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Editor

Rebecca Ozeran

Phone

559-241-6564 or  
530-390-9952 ex.1329

Email

rkozeran@ucanr.edu

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### News Briefs

## Wolf Compensation Program

On August 11, 2023, the California Department of Fish and Wildlife (CDFW) confirmed the presence of a new pack of wolves in Tulare County. As of early October, the Department estimates that there are 8 wolves in the pack. CDFW offers compensation at fair market value for livestock losses and reimbursement for preventive actions taken to reduce impacts to livestock, such as hiring range riders, purchasing livestock guardian dogs, or installing and maintaining trail cameras.

To learn more, visit [wildlife.ca.gov/Conservation/Mammals/Gray-Wolf/Grants](https://wildlife.ca.gov/Conservation/Mammals/Gray-Wolf/Grants) or email the wolf compensation program at [Wolfprogram@wildlife.ca.gov](mailto:Wolfprogram@wildlife.ca.gov).

### Notes from Tulare County Wolf Workshop

On October 4, 2023, Tulare County Cattlemen’s Association, Tulare County Farm Bureau, Visalia Livestock Market, and UCCE co-hosted a workshop on the compensation program with speakers from California Fish & Wildlife, California Cattlemen’s Association, and a Lassen County rancher.

A written summary of the event, including Q&A, [is available here](#) or by visiting the [Livestock & Natural Resources Events page](#).

# Vesicular Stomatitis Virus: an Unwelcome Guest in Livestock's Mouth

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

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

*This article was originally written in late 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 black flies, 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.



*Photos: Midge (left) and Black fly (right)*

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*VSV continued*

### **Clinical Signs**

Once animals are infected with VSV, it takes about 2 to 8 days for the first clinical signs to appear. Common signs 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.

