



Josh Davy, UC Farm Advisor
Livestock, Range, and Natural Resources

Cooperative Extension of Tehama County
1754 Walnut Street, Red Bluff, CA 96080
PH: (530) 527-3101 FAX: (530) 527-0917
Email: jsdavy@ucanr.edu
Website: <http://cetehama.ucanr.edu>

Livestock and Range News is a newsletter published by the Farm Advisor's office containing research, news, information, and meeting notices related to the areas of livestock production, irrigated pasture, range, and natural resource management.

In This Issue:

- **Dewormer strategies for cow/calf pairs grazing irrigated pasture**
- **Should you consider an ionophore**
- **Buying Livestock Drugs in California**
- **Understanding and Managing Shrink...**
- **Vesicular Stomatitis Virus: *An Unwelcome Guest in Livestock's Mouth***
- **5th Annual Agricultural Producer's Day—**
- **November 30, 2023** -



The University of California prohibits discrimination or harassment of any person in any of its programs or activities. (Complete nondiscrimination policy statement can be found at <http://ucanr.org/sites/anrstaff/files/107734.doc>)

Inquiries regarding the University's equal employment opportunity policies may be directed to John Sims, Affirmative Action Contact, University of California, Davis, Agriculture and Natural Resources, 2801 2nd Street, Davis, CA 95618, (530) 750-1397.



Livestock & Range News

Dewormer strategies for cow/calf pairs grazing irrigated pasture

Josh Davy – UC Farm Advisor
Gaby Maier – UC Vet Med Extension
Larry Forero – UC Farm Advisor

Debate exists on the utility of deworming calves at branding time (first vaccination, castration, etc), with research showing a conventional dewormer having little affect on subsequent weight gains in calves. It is thought that this is because the young calves diet consists of predominantly milk, which doesn't lend itself to parasite exposure as compared to older calves that would consume a higher diet of forage grasses. The intent of this research was to determine if an extended release dewormer (Eprinomectin; LongRange) could help bridge the gap of parasite control between calthood vaccination and preconditioning. We compared groups of extended release (LongRange), conventional dewormer (doramectin; Dectomax injectable), and an untreated control to determine an optimal calf dewormer protocol. Dams in each group received the same treatment as calves, which further allowed the evaluation of effectiveness on mature lactating cows.



Trial design

The trial was conducted on the UC Sierra Foothill Research Center near Browns Valley California. All treatments grazed in the same pastures, which had a composition of the grasses predominantly including tall fescue, orchardgrass, and dallisgrass. The dominant forbs included white clover and trefoil. The stocking rate was 1 cow/calf pair per acre for the summer season. Three groups were stratified into treatments from 129 pair of angus-based cows. Stratification of treatment groups was done by calf weight, dam parity (1-68% of pairs, or 2), and calf sex. Treatments were initiated on May 14th. Sampling occurred midseason on July 28th and at trial completion on October 6th. Sampling data included cow and calf weight, cow body condition score, and fecal egg counts. Fecal egg counts were also collected 10 days after treatment initiation.

Findings

Calves – Dewormer strategy did not affect calf weight gain. No difference existed between calves given either of the two dewormer treatments when compared to the control. Regardless of treatment calve gains ranged from 1.9 to 2.0 lbs/day.

Cows – Unlike the calves, the dewormer treatments did significantly influence weight gain in the dams (Table 1).

The eprinomectin treated group gained roughly 20 lbs over the other treatments during the study. The increased weight gain was more pronounced in the second half of the trial (July-Oct).

Treatment	Total gain ¹	Average daily gain
Doramectin	70a	0.48a
Control	74a	0.51a
Eprinomectin	93b	0.64b

¹Within a column means with a similar letter are not different ($P>0.05$)

Summary

In this trial parasite control did not appear to impact weight gain for pre-weaning calves. Previous trials have found benefit to deworming light weight calves, but in those cases the calves were all weaned. It still appears deworming nursing calves has limited benefit. Cow weight gain was increased with the use of the extended release dewormer when compared to a conventional dewormer and a control. Although it's hard to quantify the benefit of added gain in cows that aren't being sold, knowing that mature animals expressed greater treatment response to the extended release dewormer leads to other potential opportunities. For example, it would be valuable to test the potential increase in first conception of heifers that received the same treatments in the growth period prior to breeding. If similar weight gain was seen in the extended release product, it could be rationalized that heifer pregnancy could be increased, but that is a future project.

