The Roundup

Livestock and Range Newsletter
Kern, Tulare, and Kings

University of California
Agriculture and Natural Resources

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I hope this newsletter finds you all doing well and that everyone had a wonderful holiday season.

Recently I attended the Society for Range Management annual meeting in Spokane, WA. This meeting is an important opportunity for me to connect with range management colleagues from across the nation and learn about recent research. Building and maintaining these relationships helps me stay connected to science and researchers and bring back new information and solutions to better serve you.

While in Spokane I attended a session focused on poisonous plants. The organizers and presenters at this session were from the USDA, ARS Poisonous Plants lab in Logan, UT. One presenter talked about lupine research conducted at the lab. When pregnant cows eat lupine between 40 and 100 days of pregnancy their calves may be born with what is known as Crooked Calf Syndrome. The researchers in Logan explained that through their experiments they figured out that the toxins in the lupine plants actually temporarily paralyze the fetus (calves, lambs, etc.) while it is in utero. Fetal movement is incredibly important to proper development of muscle and bone. The lack of fetal movement is what causes the young to be 'crooked' when they're born. Once the cows are removed from the lupine, fetal movement returns to normal within 24 hours. The researchers included management suggestions for avoided crooked calf syndrome. They include keeping cows off of pastures with significant lupine during 40 to 100 days of pregnancy. This is when the cow is most likely to eat enough to affect the calf, but not affect herself.

One of the scientists from Logan presented on Pine Needle Abortion. Pine needle abortion is most common when it is cold and forage is either scarce or difficult to access due to snow. Also, cows are more likely to eat pine needles and bark (both of which contain the toxin) when they're hungry. It's kinda like going to the grocery store at dinner time. Our stomachs influence our decision making. It's the same for cows. If they are in poor condition or there isn't much forage available they are more likely to eat pine needles. The amounts of the toxic substance varies among pine species, with Ponderosa Pine containing the most; some species of juniper are also poisonous. Abortion occurs because the toxin reduces blood flow to the fetus causing the fetus to initiate the birthing process. Calves are born weak, do not thrive, and often die. Veterinary care is needed for both the calf and cow if this occurs because the cow is very likely to have a retained placenta and the calf is so weak. Pine needle abortion is fairly rare in the southern San Joaquin for many reasons including weather and proximity of grazing cattle to pine and juniper trees during the last trimester of pregnancy. However, if you suspect an issue in your cattle, be sure to call your vet. If calves are found dead, they can be submitted to the CAFHS lab in Tulare for a necropsy. For more information, please don't hesitate to reach out to me.

I also attended the American Sheep Industry Association meeting in Scottsdale, AZ. A hot topic at the meeting was grazing under solar panels as a business opportunity for sheep and goat producers. Typically, cattle are not chosen for this due to their size and what I like to call their general 'itchiness'.

That said, there is interest in integrating cattle into what is called agrovoltaics, which is just a fancy word for the practice of combining agriculture production and solar panel energy production. One session I attended while I was at ASI focused on Animal Health. Key topics included an update on Scrapie eradication efforts across the U.S. and the current status of Chronic Wasting Disease in wild deer populations.

I shared a brief summary of what I learned from attending ASI and SRM. If anyone of you would like to hear more, I'd be happy to share.

Thanks for reading everyone!

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New Cattle ID requirements – what has changed?

Dr. Gabriele Maier, Professor of Extension, Beef Cattle Herd Health and Production, UC Davis
Dr. Kelsi Williams, Environmental Scientist, California Department of Food and Agriculture
Dr. Kavishti Kokaram, Supervising Veterinarian, California Department of Food and Agriculture

As of April 25, 2024, the United States Department of Agriculture (USDA) updated the federal rules for cattle and bison identification **for interstate movements** (9 CFR Part 86.4). One of the most important changes is that as of November 5, 2024, NUES eartags (silverbrite tags and Bangs tags) will no longer be recognized as official identification for interstate movement of cattle and bison. The move to electronic ID will allow for faster and more accurate tracing of cattle movements, which becomes crucial during an animal disease outbreak and reassures trade partners the safety and security of the US food supply. The United States Department of Agriculture has long been discussing the move to electronic IDs in cattle and bison to aid in rapid traceability and containment of disease during an outbreak and finalized the rule in April 2024 after considering all public and industry comments. Official identification for interstate movement of cattle and bison has been required since 2013. While having to change the type of ID for interstate movement of certain types of animals may seem as a burden to producers at first sight, the widespread use of this technology will make the cattle industry and food supply chain in the U.S. more robust and should be regarded as a step in the right direction for producers. All details are available on the USDA Animal Disease Traceability website (https://www.aphis.usda.gov/livestock-poultry-disease/traceability). Additional information may be found on the California Department of Food and Agriculture's website under the Animal Disease Traceability page. In a nutshell, here are the most important details that ranchers need to be aware of with respect to the updated Federal ADT rule.