## Six Years of Forage Data: 2018-2023

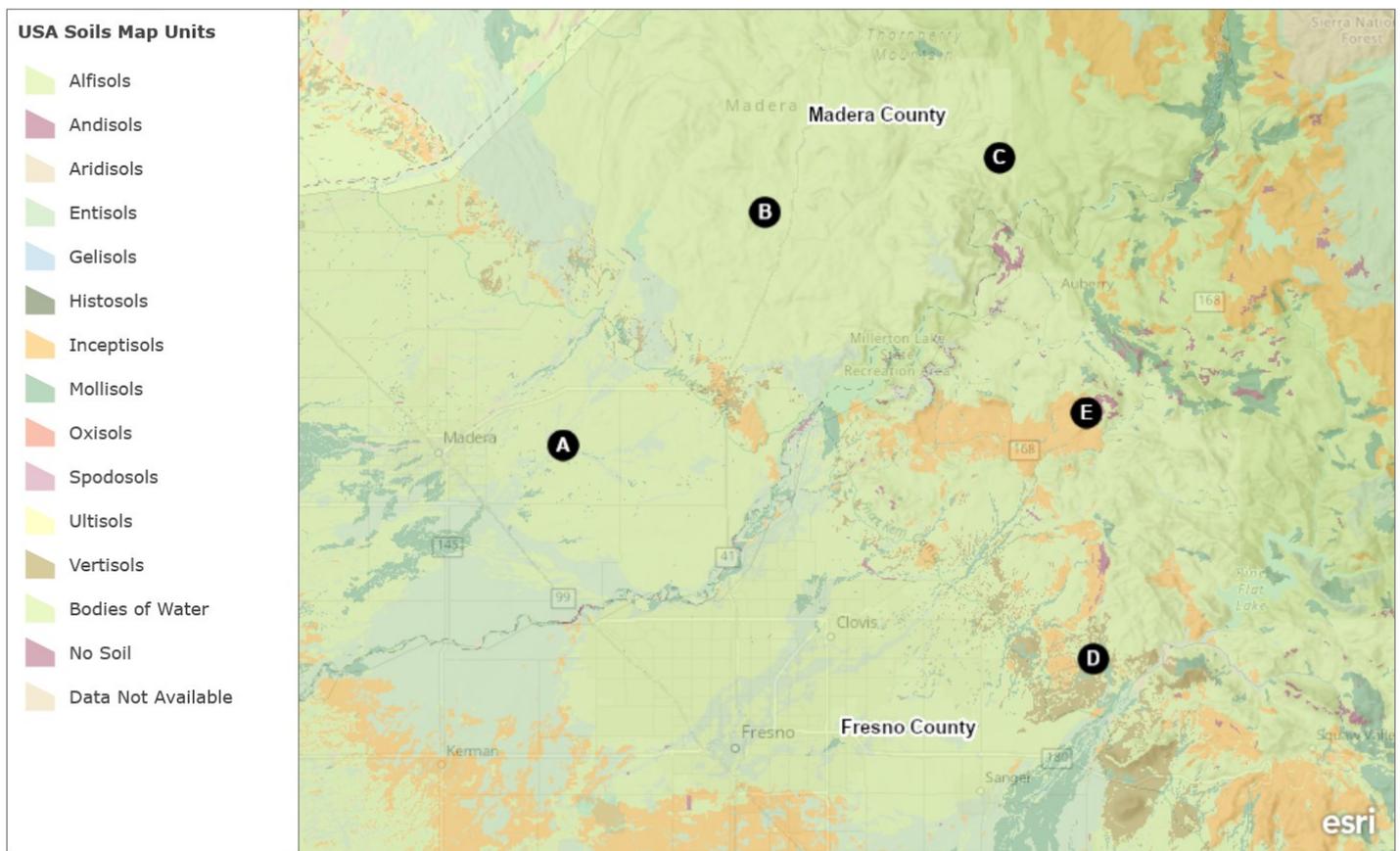
By Rebecca Ozeran

Since 2018, I have annually clipped peak forage production in Fresno and Madera Counties. Even with only 6 years of data, some key findings may help ranchers to assess key site characteristics that influence forage productivity in Fresno and Madera Counties. Hint: soil has a lot to do with it!

### Site descriptions

Five sites have been monitored annually in Fresno and Madera Counties since 2018. They cover a variety of soils and dominant vegetation types at different elevations.

**Figure 1.** Map of the five sites in Fresno and Madera Counties, labeled A through E, overlaid on a soil map.



Esri, CGIAR, USGS | Esri; U.S. Department of Commerce, Census Bureau; U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS) | Fresno County Dept. PWP, California State Parks, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

**Site A.** Madera County, low (300 ft) elevation: Soils dominated by Cometa sandy loams, 0-15 percent slopes and Whitney-Trigo fine sandy loams, 3 to 8 percent slopes. Some Hanford sandy loam, moderately deep and deep over hardpan, 0 to 3 percent slopes, supports vernal pools. Very gently sloping annual grassland with trees in riparian areas. First year of data collection: 2018.

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### Forage continued

**Site B.** Madera County, mid (1200 ft) elevation: Soils dominated by Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes. Oak woodland with open annual grasslands and denser oak/brush patches. *First year of data collection: 2018.*

**Site C.** Madera County, higher (2300 ft) elevation: Soils dominated by Ahwahnee and Auberry rocky coarse sandy loams, 8 to 30 percent slopes. Dense oak woodland on rolling hills with some open annual grassland patches as well as some dense shrubland. *First year of data collection: 2018.*

**Site D.** Fresno County, low (800 ft) elevation: Soils dominated by Porterville clay, 0 to 15 percent slopes and Tivy Loam, 0 to 30 percent slopes. Rolling annual grassland with trees in wet areas. *First year of data collection: 2020.*