Acknowledgement

The research team would like to thank Boehringer Ingelheim for their financial input into this trial. We would also like to thank the staff of the UC Sierra Foothill Research and Extension Center for tedious work in helping this trial's successful completion.

Should you consider an ionophore?

Josh Davy – UC Farm Advisor
Gaby Maier – UC Vet Med Extension
Larry Forero – UC Farm Advisor

Ionophores (monensin) are a class of antibiotics that have no importance to humans or traditional therapeutic uses (can help prevent coccidiosis). They do increase efficiency in cattle, which can help with economic increases in average daily gain. Although traditional use of an ionophore has been delivered to cattle through a ration, new research conducted by the authors has fine tuned the ingredient



combination to effectively deliver the product through a loose salt formulation. Note, it is not new to deliver monensin in a loose salt mineral, the research novelty tested ionophore and salt levels to optimize economic consumption.

The primary reason to include monensin in a loose salt mineral is weight gain. Multiple years of research found that increases in average daily gain were 0.13-0.15 lbs/day when fed at 800 to 2,000 grams per ton in loose salt mineral. This translates to roughly 25 lbs of added gain for a six-month season. Intake rates of monensin were 50-82 mg/day when salt levels were limited to 20% of the mineral.

The economics of this weight gain are encouraging. Each pound of added gain was found to cost only \$0.01 to \$0.02 per pound of added gain. In many studies increased doses in the diet lead to even higher gains, but in our loose salt trials increasing the concentration of monensin

resulted in lower consumption of the mineral which negated potential benefits. In fact, increasing rates over 2,000 grams per ton decreased consumption of mineral enough that selenium levels were no longer adequately supplemented. Higher rates would need to be delivered in a different manner. Current research is comparing loose salt methods to molasses based protein block supplement methods.

A second reason to include monensin in a cattle diet is coccidiosis prevention and control. It should be noted that the rates of monensin intake in our loose salt trials would be low for this task. Although no added gain would be seen, mixing rates of 2,000 grams per ton (82 mg/d) rather than 800 grams per ton (53 mg/d) may help increase effectiveness.

Monensin should not be fed if cattle mineral cannot be separated from horses or swine. The product is toxic to both. Additionally, ionophores are an antibiotic, which would eliminate supplemented cattle from qualifying as natural or other branded programs.

Although monensin toxicity is possible, the product limits consumption to a level that the likelihood is very low. In over five years of trials intake levels were never able to exceed 100 mg/day. Toxic doses for a 700 lb steer are stated to be between 1,700 and 8,400 mg per day. Because of the high dose to meet toxic doses, the most likely scenario for toxicity would be an error in mixing monensin into a total mixed ration.

Buying Livestock Drugs in California

Morgan Doran, UCCE Livestock & Natural Resources Advisor

Dr. Gabriele Maier, Professor of Extension, Beef Cattle Herd Health and Production, UC Davis

Dr. Roselle Busch, Professor of Extension, Sheep and Goat Herd Health and Production, UC Davis

July 12, 2023

A livestock producer recently contacted UCCE regarding a problem he was having getting livestock dewormers shipped to a California address from out-of-state online retailers. Three different online retailers told him that they don't have a license to ship the products to California. This was a headscratcher since the same retailers have previously shipped the same products to California.

The problem triggered an exploration into the regulation of livestock drugs in California, which is helpful to understand the issue encountered with the online retailers.

Below is a brief description of how livestock drugs are regulated in California, with many references to lists published by the California Department of Food and Agriculture (CDFA), and a final suggestion on what to do if you encounter the same denial to sell a dewormer or other livestock drug.

