Volume 12, issue 1

Modoc Ranch Roundup

January 2019

Greetings from the Farm Advisor,

I feel like every year I get busier doing this job but with all this busyness comes more satisfaction from my job and appreciation from all of you. I was very honored to receive the Modoc Cattlewomen of the year award this year. I want to thank everyone who was part of the nomination and everyone who has helped to make UCCE-Modoc what it is today. On that note, I would be no where without Cheryl Kunert and was thrilled when she was awarded the Modoc Farm Bureau Distinguished Service Award. As we continue to expand the offerings and projects we work on, I find myself more in the office and less in the field. The work we are doing is reaching all corners of the county and we continue to spread research based knowledge past the county borders to policy makers in Sacramento and Washington DC.

Beyond research, UCCE Modoc has continued to expand its access and contributions to the youth in Modoc County through 4-H. Please consider donating to the Forever 4-H Modoc County Endowment to keep 4-H thriving in Modoc County.

There are a series of workshops that UCCE Modoc is hosting this spring and I hope you can attend them. First, partnering with the Modoc County Cattlemen, Cattlewomen and Vet Center—**A Beef Health Workshop** covering scours, pink eye, boosting vaccines, foothill abortion and others. February 5th 6:30-9:00pm at the Brass Rail. Second, we are working with the Vya Conservation District, NRCS, and the Modoc Heritage Foundation to put on the **Modoc Ag Expo** March 8th at the Modoc County Fairgrounds. We will be putting this on instead of an independent spring ag/cropping workshop. Roger Baldwin will be coming to talk about his research with ground squirrels and there will be plenty of other great talks and a free BBQ Lunch. Third, a **Predator Workshop** with hands-on demonstrations of non-lethal control methods, how to properly track predators on game cameras, and how to make easy tracking collars. There will also be speakers with experience with wolves and other predators. March 27 Location TBD.

Looking forward to seeing you this spring. Hope this year brings healthy crops, fat calves, and good markets.

Sincerely,

Laura Kay Snell

Red Books compliments of the Modoc County Cattlemen are at the Farm Advisor Office.

Stop by and pick one up!

FOREVER 4-H MODOC COUNTY ENDOWMENT





University of California
Agriculture and Natural Resources

When it comes to facing the tremendous challenges in our world—lack of a skilled workforce, depletion of natural resources, food insecurity, poverty…who will do what it takes to find solutions—who will be our future leaders?

Meet Trevor Pratt, a 4-H youth in the Surprise Valley 4-H Club. As a primary 4-H member he was very shy and reluctant to be with new people. Last year, this young man completed an oral presentation on "Sheep Riding" at the county level. His growth in speaking in front of his peers earned him a gold award and he was able to compete at the sectional and state levels each earning another gold award.

Trevor is an aspiring leader in Modoc County. You can help youth in our community just like him!

Modoc County 4-H helps youth find their confidence and teaches them life skills such as making presentations, cooking, responsibility, leadership, citizenship, and others. We are inspired every day by the amazing things our youth accomplish through the Modoc County 4-H program.

Your donation will help us establish an endowment to keep 4-H thriving in Modoc County. With state funding for 4-H becoming smaller each year, your gift will help ensure Modoc County 4-H can continue to teach leadership and life skills to youth in the future. Last year we had over 273 youth enrolled in 4-H and served over 341 youth through educational outreach programs. That is over 30% of the youth living in Modoc County!

This endowment is a fund that will be used to support 4-H projects and county 4-H events. Please become a supporter of the Forever 4-H Modoc County Endowment, the first $5000 will be matched through generous donations from the Modoc County Farm Bureau and local businesses.

Please send your donation today. All donations are tax deductible and donations over $100 will receive a special window sticker to show your support!

Sincerely,

Laura Kay Snell
Modoc County Director

Sadie Camacho
4-H Educational Specialist

Yes, I want to support the Forever 4-H Endowment in Modoc County!

_____$1000 _____$500 _____$250 _____$100 $_____Other Amount

Name:

Address:

Email:

Checks payable to California 4-H Foundation

Sent to: Modoc County 4-H

202 W 4th St. Suite B; Alturas, CA 96101

UCCE RESEARCH UPDATE

In 2018 we continued to outdo ourselves conducting research on a variety of livestock and natural resource issues with more partners then ever. If you would like any additional information or have suggestions for further research, please feel free to call me at 530-233-6400 or email lksnell@ucanr.edu

Adaptive Management of Rangelands

Through partnerships with several UC specialists, advisors and others and money from the Russell L. Rustici Endowment and UCANR, we are expanding our past research on annual range monitoring, post-fire grazing, and juniper treatments to develop adaptive management processes for working rangelands. What this means is we are working to develop a science based management framework for largescale management of rangelands. This includes how to manage for the restoration of invaded rangelands, resilience to disturbance such as fire or drought, and identify best management practices and tools. We are using on the ground data from past studies as well as GIS drone imaging to complete this loop and look at system wide rangeland management in the west.