Types of cattle to which the updated Federal rules apply:

- All **sexually intact** cattle and bison 18 months of age or older for interstate movement (feeder steers, for example, are not affected)
- All **dairy** cattle regardless of age, sex, or current use (breeds or offspring of breeds used to produce milk, including but not limited to Ayrshire, Brown Swiss, Holstein, Jersey, Guernsey, Milking Shorthorn and Red and Whites)

- All cattle and bison used for **rodeos, shows, exhibitions, or recreational events to include fairs**

ID types approved for the above classes of cattle for interstate movement as per the Federal rule:

- **Official ear tag** that is both **visually and electronically readable (see Figure 1)**
- **Registered brands** accompanied by an official brand inspection certificate when agreed upon by both the shipping and receiving State or Tribal animal health authorities.
- **Breed association tattoos** for registration purposes accompanied by the breed registration certificate when agreed to by the shipping and receiving State or/Tribal animal health authorities.
- **Group/lot identification** when a group of animals is managed together as one group throughout the pre-harvest production chain (state specific, uncommon in cattle)
- **Always check with State Animal Health Officials of the receiving state to verify their state specific movement requirements.**

If my cattle already have NUES metal ear tags, do I need to switch them to electronic tags?

No, if cattle had visual-only ear tags applied before the November 5, 2024 deadline, there is no need to switch them to electronic ID tags. However, producers may still apply an electronic ID to their animals if they choose.

Are official electronic ear tags available through CDFA?

Yes, you can receive electronic ear tags free of charge while supplies are available from your CDFA animal health branch office. Animal health branch district offices are in the following locations:

- Redding (530)225-2140
- Modesto: (209)491-9350
- Tulare: (559)685-3500
- Ontario: (909)947-5932

Before you will be able to receive or purchase electronic IDs, you need a premise ID number or PIN. A PIN is a unique ID assigned to a geographic location where livestock are managed. You can verify with your CDFA office whether you already have a PIN. There is an online form available on the CDFA website to request a PIN if needed through your local CDFA District office.

Where can I purchase official electronic ID tags for cattle or bison?

A list of USDA approved electronic ID tags is available on the CDFA website. A premise ID is required to purchase Official ID from any manufacturer.

How do I apply the electronic ID in the ear?

If using button-style EID ear tags; apply ear tags to a clean site between cartilage ribs 1/3 from the head and 2/3 from the tip of the ear. Wipe away dirt or debris with a rag +/- some alcohol. This guide shows where to place the tags. For metal EID tags, please refer to manufacturer guidance for application. It is highly recommended that producers use a tag applicator made by the same manufacturer and intended for that style tags to avoid retention issues.

What about movement of sexually mature cattle for grazing to pasture in a neighboring state?

The pasture-to-pasture or seasonal movement permit process has not changed, only what is considered official ID for interstate movement. An application for a pasture-to-pasture permit may be found on the CDFA - AHFSS - AHB - Animal Disease Traceability page. For additional information please call the Animal Health Branch permit line at: 916-900-5052.

Where can I get more information on this topic?

As mentioned earlier, there is a lot of detailed information on the CDFA Animal Disease Traceability website. If you have specific questions that this article or the websites cannot answer, please contact your local CDFA office or Dr. Kelsi Williams with CDFA at (916) 203-0267 or at kelsi.williams@cdfa.ca.gov.

Figure 1

Example button style available through CDFA or for purchase

Example matched pair style available for purchase

Beef Cattle Health Webinars

My colleague up north, Tracy Schohr, hosts beef cattle webinars each year. She has featured a number of interesting topics including (but not limited to):

- Internal and External Parasite Control
- Pink Eye
- AI Tips
- Whole Herd Health Plan
- Why did it Die?
- Time to Help during Calving

Her January webinar series just concluded, but expect to see the recordings posted on her Herd Health website soon. Do you have a herd health topic of interest? I bet someone else has the same question. Please call or email. I'd be happy to answer any questions you may have.