Here are the basics of California Livestock Drug Regulations

When you buy livestock drugs from a store or an online retailer you usually don't know or need to know the regulatory process that permits such transactions, unless you are buying an antimicrobial drug that requires a prescription. Drugs that don't require a prescription are classified as either a "livestock drug" or a "restricted livestock drug." Here are the different livestock drug classifications and their corresponding regulations:

1. **Livestock Drug** – does not have any restrictions to sell or purchase
2. **Restricted Livestock Drug** – the drug retailer is required to have an approved retailer license issued by CDFA to sell the drug in California
3. **Restricted Livestock Drug, Rx** – the retailer has the same requirement as with a Restricted Livestock Drug and the buyer must have a veterinary prescription to purchase the drug

Some restricted livestock drugs are further classified as Type A VFD (Veterinary Feed Directive) or Type A Non-VFD, but most livestock producers don't need to worry about Type A livestock drugs unless they are a confined animal feeding operation (CAFO).

Here you can download a complete list of [CDFA Approved Livestock Drug Registrations](#) and their classifications.

More on the Drug Classifications

Most drugs for livestock fall under the "Livestock Drug" classification and include drugs such as antiseptics, topical medications, pain relievers, vitamins, minerals, nutrients, insecticides, and many more.

Drugs in the "Restricted Livestock Drug" category include hormones, dewormers, coccidiostats, medicated feed additives and a handful of other drugs. Here you can find a list of "[Restricted Livestock Drugs](#)." Purchasing "Restricted Livestock Drugs" in California is typically not a problem unless the retailer does not have an approved retailer license with CDFA.

“Buying Livestock Drugs in California...” Continued...

Drugs classified as “Restricted Livestock Drug, Rx” include medically important antimicrobial drugs such as penicillin, oxytetracycline, sulfamethazine and others. Here is a list of “[Restricted Livestock Drugs, Rx](#)” that were available without a prescription prior to 2018 in California.” These are drugs that require a prescription from your veterinarian to be purchased in the state of California, as mandated by the Livestock: Use of Antimicrobial Drugs law ([FAC § 14400 - 14408](#)). Other livestock drugs, including antimicrobials such as tulathromycin or gamithromycin have always required a prescription and will continue to do so in the future. If you do not have a veterinarian’s prescription, then you must establish a veterinary-client-patient relationship (VCPR) with a veterinarian so that the veterinarian knows you and your livestock operation and has confidence in your animal care practices and ability to properly use and administer the prescription drugs.

Why Did the Retailers Decline Selling the Dewormer Products

While one of the retailers clearly does not have a retailer license to sell restricted livestock drugs in California, the other two retailers do have an approved retailer license. When we contacted the two retailers who do have an approved retailer license, they both indicated that the purchases were denied due to a website error and suggested that the purchaser call their customer service phone number to order the restricted products. Given this response we suspect there may be confusion or glitches among some out-of-state online retailers on selling restricted livestock drugs in California. A contributing factor may be recent changes made across the nation regarding medically important antimicrobials. On June 11, 2023, the US Food and Drug Administration implemented GFI # 263 and all medically important antimicrobials in the nation now require a prescription from a veterinarian. The rest of the country essentially now follows what California has already been practicing since 2018. The drugs that were previously “Restricted Livestock Drugs, Rx” are now Federally labeled as Rx drugs and no longer require a special designation for sale to California residents. It did not, however, change the label status of other “Restricted Livestock Drugs” in California.

If you find yourself in a similar situation in which an online retailer declines the sale of a dewormer product or other restricted livestock drug, you can first check if the retailer has an approved retailer license using this [CDFA Restricted Livestock Drug Licensee list](#). If the retailer is listed as having an approved license then you should call their customer service number to order the product and let them know of the website error so that it can be corrected.

You can find all the referenced lists of restricted livestock drugs, licensed retailers and information about the Livestock Drug Program in California at this CDFA website <https://www.cdfa.ca.gov/is/ffldrs/LivestockDrug.html>.

.....

Understanding and Managing Shrink...

Larry Forero – Shasta/Trinity Livestock Farm
Josh Davy - Tehama, Glenn, and Colusa Livestock Farm Advisor
Jim Oltjen – Animal Management Specialist, UC Davis

There have been many studies that quantify beef cattle shrink. Having a working understanding of shrink is an important part of developing a marketing plan for cattle. When cattle are marketed on a video sale, the representative will discuss with the consigner what the weighing conditions are expected to be and work to align the “shrink” that is fair to both the buyer and seller. Examples of this are seen in a catalog that read “*early am gather, weigh on the ground, 3% shrink*” or “*early am gather, load on buyer trucks, weigh on truck after 15 mile haul, 2% shrink.*”

The shrink described above is referred to as “pencil shrink.” The pencil shrink values are subtracted from the gross weight and consigners are paid based upon the resulting net weight (gross weight minus shrink). Should the animals shrink more than the pencil shrink, that loss is borne by the seller.