Big Valley Groundwater Basin Monitoring

Working with Cal-Neva RC&D, UCCE Modoc was awarded a grant from DWR to study groundwater on the Modoc County side of big valley. This research will install several more wells in the basin, identify new and innovative methods of groundwater recharge and aid in the development of the groundwater sustainability plan. One full-time position and two summer positions will come out of the grant to take groundwater samples, conduct soils research, and communicate with the public.

Irrigated Lands Research

Modoc County is part of a statewide project to assess irrigated land management and productivity throughout California. Several study sites were selected during the 2017 field season and were sampled multiple times in 2018. Irrigated pastures in the study have a variety of management practices such as grazing and haying as well as fertilizer application and irrigation timing and quantity. We took grass samples to look at production with different grazing intensities, the number of grass and legume species present, and quantity of weedy species. We also took soil samples to analyze nutrients.

Bear Occupancy Study in Warner Mountains

Partnering with CDFW, UCCE Modoc was able to provide support for a bear occupancy study in the warner mountains. The study involved identifying potential bear habitat areas and monitoring hair snares and camera traps. This study aims to quantify the population of bears in the Warner Mountains. Genetics are used to determine the number of individual bears, their relationship to other bears, and their sex.

Wild Horse Monitoring

We completed our large scale wild horse, wildlife, and livestock use study on the Devil's Garden and are currently sifting through the results. This summer we conducted a smaller study for an undergraduate thesis project and collected similar data. This data was presented at the 2018 California Cattlemen's Convention. We also installed several exclosure cages across the devil's garden for future wild horse territory management and permit renewal processes. We were awarded a Rustici Outreach Grant for 2019 which will help us hire an intern and use our research to better inform policy decisions and organize a field tour for policy makers to understand the impacts of wild horses in Modoc County.

If you haven't already checked out the wild horse blog that was created this past summer, check it out!

https://devilsgardenhorsei.wixsite.com/mysite/blog

A big Thank You to Madeleine and Illianna who worked with UCCE all summer conducting research, talking to the public and falling in love with Modoc County.

PURPLE FLOWERS, POKEY LEAVES, AND DEEP ROOTS: CANADA THISTLE CONTROL TRIAL — TOM GETTS

Cirsium Arvense is a plant with many common names. When I was visiting the southern hemisphere, the locals called it Californian thistle! Most people here put the blame on our neighbors to the north calling it Canada thistle, but neither are right. It is originally from southeastern Europe, but has been introduced to every continent except Antarctica. Unlike other noxious thistles, such as Scotch or Musk, Canada thistle is a perennial species with an extensive spreading root system. While individual stems can produce up to 5,000 wind-dispersed seeds, patches often come from a single plant spreading by the roots. It is problematic in agricultural fields, along ditch banks, and in wildlands.

Controlling Canada thistle takes a two-pronged approach: preventing seed production and killing the deep root system. Controlling the top of the plant through mowing or cultivation may prevent seed production, but will not kill the roots. A single cultivation can actually break up the roots, spreading the weed and making the problem worse. Some livestock will chew on Canada thistle, but most avoid it, and, like mowing, this does not address the root system.

Systemic herbicides are often used for Canada thistle control to kill the roots. For most herbicides, applications just before the plant reaches the bud stage, or in the fall before the first frosts, are the most effective. I had heard reports of Shark (carfentrazone) being included in tank mixes for improved Canada thistle control. While Shark is a good burndown/contact product for small weeds, I wasn't sure if it would be worth putting in the tank with other systemic herbicides for thistle. A small replicated field trial was set up to look at Shark in combination with various other products used on Canada thistle: 2,4-D*, Clarity (dicamba)*, and Roundup Powermax (Glyphosate). From previous research, Aminopyralid is very active on Canada thistle, so Milestone and GrazeonNext were included in the study.

The site was located in the Intermountain Region of California at 4,900 feet elevation. It was a very uniform stand of thistle as the field previously had been fallow, and the grower was planning on cleaning up the thistle with two years of triticale, cultivation, and multiple herbicide applications (a good plan). Thistle plants ranged from 3-5 inches tall and 4-7 inches in diameter. As the site had seen no moisture over the summer, thistle plants were stunted and not actively growing. It was going be a good test because the systemic herbicides typically work better on actively growing plants. Applications were made in mid-September of 2017, and triticale was planted in mid-October, one month after application (*an off-label application for some herbicide treatments). Thistle control was assessed periodically following applications (Figure one). Assessment of Triticale Injury was taken 7 months after application (Figure two).

