

LIVESTOCK AND RANGE NEWS

SERVING VENTURA AND SANTA BARBARA COUNTIES

Low-stress herding as a tool to improve livestock distribution

Traditionally, the ideal distribution of livestock on rangeland extends the area of use as widely as possible and reduces impacts to sensitive resources. Livestock, however, are naturally selective in their foraging habits and do not graze pastures uniformly. An animal's choice of where to graze can be influenced by many things: topography and elevation; forage quality and quantity; the physical features within a pasture, such as fencing or stock water; and other natural and artificial attractants, such as supplementary salt or riparian areas. As a result, pastures are often utilized unevenly: grazing can become excessive where livestock concentrate, while other areas in the same pasture can support continued use.

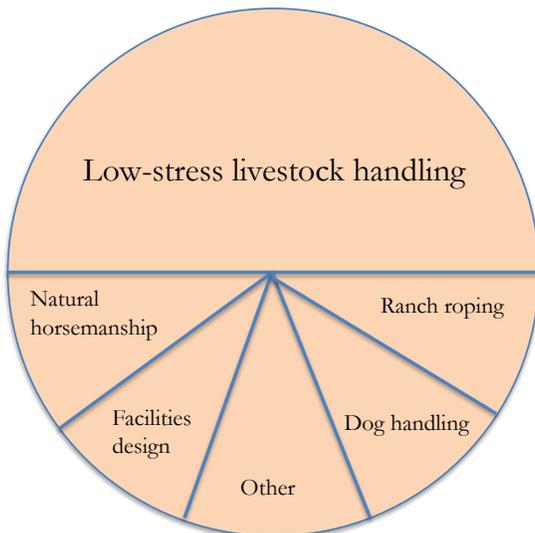
Managing the distribution of grazing livestock is critical to promoting sustainable ranching practice and sustainable ecosystems. Recognizing this need, the NRCS Environmental Quality Incentives Program (EQIP) currently supports cost-share practices that are intended to improve livestock distribution, such as installing off-stream water points, cross-fencing, and/or riparian fencing. These practices, however, can be impractical or uneconomical at large spatial scales across rugged landscapes. **As an alternative, stockmanship—or, the knowledgeable and skillful handling of livestock in a safe, efficient, and low-stress manner—is another tool that can help address concerns over uneven utilization.** More specifically, low-stress herding can be used to strategically place livestock within a pasture to ensure uniform utilization of forage and to avoid excessive use of sensitive resources.

The livestock industries in Ventura and Santa Barbara are continually faced with new sets of production challenges. Unprecedented drought in recent years has forced ranchers to substantially de-stock and ranches are not supporting the number of animals they once did. Additionally, statewide regulators are increasingly concerned by the potential impacts that cattle pose to water quality. Recently, for example, the Los Angeles Regional Water Quality Control Board issued a regulatory

action on the Ventura River that is impacting grazing operations within the watershed. This action, and others like it statewide, signal a trend of greater focus on water quality on rangelands and corresponding regulation for ranchers.

Stockmanship and low-stress herding are production strategies that would directly benefit ranchers in the region by lessening the impact of drought on their operation and helping avoid livestock-related impairments to water quality. Researchers on rangelands have noted that up to a third of the available forage in pastures goes unutilized because of poor livestock distribution. Using herding to improve distribution provides an opportunity to substantially increase the number of animal units that can graze in a pasture, which would provide critical relief during drought conditions. Stocking rate is the single most important indicator of profitability on a ranch, and low-stress herding has the potential to

Stockmanship



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increase it by over 30%. Furthermore, low-stress herding will reduce the amount of time that cattle spend grazing near sensitive resources, namely riparian areas, and will protect against potential livestock-related water quality impairments. In a study on livestock distribution, researchers found that herding reduced the time cattle spent within 100 yards of streams by about 3 hours per day. Correspondingly, stubble heights in riparian areas where cattle were herded were about 3 inches higher than in areas where cattle were allowed to roam freely. While there may be some start-up costs associated with herding to an operation's bottom line (increased labor or infrastructure to administer herding), we expect the long-term benefits (increased production due to increased stocking rates, more even herbaceous heights throughout the pastures, and diminished impacts to sensitive resources) will offset the costs.



