines and Bovines"

For registration and hotel information see <http://www.calcattlemen.org/bif2009.html>



Winter Ag Meeting



Shasta Livestock Auction Yard, Cottonwood

Thursday, March 19, 2009

4:00 p.m. - 7:30 p.m.

Brought to you by : Hawes Farm and Ranch, Northern CA Farm Credit, Pfizer Animal Health, Cottonwood Veterinary Clinic, Shasta Livestock, Shasta And Tehama County Cattle-men's Associations

AGENDA

- 4:00 pm Introduction and Welcome-*Josh Davy and Larry Forero*
- 4:05 pm Irrigated Pasture Clipping Study-
Larry Forero, Shasta County Cooperative Extension
- 4:35 pm Curley Calf: What is it?
Dr. Alison Van Eenennaam—UCCE Biotech and Genomics Specialist
- 5:00 pm Reproductive Health of Beef Cattle
Dr. Richard Linhart, Veterinary Operations, Pfizer Animal Health
- 5:30 pm Pregnancy Checking and the Bottom Line
Dr. Bill Gray and Dr. Armando Nieto, Cottonwood Veterinary Clinic
- 6:00 pm Dinner from Vic's Branding Iron courtesy of Hawes Farm and Ranch Supply and Pfizer
- 6:30 pm Developing a Calendar of Operations to Ensure Reproductive Health
Dr. John Maas, UC Davis Vet Med Extension
- 6:45 pm Near Infrared Technique for Estimating Pasture Quality
Josh Davy, Tehama County Cooperative Extension
- 7:15 pm adjourn

Please return the RSVP to Larry Forero or Josh Davy for Dinner by March 17, 2009 (No cost for dinner)

Name _____ Telephone # _____
 Address _____ # attending _____
 City _____ State _____ Zip _____

For more information call Larry Forero at (530) 224-4900 or Josh Davy at (530) 527-3101



The University of California in accordance with applicable State and Federal law and University policy, does not discriminate on the basis of race, color, national origin, religion, sex, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. The University also prohibits sexual harassment. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA 94612-3560. (510) 987-0096.





COOPERATIVE EXTENSION..UNIVERSITY OF CALIFORNIA

LIVESTOCK & LAND NEWS

TEHAMA, GLENN, COLUSA



March 2009

1754 Walnut Street, Red Bluff, CA 96080 Phone (530) 527-3101

Josh Davy

Livestock & Natural Resources Program Rep

Richard P. Buchner

UC Farm Advisor, Orchard Crops/Tehama Co. Director

Prepared by Cindy McClain - Office Manager & Spring Severson - Ag Secretary



The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam era veterans, or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA 94612-3550, (510) 987-0096.



In This Issue:

- **Special Edition of the Northern California Ranch Update**
- Medusahead: What is being tested to control it
- Irrigated Pasture Fertilization: Where do we go from here?
- Weaned calf and Yearling Natural and Implant Trends and Prices
- Beef Improvement Federation Meeting Comes to California
- Winter Animal Health Meeting in Cottonwood-March 19th, 2009

Check out the web site at <http://cetehama.ucdavis.edu> or <http://ceglenn.ucdavis.edu>

NON-PROFIT
US POSTAGE
Paid
Red Bluff, CA
Permit No. 112

University of California
Cooperative Extension - Tehama County
1754 Walnut Street
Red Bluff, CA 96080