There are essentially two types of shrink:

- A. Fill shrink- The initial shrink (generally occurs in the first 3-4 hrs) and is usually in the form of manure or urine. This shrink can be recovered from quickly.
- B. Carcass shrink- The actual tissue loss resulting from the animal being held off feed and water for long periods of time. This type of shrink requires longer recovery periods.

Here is some information to consider regarding shrink:

- The time cattle are off feed and water is the major contributing factor to shrink. As evident in table 1, the percent shrink decreases over time, but can be in excess of 1% an hour for the first several hours.
- High ambient (air) temperature has a major effect on increasing shrink. Temperature interacts with other variables, such as the times spent on the truck or in the corrals, to increase their influence on shrink.
- Handling in the corral is hard to quantify but can influence shrink by 2%
- Allowing calves to eat prior to food deprivation can reduce shrink by 2.9%
- Truck drivers with over 6 years of experience hauling livestock had less shrink when compared to less experienced drivers.
- Cattle loaded in the afternoon and evening shrank more than cattle loaded at night or morning.
- Feeding ionophores for a period of time before shipping has been shown to slightly reduce shrink
- Data is inconsistent, and at this time, does not support the use of strategies such as feeding high quality concentrate diets prior to shipping or preconditioning as methods to reduce shrink
- Many other factors affect shrink, but compared to the major variables listed above their effects are small

Continued...

“Understanding and Managing Shrink...” Continued...

Table 1. Shrink effects from water and feed deprivation in a drylot/corral type situation (each weight group derived from a different study)

Cattle Type	Weight group, lbs	Length of time without feed or water (hours)	Shrink, % of body weight per hour
Stockers	675	0-2.4	1.25
Stockers	675	2.4-4.7	0.61
Stockers	675	4.7-6.8	0.16
Stockers	675	6.8-9	0.74
Stockers	645	0-2.5	0.91
Stockers	645	2.5-5	1.06
Stockers	645	5-7.5	0.9
Stockers	645	7.5-10	0.75
Stockers	700	0-2	0.76
Stockers	700	2-4	0.48
Stockers	700	4-6	0.55
Stockers	700	6-8	0.65
Stockers	570	0-2	1.41
Stockers	570	2-4	0.87
Stockers	570	4-6	1.12
Stockers	570	6-8	0.62
Stockers	570	8-10	0.34

Adapted from Coffey, K. P., W. K. Coblenz, J. B. Humphry, and F. K. Brazle. 2001. Review: basic principles and economics of transportation shrink in beef. Prof. Anim. Sci. 17:247-255.

Table 2. Expected shrink based on associated activity (1957 handout)

Activity	Expected Shrink
Overnight stand with feed and water	2%
Overnight stand without feed and water	4%
Driving 15 miles	5%
One hour sorting	1-2%
Truck haul-two hours	3.5-8%

Table 1 can help in estimating shrink of cattle in the corral. In Table 1, each different weight group of cattle is a different study, making the chart a summary of multiple studies. This is depicted to show that environmental factors cause the actual shrink to vary even in controlled situations, however, general trends can be viewed to determine a practical estimate of shrink for cattle standing idle in the corral.

Shrink has been discussed by cattlemen for many years. In 1957 Placer-Nevada Cattlemen’s Association held a tour (September 16, 1957) and discussed the topic. Several general rules are noted in Table 2.