Are we Driving Low Birthweight too Far?

by Carissa Koopman-Rivers

I have always been a low birthweight is best believer and I know that I am not alone on this. I ran across an article on the economic impacts that the small birthweight calf trend could be having on profit margins and it got me thinking about how small, is too small?

We know that many factors and combinations of these factors play a role in the weight of a calf at birth, including:

- Age of the dam
- Nutritional balance during gestation
- Body condition score (1-9, 1 emaciated, 9 excessively fat) of the dam
- Dam and sire breed
- Environmental Temperature during gestation
- Gestation length

Birthweight accounts for 55-60% of the variability in calf survival from birth to weaning, meaning that selection for birthweight alone will not improve calving ease as much as selecting for calving ease (Weaber, 2014).

The obvious concerns for large calves is dystocia, creating a risk of losing both the cow and the calf. The most common concerns with small calves include increased vulnerability to the weather and predators. An indirect concern is that smaller calves can lack vigor, taking longer to get up and nurse. This creates an opportunity for missing out on early colostrum, leaving them susceptible to early health challenges that can stay with them through their entire lives. Too big or too small, dead calves do not weigh much come weaning time.

A crude birthweight estimate is that the calf is born weighing about 7% of the dam's body weight. (Thomas, 2014). For example, if you have a 1,200lb cow, an 84lb calf at birth would be about "normal." Both heavy and light (compared to normal) newborn calves are more likely to have complications during or shortly after birth.

Let's think about this, if your 1200 pound cow can comfortably have an 84 pound calf, then maybe that means less than 60 pounds is too small, and more than 100 pounds is too risky? In an informal survey of a room full of producers at the Angus University Workshop in November 2016 in Indianapolis Indiana, 56% of the attendees said that a calf over 90lbs was too big, 33% said a calf over 100lbs is too big and 6% said over 110lbs is too big. Only 6% of the attendees said that over 80lbs was too big. On the other end of the spectrum about half of attendees agree that less than 50lbs is too light with 10% of that saying less than 40lbs.

Something to take into consideration is the capability of your females. Can they handle calving 7% of their body weight easily, if not, it may be time to incorporate pelvic measurements into your replacement heifer program, or focus on calving ease genetics.

In the case of replacement heifers we need to think of calving ease as both a trait of a calf (how easy it is born or direct calving ease, CED) as well as a trait of the cow (how easy the cow gives birth or maternal calving ease, CEM). Calving ease is the economically relevant trait associated with dystocia.

Economically relevant traits (ERTs) are those that directly generate revenue or incur costs in beef production systems (Weaber, 2014).

Production Traits				Maternal Traits	
CED	BW	WW	YW	CEM	Milk
+ 6	+1.1	+47	+84	+8	+24

Example EPD's based on 2017 Angus Association bull averages.

Without getting too deep into EPD's, the genetic correlation between calving ease direct (CED, prediction of the average difference in ease with which a sire's calves will be born when he is bred to first-calf heifers) and weaning weight (WW) is not as antagonistic as that between birth weight (BW) and WW. Therefore, placing more selection pressure on CED rather than BW is a more effective tool for achieving desirable growth traits (Reiman, Miranda, 2016).

Genetics have the greatest influence on birthweight and calving ease, which is why genetic selection is so important. With today's science and genetic tools, we have greatly diminished the occurrence of dystocia. In fact, we are at a point where cattle can have genetics for low birthweight and calving ease while still having superior growth potential (Comerford, 2009).

The old story of lighter calves at birth tend to wean lighter and conversely, the heavier calves at birth are the heavier calves come weaning and yearling time just isn't as true anymore.

However, how small is too small when you factor in the vulnerability risk of small calves at birth for example? I think this is a question each producer needs to think about based on your own herd, environment, economic, and production objectives.

Focusing on CED rather than actual birth weights, cow/calf producers can see improvements in their bottom line. An overall decrease in dystocia occurrences, a decrease in calf loss prior to weaning, and an increase in replacement heifer stayability (prediction of the period of time that a bull's daughters will remain in the herd) are a few of the benefits to reap by selecting for calving ease. It could be like having your cake and eating it too.

I am not urging anyone to start breeding for heavier calves. I am only bringing to light that we need to be thinking about how far we want the low birthweight trend to go in our own herds. What fits your operation and overall objectives? Just breeding for small calves because the industry has pushed it may not be the right fit for you. If your cows are capable of safely producing more pounds, then why not let them realize their full potential? After all, we are in the business of selling pounds.