But what is “herding” and “low-stress livestock handling,” really? Many of the basic concepts of this kind of stockmanship were developed by the late Bud Williams. Bud did not “invent” herding or low-stress handling but instead organized deeply traditional handling techniques into a novel system. There are many modern teachers, but the kind of stockmanship instruction that I am most familiar with comes from Steve Cote, who studied with Bud for many years. As Steve puts it, in his “Manual of Stockmanship,” “[stockmanship is] handling that ‘fits’ every animal in the herd.... ‘Fits’ means that the handler adjust position, angles, and speed of approach in order to set it up so that the stock want to do what they want, then he (or she) stays out of the way of their doing it but controls how they do it. Stock move not out of a sense of self-

preservation but because it's profitable. They've experienced that they can stop or control pressure, which they want to do. They view the handler as dictator (albeit benevolent) so they turn over control and relax even more. The control you get over cattle makes it a powerful range management tool and a time and money saving tool on any operation. Stockmanship doesn't just up the level of control, it transforms traditionally handled herds—from troubled or scared to calm, trusting, healthy, and easy to control.” The kind of stockmanship that Steve teaches includes principles that would strike most ranchers as counter-intuitive (for example, standing at the end of a chute and turning an animal from its head as it emerges, rather than from its hip), but it's amazing to see how calmly and effectively Steve can work stock in all kinds of different situations.

In October, I travelled to northeast Nevada to attend a four-day workshop hosted by Steve Cote and his wife, Susan. We were immersed in stockmanship and low-stress handling techniques and had an opportunity to work a number of different types of cattle: mature cows, heifers, recently weaned calves, etc. One story I was most impressed by was how—once your cattle are re-trained to these new handling techniques—you are able to herd and **place** cattle so that they'll stay where you put them. Steve showed video from a ranch in Idaho where they gathered and drove cattle up a draw that was half a mile from the nearest water point. The cattle stayed bunched there for over a week, and every late morning during that week they'd trail down to the water to take their fill, and then trail right back up to where the rancher had placed them. It is this kind of control that I believe has the greatest potential to improve distribution and increase stocking rates (due to improved forage utilization) on large ranches in Ventura and Santa Barbara Counties.

I am currently involved in a three-year study with Mike Williams, of Diamond W Cattle Company, on his 12,000-acre ranch in northern Los Angeles County. Mike and I are funded by a grant to examine how effective herding and low-stress livestock handling could be in a production ranching setting. We are using GPS collars to track cows over the course of three years on his ranch. The first year is our “control,” or business as usual (i.e. no herding). In Years 2 and 3, Mike will apply our “treatment,” or the regular gathering and placement of cattle using low-stress techniques. We are measuring the effectiveness of this technique using a combination of the GPS collars (to see if

the cattle are staying where they get put), seasonal fecal pat counts (as another measurement to see if the cattle are using areas of the ranch differently), and we are monitoring Mike's labor (to see how much more time he spends in the herding treatments as opposed to business as usual, and to calculate what that time costs him).

In July 2019, we plan to hold a multi-day workshop out at Mike's ranch, to demonstrate the basic principles of stockmanship in the field and to share with participants our preliminary data and results. We plan to bring Steve Cote out for the workshop, in addition to academics from New Mexico State University, UC Davis, and Chico State who have studied livestock distribution. I will be sure to include an announcement for the workshop in future newsletters.



Gathering fecal pat counts along a 50-meter transect at the Ritter Ranch, northern Los Angeles County. Number of feces will be counted seasonally in heavy-use areas of the ranch where cattle currently loaf and in light-use areas of the ranch that will be targeted in the herding treatments. December 2018.

If you are interested in learning more about stockmanship, herding, and low-stress herding, here are some resources:

**“Manual of Stockmanship,”
Steve Cote**

This is Steve's most recent (and much longer) publication; contact him directly to obtain a copy: 731-336-1167.

**“Stockmanship: a powerful tool for
grazing lands management,”
Steve Cote**

Steve's 2004 summary of stockmanship principles. Pushed by NRCS and Butte Soil and Water Conservation District, it can be found at the following website: <http://www.grandin.com/behaviour/principles/SteveCote.book.html>



Mother cow with GPS collar. GPS locations will be recorded every 10 minutes during the course of the study. Cows will be handled every six months and GPS data will be collected from collar. July 2018.

“Stockmanship Journal,” Whit Hibbard
Whit is a Montana rancher and another stockmanship teacher. He has collected a lot of good information on his website: <http://www.stockmanshipjournal.com/>

**“Evaluation of low-stress herding and
supplement placement for managing
cattle grazing in riparian and upland
areas,” Derek Bailey et al.**

Research paper from Montana examining the effectiveness of herding. If you are interested in reading the results, please email me or visit my office to obtain a hard copy.