Continued Page 7

Left: Untreated 10 months after treatment. Thick Canada thistle stand where no herbicide was applied.

Right: 10 months after treatment with Roundup Powermax 2 qt. The triticale had been cut for hay, and some of the plants regrew to put on seed. Good Canada thistle control.

NEWS FROM MODOC AG COMMISSIONER

Alturas Ag. Chemical Permits

Permits can be renewed at the Modoc County Ag. Office for the 2019 growing season or at several agriculture meetings throughout the county this spring. Keep a look out for the Alturas and Cedarville Growers meeting to occur in February. The Tulelake growers meeting will be March 6th at 9am at the Tulelake fairgrounds. The Newell Migrant Center will be accepting applications to live at the center March 20, 2019.

Reminder- all employees and employees working around pesticides and pesticide applications must complete yearly training.

WILD HORSE ECONOMIC STUDY

A wild horse economic study was funded by the Modoc Cattlemen's Association, Modoc County, and the Modoc County Farm Bureau and completed last year by the Chico State University economic rural development team.

There are 19 ranches currently being impacted by the increasing wild horse numbers on the Devil's Garden. Of these 19, 15 responded to a verbal survey with CSU on the current impacts of the wild horses to their public grazing allotments and potential future impacts. The questions given to the ranchers posed scenarios of what each ranch would do if they were told to cut 10%. 25%, 50%, and 100% of the livestock grazing on their public land allotments.

Once the data was collected, four distinct impacts to Modoc County were determined. There were gains to rancher income from the cattle that were sold due to the grazing cuts, there were losses to rancher incomes due to the long term loss of selling those cattle, there are losses to operating expenses at Modoc businesses due to herd reductions, and losses of visitor expenses from ranches who bring their cattle to Modoc County from another area in the summer.

Given the current conditions of the wild horse impact on the ranching community today, this study showed that the negative impacts to the average rancher, such as lost income and spending that the County would see (such as lodging or veterinarian bills) were still offset by the increase in the ranchers income if he or she were forced to reduce their herd because of the wild horses. Simply put, the rancher is still able to "break even" by selling some cattle, even if wild horses are impacting the rancher's allotments. However, this is only under the conditions we see today. This changes when we project into the future and grazing allotments see deeper reductions due to wild horses.

If grazing allotments for ranchers were to be reduced by 50%, the county would lose about $1,900,000 in total annual output. This is a drastic jump from the 25% reduction scenario where the county would lose about $598,000. Compare this to the 100% grazing allotment reduction, where all ranchers would lose allotments and cattle grazing on the Devil's Garden would no longer occur, the county would lose $2,600,000 in total annual output, a major loss to the county.

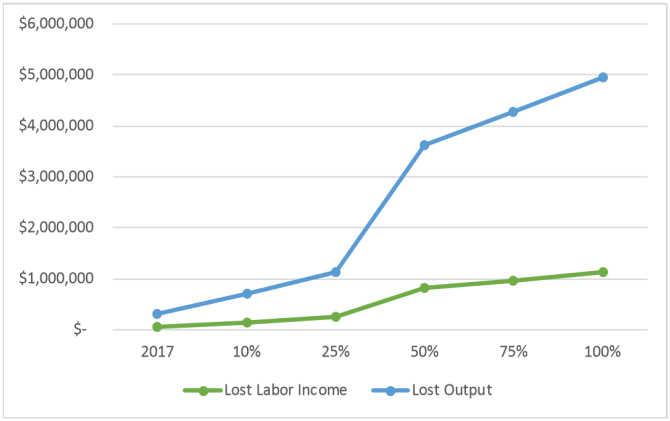


Figure: annual lost labor and total output for different scenarios

Not only would grazing allotment reduction affect Modoc County's total output, but it would also negatively affect employment rates and community businesses such as hotel/lodging, the restaurant industry, veterinarian services, and fuel services.

Many of the surveyed ranchers have already been negatively affected given the current conditions that are a result of the wild horses on grazing allotments.