These data indicate that having the cattle organized in a manner that reduces the amount of time cattle are standing around and reducing the amount of sorting that needs to occur on shipping day can greatly reduce shrink. There are many

practices that can help individual operations, but here are a few simple things to consider:

1. Sort off what cattle obviously don’t fit the terms of the contract well ahead of shipping day (bad eyes, off color/quality, size, etc).
2. Consider having a holding pen close to the corral with a bank of forage. This pen can help for an easy gather to the corral on shipping day and also ensure the cattle are well fed prior to fasting. Additionally, the holding pen can act as a safety net in case problems with the trucks occur.
3. Have a crew and a facility that can accommodate easy sorts and cattle flow on shipping day.
4. Think about developing a weaning field with two pastures—one for the steers and one for the heifers to eliminate sorting by sex on shipping day.
5. If you have scales in your corrals and will be shipping from them, having pen that can adequately handle all the loads to ship that day can reduce the amount of time cattle stand around.
6. If you don’t have a set of scales, consider the possibility of installing them. Having certified scales at the corral decreases the variables you can’t control.

Continued...

Livestock & Range News

“Understanding and Managing Shrink...” Continued...

Buyers have quantified the amount of shrink that occurs on a given haul. Figuring into this number are factors such as: time on the truck, environmental conditions, and driver experience. Figure 1 quantifies the amount of shrink that can be estimated while cattle are on the truck. This table also includes the importance of the average temperature while cattle are being trucked. Combining these two factors and adding the estimated shrink coefficient (see Figure 1 title) based on the class of animal provides a starting point for estimating shrink for transported cattle. For example stockers shipped for 10 hours at 70 degrees can be estimated to shrink 6.56% on the truck (5% from table plus 1.56% including the feeder cattle coefficient is 6.56%). Additionally, if cattle sat idle in the corral for a period of time before the truck arrived, it may be applicable to add the shrink from both tables to get a full shrink value.

No shrink is typically calculated for cattle sold at a sale barn. The weight of the cattle on the scales at the sale barn is after the animals have been sorted, hauled, unloaded, sorted again and eventually sold in the ring and weighed. The weight displayed when the cattle are sold reflects the entire “shrink” experience by these activities. This is corroborated by multiple studies. If you are in the position to market your livestock through a sale barn, it may be beneficial to consider how you manage the process of getting your cattle to market. Think about opportunities to reduce the shrink your cattle experience before they get to the ring.

Remember that your name is associated with the cattle even after they are weighed and gone. Buyers know the amount of shrink to expect for a given haul. Shrink outside the norm could result in a phone call and the consigner could be asked to explain why and make a price adjustment.

Regardless of the method used to market your livestock, take a little time to think about shrink and how you might be better able to manage it. If you can develop some strategies to reduce real shrink, that should translate to more dollars in your pocket.

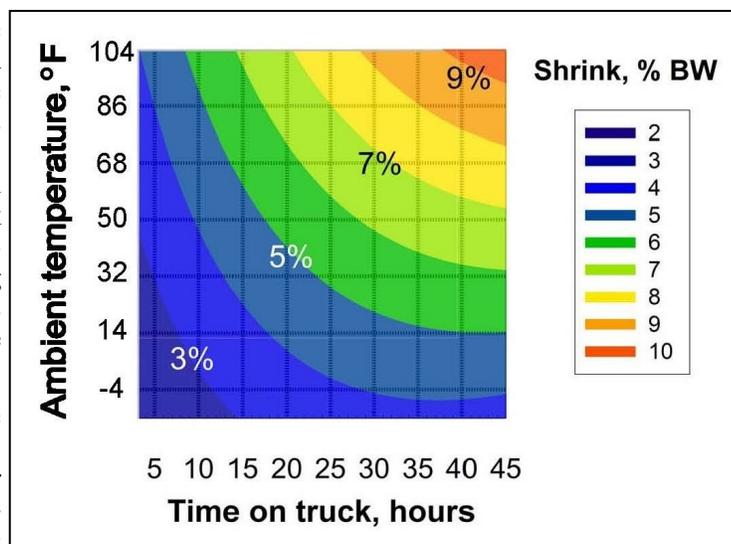
**The authors appreciate and acknowledge the review and comments by Kevin Devine and George McArthur.*

References

Coffey, K. P., W. K. Coblenz, J. B. Humphry, and F. K. Brazle. 2001. Review: basic principles and economics of transportation shrink in beef. *Prof. Anim. Sci.* 17:247–255.