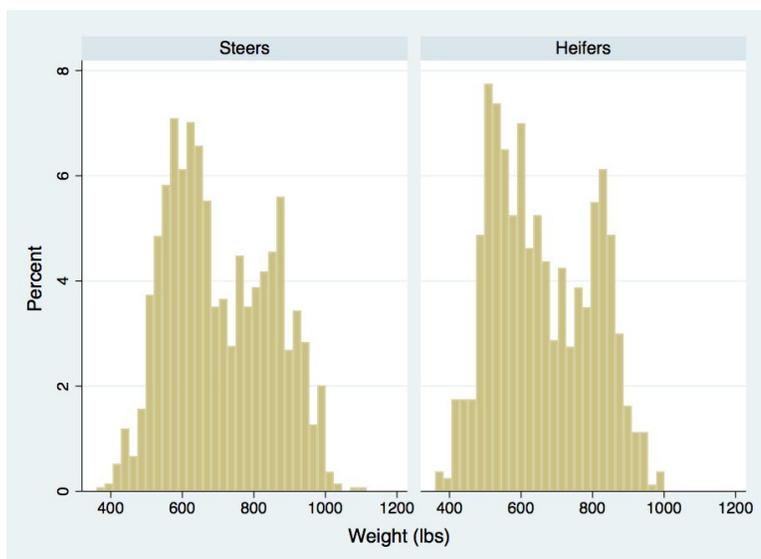
What value-added management programs really add value to your cattle?

by Tina Saitone, UC Cooperative Extension Specialist in livestock and rangeland economics

[The following article is adapted from a series of blog posts from Dr. Saitone's website: livestockecon.ucdavis.edu. If you would like to be notified via email when additional blog posts become available, please email Tina Saitone (saitone@primal.ucdavis.edu)]

The ever-expanding suite of value-added management and marketing programs available to cattle ranchers today creates substantial ranch-level complexity. Cattlemen are faced with the challenge of determining which programs will differentiate their cattle on sale day while maximizing the profitability of their operations. Although all of these programs are likely to add costs, the additional income generated from each of these programs is uncertain. Given that lots of cattle sold typically participate in many programs and management decisions must be made months or years in advance of a sale, it is nearly impossible for a rancher to accurately forecast the premium associated with implementing any particular program. However, with the help of good data from Western Video Market (WVM) Auction and modern statistical methods we can gain considerable insights into the value associated with particular programs and management practices.

In this article, I discuss estimates of the average premiums paid by buyers for individual value-added management, marketing, and vaccination programs using data from WVM's satellite video auctions in 2017. These results can give ranchers information about the average value that each of these programs brings on sale day. This [article] builds on an article in [California Cattleman Magazine](#) (May 2018).



WVM serves as a marketing outlet for cattle ranchers in the western United States. In 2017, more than 286,000 head were sold during 13 video-based auctions. Prices for calves and yearlings were analyzed separately. The graph below shows the distribution of lot-level average weight for steers and heifers sold in 2017. Calves were classified based on the average weight of the lot being between 450 and 650 lbs. in order to focus on price effects at time of weaning. Yearling lots had average weights in the 750- to 950- lb. range. In total, 998 lots of calves and 715 lots of yearlings were analyzed. Lots consisting of cows, pairs, and bred heifers were not included in the analysis. Lot-level characteristics (e.g., breed, sex, weight, frame score, etc.) are included in the model to control for how these factors influence price, while catalog descriptions were used to determine the value-

added by specific management and marketing programs associated with each lot of cattle in the auction. Using statistical techniques and this lot-level sales information, the price paid for lots of cattle in 2017 can be decomposed by each characteristic/attribute.

Ranchers marketing their cattle through Western Video Market (WVM) are often at the forefront of the industry, enrolling in and differentiating their cattle on sale day with the newest value-added management and marketing programs available. Using data from WVM's 2017 satellite video auctions allows us to estimate the average premium/discount associated with marketing under each of these programs individually.