The reduction of grazing allotments on the MNF due to wild horse impact would have a significant effect on certain sectors, and noticeable impacts on county-wide employment, output, and labor income. However, this study does not include other additional incalculable effects to the local ranchers. Many ranchers stated that if grazing allotment reductions surpassed the 50% mark, they would be forced to leave the county, and potentially the ranching industry altogether. During surveys, ranchers also expressed their concerns regarding the wild horse situation in Modoc County. Their frustration stemmed from the misconception that these wild horses are seen as "pretty little ponies" from outsiders who don't have to deal with the potentially-violent and dangerous invasive that the wild horse on the Devil's Garden has become. The surveyed ranchers also noted that they felt as if they were being driven out of the county if grazing allotments continued to be reduced. This is incredibly concerning considering the importance and value that the ranching community brings to Modoc County's culture and economy.

How close do you look at your cows hair?

Courtesy of Ralph Phillips and Theresa Becchetti

How many people sit down and think about the placement and shape of hairwhorls on cattle? And how many people do you think would try to make a connection between the whorls and temperament? What about fertility? Well believe it or not, someone has thought about these things, and more than that – has actually found a relationship between them. Dr. Temple Grandin, Associate Professor at Colorado State University has spent her career investigating cattle behavior and low stress handling techniques. She is known worldwide for her work and has been featured on 20/20, 48 hours, and Larry King Live, as well as in People, Time, US News, World Report and Forbes. She has been a supporter of properly designing facilities to easily and safely move cattle, reducing injury to animals and handlers.

In the past few years she has expanded her research program to look for predictors of temperament. Starting with a simple score card, she rated how cattle stood in the squeeze shoot and found that if animals were either very calm or very agitated, they tended to display the same temperament each time they were processed, allowing producers to identify flighty animals and cull them. Then she started to look at physical characteristics of cattle. Dr. Grandin found that bone density could be a predictor of how flighty an animal is. Cattle with slender foreleg bones tended to be more flighty and ran out of the squeeze chute faster than cattle with thicker foreleg bones. In fact, the foreleg bone was 9% wider in the calmer animals. It is important to note that no Brahman cattle were part of this study however.

Next came the whorl placement. 1500 feedlot cattle, English, European, and some Brahman crosses, were examined for how agitated they were in the squeeze chute and hairwhorl placement, or lack of, was noted. Dr. Grandin found that cattle with spiral hairwhorls located below their eyes tended to be calmer in the chute than cattle with whorls above their eyes, or even calmer than cattle without whorls. Dr. Grandin's group next moved this work into the auction ring. Again, cattle with hairwhorls above the eyes were flightier than cattle with hairwhorls below the eyes. There were no purebred Brahmans in either study, and keep in mind that purebred Brahmans are one breed that do not have hairwhorls.

It turns out that the placement is not the only interesting thing about hairwhorls. The shape of the whorl has been related to breeding soundness of bulls. Angus bulls were separated into two groups based on either a circular whorl, or a crooked line whorl. It turned out that the group of bulls with a circular pattern were more fertile than the group with a crooked line. 83% of the circular whorl group passed the breeding soundness exam, while only 50% passed from the other group. This could add one more criteria in selecting replacement bulls.

Since this study, further research has been done, as reviewed in the Western Cowman (Sep. 2011), into behavior and how docile cattle can pay off in the long run. Specifically, temperament can affect carcass quality, calf feedlot performance, pregnancy rates, disease resistance, potential injury to those handling the cattle, and owner frustration levels. To get right to the point, docile cattle perform favorably in all of the areas listed above and still do a good job of protecting their calves from predators.

Photo by Todd Johnson

If you are interested in rating the excitability or relative docility of your cattle, it's a pretty easy process. First, you'll want to establish a rating process, for example, on a scale of 1 to 3, rate the degree to which a cow fights when she's in the chute. Then, also rate her speed as she exits the chute, again a scale of 1 to 3 could be used. The number 1 would represent a calm, docile cow that calmly walks away from the chute. The number 3 would represent a highly anxious cow who fights the chute, reacts each time she is touched (for injection, worming, ear tagging, mouthing, etc.) and exits the chute with an equestrian style jump and then dashes away. A number 2 cow would fall somewhere between a 1 and 3 rating. Depending on the record-keeping methods each ranch uses while working cattle, adding this to the process may be as simple as adding a column or two to a spreadsheet or it could be more complex. As you consider how a rating system like this might work for your ranch, remember docile cattle can improve your bottom line, and spending just a few hours to implement a rating system could provide the extra advantage you need to make your operation even more successful and profitable.