L. A. González, K. S. Schwartzkopf-Genswein, M. Bryan, R. Silasi and F. Brown North America Factors affecting body weight loss during commercial long haul transport of cattle in published online June 4, 2012 *J ANIM SCI*

Figure 1.^{1,2} Shrink effects based on time in the truck and the average temperature during the haul. The study states that in addition to the calculated shrink below to add 1.56 % of body weight for feeder cattle (600-1,100 lbs), 2.60% for calves (<600 lbs), or 3.56% for cull cows to get the total shrink.



¹Chart taken from: L. A. González, K. S. Schwartzkopf-Genswein, M. Bryan, R. Silasi and F. Brown North America Factors affecting body weight loss during commercial long haul transport of cattle in published online June 4, 2012 *J ANIM SCI*

²When considering combining the tables it is important to know that the model used to create table 2 does include the time taken to actually load the truck and is accounted for in the animal class coefficient

Vesicular Stomatitis Virus: An Unwelcome Guest in Livestock's Mouth

*Dr. Gabriele Maier, Professor of Extension, Beef Cattle Herd Health and Production, UC Davis
Dr. Roselle Busch, Professor of Extension, Sheep and Goat Herd Health and Production, UC Davis*

July 2023

On May 18, 2023, Vesicular Stomatitis Virus was detected in a horse premises in San Diego County. Since then, several more counties in the southern half of California have reported positive cases of vesicular stomatitis, mainly in horses. Two cattle premises and a rhino in a wildlife park were also confirmed positive for the virus. A current map of affected counties with quarantined premises can be accessed through the California Department of Food and Agriculture (CDFA) at [this link](#). The CDFA also offers a number of informational materials related to Vesicular Stomatitis Virus on this dedicated [webpage](#).

What is Vesicular Stomatitis Virus (VSV)?

Vesicular Stomatitis (VS) is a contagious viral disease that often affects horses, but can also lead to clinical signs in cattle, swine, wild ruminants, small ruminants, and llamas and alpacas, causing painful sores and blisters in their mouths and on their hooves. Though not typically fatal, VS can have significant economic and welfare impacts on affected animals. In rare cases, people can also become infected and develop flu-like symptoms. Understanding VS during the current outbreak is crucial for producers, veterinarians, and anyone involved in the livestock industry.

Transmission and Spread

VSV primarily spreads through direct contact with infected animals. The virus can also be transmitted through contaminated equipment, feed, or water sources. Certain insects, such as, midges, sandflies, and blackflies, can carry and spread the virus from one animal to another. However, there are still some uncertainties about how the virus spreads between animals and between premises.



Midge

Sandfly

Blackfly

Continued...

Livestock & Range News

Clinical Signs and Symptoms

Once animals are infected with VSV, it takes about 2 to 8 days for the first clinical signs to appear. Common symptoms include the formation of painful blisters and sores in the mouth, on the tongue, and around the lips which causes the excessive drooling and reluctance to eat. The virus may also cause similar painful lesions on the hooves and teats. In severe cases, the animals may experience lameness due to hoof lesions further contributing to decreased feed and water intake. Severely affected animals may be dehydrated with metabolic and acid-base derangements (especially ruminants as they produce a large amount of saliva which is critical for buffering the rumen). Animals may lose condition due to the painful lesions.

Impact on Cattle and Livestock Industry

VSV is classified as a "reportable disease," which means it must be reported to the local authorities upon detection. The reason for this classification is the potential for VSV to mimic the signs of other more dangerous diseases, such as foot-and-mouth disease (FMD). Once VSV is suspected, a quarantine will be issued so animals may not leave from the premises until cases have resolved. Timely reporting and temporary movement restrictions for affected premises is the best way to reduce the spread of VS. Call your local veterinarian or your CDFA Animal Health Branch if you suspect a case of VS in your livestock. There is no "punishment" for having the disease in your livestock, other than being under temporary quarantine. Affected animals won't be eliminated as is the case for other livestock diseases such as bovine tuberculosis or Newcastle disease in poultry. If everyone stays vigilant and reports cases of VS, spread of the disease will be minimized.

Plan ahead for interstate livestock movements

When shipping cattle or other livestock interstate, there may now be additional restrictions for the certificate of veterinary inspection required by the importing state. Make sure you plan ahead and discuss with your veterinarian when to schedule visits for health certificates for interstate movement. The same may be true when taking animals to a livestock fair.