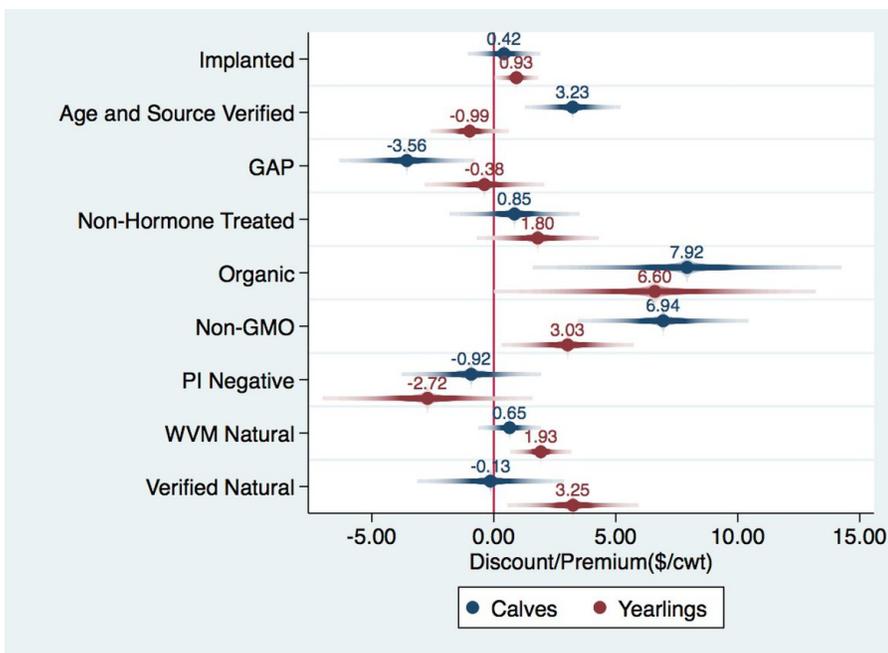
In order to generate reliable estimates, a sufficient number of lots of cattle must be marketed under each program. In 2017, the available programs for analysis included:

- **Age and Source Verified** - allows cattle to be sold in export markets (USDA Process Verified Program or Quality System Assessment Program).

- **Non-Hormone Treated** - third-party certified program that ensures animals are not given hormonal growth promotants at any time during their life. Qualifies beef derived from these cattle for export markets (e.g., Europe).
- **Organic** - Cattle must be raised in a manner that compiles with [USDA Organic Standards](#).
- **Non-GMO** - Cattle are not fed GMO feeds; indicates compliance with the voluntary GMO labeling system.
- **Natural** - cattle have never been fed or injected with antibiotics, fed any ionophores, implanted with synthetic hormones, or given any feed or supplements containing animal by-products.
- **Verified Natural** - third-party certification that cattle were raised in accordance with the natural standard.
- **WVM Natural** - WVM provides an alternative to the third-party verified natural program wherein ranchers can sign an affidavit confirming that cattle were raised naturally.
- **PI Negative** - Cattle have been tested and are negative for persistent infection (PI) of bovine viral diarrhea (BVD).
- **Implanted** - Cattle have received an anabolic implant (e.g., Ralgro, Synovex, etc.).
- **Global Animal Partnership (GAP)** - Cattle are raised in accordance with the third-party certified animal welfare protection program.

WVM provides a summary and details at these programs here: www.wvmcattle.com/site/value-added.cfm

Prices for calves and yearlings were analyzed separately given that they are often marketed to different buyers (see above). The results from the calf and yearling models for the value-added management and marketing programs available in the 2017 data are provided below.



Estimates for calves are shown in navy blue and estimates for yearlings are shown in red. All estimates are provided in per hundredweight (cwt.) terms. In the figure to the left, the dots represent the estimated premium/discount for that particular value-added program and the lines that extend away from the dots show the 95% confidence interval. This is the range in which we are 95% certain that the true value of the premium/discount falls. If the confidence interval includes zero (vertical red line), we cannot be certain (in statistical terms) that the premium/discount is not zero. The largest premiums earned for value-added management programs in 2017 were associated with lots that were marketed organic (\$7.92/cwt for calves and \$6.60/cwt for yearlings) or non-GMO (\$6.94/cwt for calves and \$3.03/cwt for

yearlings). Both of these programs were included in lot descriptions for the first time in 2017. Also note that these programs have large confidence intervals surrounding the point estimates. This is because relatively few lots participated in these programs and, as such, statistical precision is limited. This is similar to what we saw a few years ago when lots were first marketed with the Global Animal Partnership certification: initially estimated premiums were large with large confidence intervals, then as more producers opted into these programs and increased supply, premiums decreased and confidence intervals got tighter. By 2017, on average there is no longer a premium associated with GAP certified lots.

Yearlings that were implanted (\$0.93/cwt) or were marketed as either WVM Natural (\$1.93/cwt) or Verified Natural (\$3.25/cwt) earned statistically significant premiums in 2017. Calves that were Age and Source Verified sold for a premium of \$3.23/cwt in 2017. Year-to-year variability in premiums/discounts can be caused by many factors. These estimates represent averages across all calves and yearlings marketed in 2017 through WVM. These are not meant to be taken as forecasts for premiums/discounts in the future.