WINTER BEEF HEALTH MEETINGS

February 5, 2019 Alturas

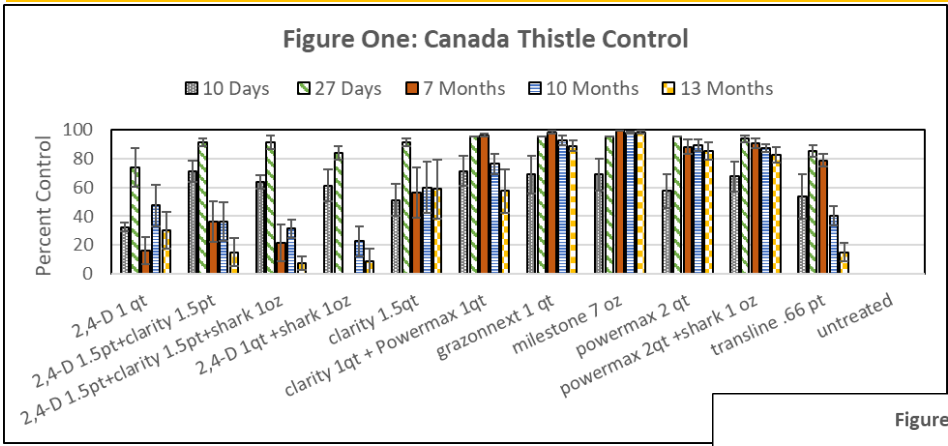
The Brass Rail, HWY 395 Alturas, CA

6:30 pm to 9:00 pm

UCCE Modoc and UCCE Lassen will be hosting a Winter Beef Health meeting in each county. The Modoc County meeting is sponsored by the Modoc County Cattlemen and Cattlewomen, and Modoc Veterinary Center. Cattlewomen will be making desserts and the Brass Rail will be open for service. **Topics include maximizing vaccines, foothill abortion, scours, pink eye and others with Gaby Meier, UC Specialist in Beef Health and Modoc Vet Center. Come with your questions.**

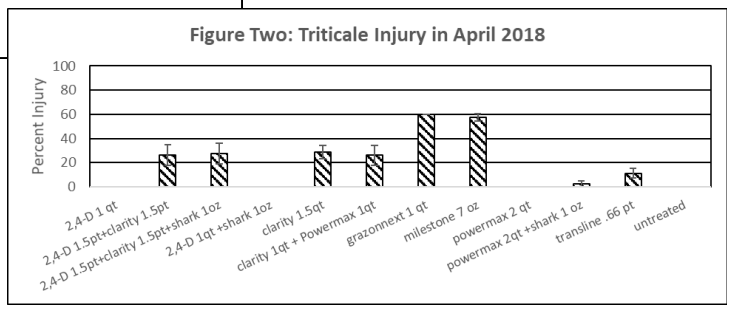
RSVP to Cheryl Kunert 530-233-6400

Looking forward to seeing you!



Canada Thistle continued from page 4:

All treatments (except 2,4-D alone) gave at least 85% control 27 days after treatment burning the thistle down to the ground that fall. The following spring, treatments that contained Roundup Powermax, or Aminopyralid (Milestone and GrazeonNext) gave at least 90% control. Combinations of 2,4-D, Clarity, and Shark did not provide thistle control the following growing season. Shark tank mixed with Roundup did not offer better control than Roundup alone. By October of 2018, 13 months after treatment, only Milestone gave better than 95% thistle control. Roundup, Roundup+ Shark and GrazonNext, were the only treatments that gave greater than 80% control. Adding Shark to the tank did not appear to increase Canada thistle control for any treatment. While Aminopyralid gave the best Canada thistle control, it is not labeled for use in small grain production. There is information on the Milestone and GrazonNext label's indicating one full year before grain can be seeded, and a bioassay must be conducted before seeding broadleaf crops. Likewise, the crop rotation interval for Clarity was not followed in this study for the rates tested. Crop injury was visually assessed in all treatments (Figure two).



Treatments that contained Clarity were slightly stunted and thinned. In treatments that contained Aminopyralid (Milestone/GrazonNext), the stunting and thinning was much more severe (Photo one). It is always important to read and follow the label, not just because it is the law, but to prevent crop injury.

Roundup could be a good choice for Canada thistle control if you are planning on planting a crop after application. Products that contain aminopyralid can be a good options for selective thistle control in perennial grass pastures. However, whatever herbicide is utilized, multiple applications and follow up spot treatments may be needed for effective control.

We are on the Web
CEMODOC.UCANR.EDU

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Alturas, California
Permit # 22

COOPERATIVE EXTENSION

UCCE Modoc County
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Alturas, CA 96101
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Laura Snell
County Director
Livestock and Natural Resources Advisor
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FUTURE EVENTS OF INTEREST

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6:30pm-9:00pm Brass Rail Alturas, CA

March 8 Modoc Ag Expo
Modoc County Fairgrounds Cedarville, CA

March 27 Predator Workshop TBA

June 10-14 Junior Livestock Show, Alturas, CA