Prevention and Control

Preventing VSV outbreaks requires a combination of biosecurity measures and vigilant monitoring. Livestock owners should:

1. Implement strict biosecurity protocols to limit contact between healthy and potentially infected animals.
2. Regularly inspect animals for any signs of the disease, such as blisters, sores, or lameness. Wear gloves when examining mouths to avoid exposure to the virus.
3. Isolate and quarantine suspected cases immediately to prevent further spread.
4. Practice proper sanitation and hygiene when handling livestock and equipment. The virus is susceptible to disinfection with various products including diluted bleach, iodine, quaternary ammonium, and phenolic compounds.
5. Minimize exposure to potential insect vectors by using repellents or insecticides. Check the [VetPestX](#) website for information on available products to kill or repel the most important vectors.

Unfortunately, there is no vaccine available for VSV, so biosecurity, hygiene, and vector control are the best ways to prevent the disease.

It's important to note that there is no specific treatment for VSV, and supportive care is the mainstay for affected animals. Veterinarians may recommend pain relief, hydration support, and providing soft and easily consumable feed.

Tehama County Department of Agriculture Continuing Education for Private Applicators, QAL, QAC, PCA and other License Holders



5th Annual Agricultural Producer's Day

Thursday, November 30, 2023
Tehama District Fairgrounds
C.E. Credits 2.0 HRS Laws & Regs
2.0 HRS Other = 4.0 Total HRS

7:30 - 8:00	Registration
8:00 - 8:05	Welcome Address from Agricultural Commissioner
8:05 - 8:30	New PAC Exam and Rodent Fumigation Exam (<i>Tehama Dept. of Agriculture</i>)
8:30 - 9:30	Following Label Requirements for Pre-emergent Herbicides (<i>Ryan Hill / Josh Davy UCCE</i>)
9:30 - 10:00	Statewide Pesticide Notification System (DPR County Liaison Darien Pearson)
10:00 - 10:30	Break- Vendor/Trade Show
10:30-11:30	"Closed Systems and PPE Regulations." (<i>Emilie Schneider DPR</i>)
11:30- 12:30	Regulatory Changes and How it Affects Farming Practices (<i>Chris Reardon</i>)
12:30- 2:30	Complimentary Lunch/Trade Show

***1:00-4:00 PAC testing available (Contact Tehama County Ag Department for Sign-Up)**

***Coffee and Donuts Provided by: Heritage Insurance Agency**

***Lunch Provided by: Nationwide Insurance**

***Beverages Provided by: Pepsi Cola**



Nationwide®
is on your side



C.E. Credits: 2.0 HRS Laws & Regs / 2.0 HRS Other= 4.0 Total HRS
Please Register by calling the Tehama County Department of Agriculture at
(530) 527-4504 or email your RSVP to: MVieyra@tehamaaq.net
Please Register by November 27, 2023

Welcome

Ryan Hill

...the new Weed Science
and Agronomy Advisor



My name is Ryan Hill and I am the new UC Cooperative Extension Weed Science and Agronomy Advisor for Tehama, Shasta, and Glenn counties.

My education and professional background is in weed science and plant genetics. I received a B.S. in Biology from George Fox University in 2014 and an M.S. in Plant Breeding and Genetics from the Department of Horticulture at Oregon State University in 2020.

As a UCCE advisor I intend to pursue projects related to weed control in rangeland, irrigated pasture, orchards, small grains, and forage crops. I will be meeting with members of the community to set objectives for research and extension to promote economic prosperity in the counties I serve.

My family and I have already been blessed by the welcome we have received since we arrived in Tehama County in August and I am looking forward to learning more about how I can support the livestock industry in the counties I serve. I encourage you to reach out with ideas, requests, or questions relevant to weed science or agronomic crops (alfalfa, small grains, corn, or hay) as I develop priorities to pursue in my new position. You can reach me at rjahill@ucanr.edu or (530) 527-3101.

PPSRT STD
US POSTAGE
Paid
Red Bluff
Permit No. 112

Cooperative Extension
University of California
1754 Walnut Street
Red Bluff, CA 96080
"52"