Tree shelters protect oak seedlings from cattle

by Doug McCreary, former UC Cooperative Extension Specialist in natural resources

One of the major obstacles preventing successful planting and establishment of oak seedlings on rangelands is browsing by herbivores such as rabbits, deer, and livestock. While screen cages have been used to protect seedlings from rabbits and deer, protecting seedlings from cattle has proved much more difficult. Cattle often nip off or trample unprotected oak seedlings. This damage is especially great in the late spring and early summer when other vegetation is drying up and young seedlings may be the only green plants around. Cattle also tend to pull up, stomp, or bend small protective cages or shelters.

Consequently, to date, it has generally been recommended that cattle either be excluded from oak seedling planting areas by building small cattle-proof exclosures, or kept entirely out of pastures where seedlings are planted. Unfortunately, these approaches have significant costs associated with them. Small cattle exclosures are expensive to build and maintain. And eliminating livestock from large pastures for the five to ten years it can take for oaks to grow big enough to be resistant to browsing, takes land out of production, thus eliminating revenues.

[In 1993], an alternative approach – using Tubex treeshelters to protect individual seedlings in grazed pastures – was evaluated in a research project at the Concord Naval Weapons Station. Treeshelters are tall, slender, double-wall plastic tubes that protect seedlings from physical injury and create a greenhouse environment favorable to more rapid growth. Those used in this study were four feet tall and were held in place using six-foot tall metal T posts.

This project evaluated the field performance of valley oak seedlings protected with treeshelters (and two other protective covers) both inside and outside fenced exclosures. In addition to cattle, seedlings outside the exclosures were also subject to injury from a local elk herd which also grazed the area.

The results indicated that treeshelters can be effectively used to protect individual seedlings from cattle and elk. None of the 52 treeshelters in there were seriously damaged or rendered ineffective, except for a few that were rubbed on and tended to slip up on the metal posts, exposing part of the seedlings. This problem could be reduced or eliminated by securing the treeshelters to the posts with additional wire. In addition, seedlings inside treeshelters tended to grow rapidly. After one year from acorns, 58% of the seedlings inside treeshelters were alive, and average height was over 20 inches, with a sizable percent growing over three feet.

While protecting individual seedlings with treeshelters is not cheap – it costs approximately \$5 for a four foot treeshelter and a metal fence post – it is certainly less expensive than building fences around planting spots. These devices also have the added advantages of protecting plants from insects and rodents, facilitating weed control, and promoting growth. They therefore appear promising as a method for successfully protecting plants in areas where livestock browsing is a concern.



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SANTA BARBARA COUNTY RANGE IMPROVEMENT ASSOCIATION



SPRING STRATEGIC PLANNING MEETING

**THURSDAY, APRIL 25, 2019
5:30-7:30PM**

**BUELLTON COMMUNITY
REC CENTER, ROOM "A"
301 SECOND STREET, BUELLTON
(PARKING AND ROOM "A" OFF LA LOTA DRIVE)**

**WANT TO CONTROL VEGETATION ON
YOUR RANCH TO REDUCE FIRE RISK?**

**WANT TO BURN TO IMPROVE
FORAGE FOR YOUR LIVESTOCK?**

**CONSIDER BECOMING A MEMBER
AND BURNING WITH THE RIA**

IF YOU ARE INTERESTED IN BURNING WITH THE RANGE IMPROVEMENT ASSOCIATION IN THE NEXT 2-3 YEARS, PLEASE PLAN TO ATTEND. WE WILL BE COMPILING A LIST OF POTENTIAL BURNS, DEVELOPING BURN AREA MAPS, INVENTORYING RESOURCES, AND DISCUSSING RIA GENERAL BUSINESS.

**FOR MORE INFORMATION, CONTACT BILLY KING (805-478-8246) OR
MATTHEW SHAPERO (805-645-1475, MWKSHAPERO@UCANR.EDU)**

LIGHT DINNER WILL BE SERVED

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Please Visit: http://ceventura.ucanr.edu/Live_Stock_-_Range_Programs/

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Livestock and Range News is a newsletter published by the UCCCE Livestock & Range advisor serving Ventura and Santa Barbara Counties. The newsletter contains research, news, information, and meeting notices related to the areas of livestock production, rangelands, and natural resource management.