There are reasons to select for low birthweights. For example, the industry is saying to breed for low birthweights, so a seedstock producer will breed to satisfy his customers. Other examples may include the off-ranch time commitments, or geographical distance from your calvy cows. In these cases, breeding for small calves is a safe bet for peace of mind.

There is no 'one size fits all' production model for any two producers, but there are tools and experience that can help to develop a successful management plan. The bottom line is that we need to be focusing on calving ease more, rather than actual birthweight, which may be creating an opportunity for profit loss.

Comerford, John. Regulating birthweight in Beef Cattle. Pennsylvania State Extension. 2009.
Reiman, Miranda. Smaller Isn't Always Better. Angus Beef Bulletin. 2016.
Thomas, Heather Smith. Factors Effecting Birthweight in Calves. Progressive Cattleman, 2014.
Weaber, Bob. Use Calving Ease EPD's to Select Sires for Replacement Heifers. Drovers. 2014

Is it Time for You to Consider Fenceline Weaning?
by Julie Finzel

Fenceline weaning, or the practice of allowing fenceline contact between cows and calves at weaning time, is not a new concept, but maybe it's time to take a fresh look at the practice and consider if it might work for your operation. Potential benefits include:

- Reduce stress on calves and cows
- Improve animal productivity
- Reduce incidence of sickness
- Water and feed intake is higher in fenceline weaned calves

A three-year study published in the Journal of Animal Science in 2003 by Price, et al., compared four different weaning practices, with unweaned calves as the control. The results, summarized in Table 1 below, indicate that fenceline weaned calves spent the most time eating and lying down, and the least time walking or bawling compared to the other weaned groups.

Table 1. Summary of results from Price et al, fenceline weaning study on Sierra Foothill Research and Extension Center.

Variable	Nonweaned (pasture)	Fenceline Contact (pasture)	Separated (pasture)	Separated, preconditioned to hay (dry lot)	Separated, not preconditioned to hay (dry lot)
Eating	41.1%^{a}	37.3%^{a}	23.7%^{bc}	28.9%^{b}	21.5%^{c}
Walking	8.6%^{a}	10.1%^{ab}	28.1%^{c}	9.6%^{ab}	14.8%^{b}
Lying Down	22.9%^{a}	23.3%^{a}	16.0%^{b}	21.9%^{a}	20.6%^{ab}
Vocalizations/hr/10-calf group	0.1^{a}	216.7^{b}	434.6^{c}	371.2^{bc}	518.2^{c}
^{a,b,c}Rows with treatment means with different superscripts differ P<0.05					

Fenceline weaning practices are not a one-size fits all prescription; they will vary among ranches. For best results, consider the following tips:

- House cows and calves together in the weaning pasture prior to separation
- Avoid adding stress from castrating, dehorning, branding, or vaccinating at weaning time
- Fencing should be adequate to maintain separation between cows and calves. A five-strand barbed wire fence is usually effective. Other fencing types might include using goat or hog panels or adding a single strand of electric fence, offset from the main fence.
- Five to seven days of fenceline contact is sufficient to reduce the stress associated with weaning

Fenceline weaning is clearly a best practice for animal welfare, however, in the study by Price et al, they noted in their literature review that previous research demonstrated no long-term difference in weight gain between fencline weaned calves and traditionally weaned, separated calves. So don't sweat it, if there is no way to make fenceline weaning work on your operation. I encourage everyone to take a close look at the table presented above and consider if modifying your weaning practices could reduce stress on your calves and improve the long-term outcome for your market animals.

Johnson, Mark. 2021. *Fenceline Weaning*. Drovers. August 19. https://www.drovers.com/news/beef-production/fenceline-weaning

Lane Jr., Clyde. *Fence line weaning reduces stress during weaning of beef calves*. University of Tennessee Extension Info Series: AS – B 312. https://utbeef.tennessee.edu/wp-content/uploads/sites/127/2020/11/FencelineWeaningReducesStressDuringWeaningofBeefCalves-CDL-ASB312.pdf

Price, E. O., J. E. Harris, R. E. Borgwardt, M. L. Sween and J. M. Connor. 2003. Fenceline contact of beef calves with their dams at weaning reduces the negative effects of separation on behavior and growth rate. Journal of Animal Science 81:116 http://www.aabp.org/bmp_task_force/Weaning/FencelineContactAtWeaning-JAS.pdf

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