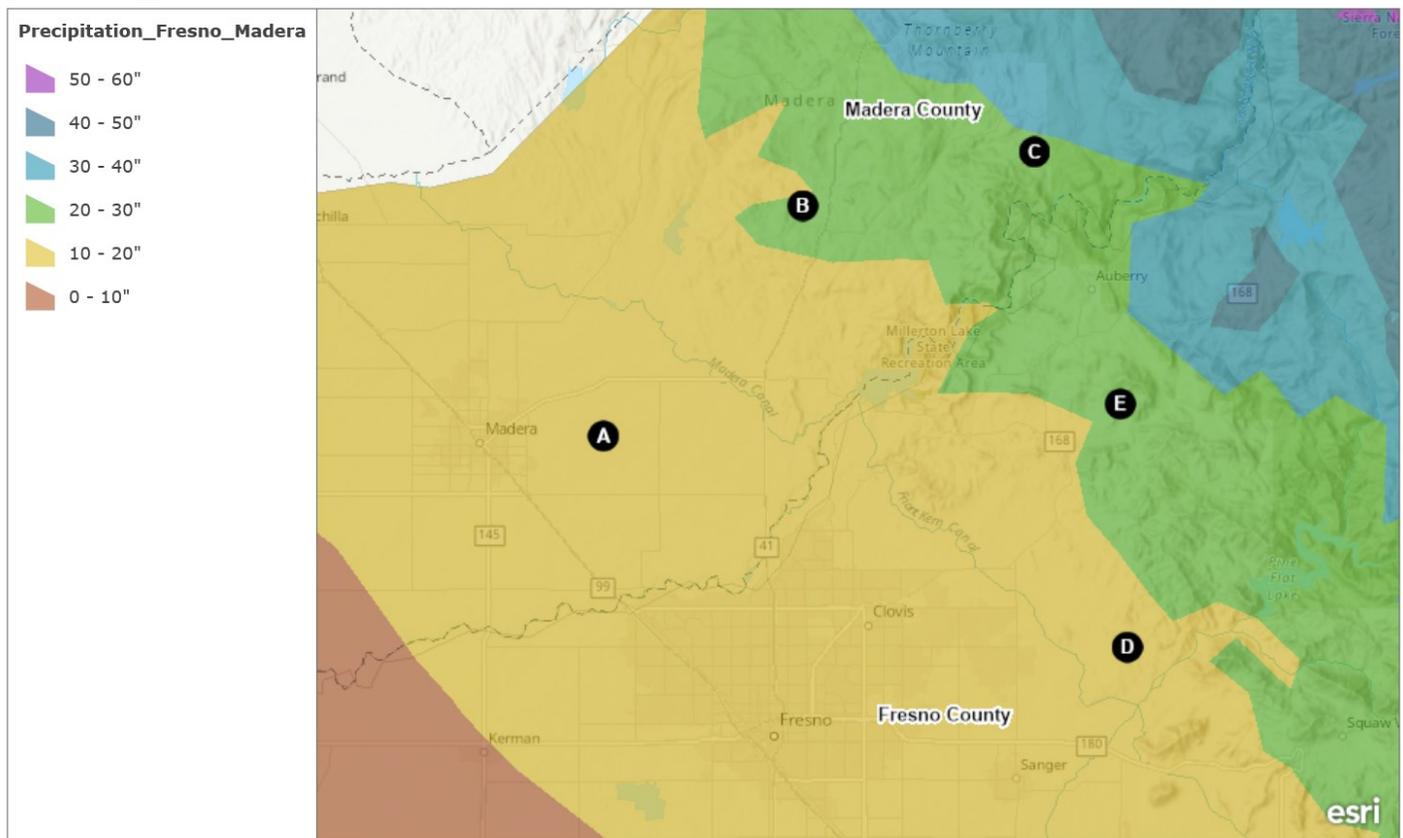
**Site E.** Fresno County, mid (1300 ft) elevation: Soils dominated by Auberry coarse sandy loam at 9-30 percent slopes, Vista very rocky coarse sandy loam at 3-30 percent slopes, and Granitic rock. Rocky oak woodland with lots of gray pine and steep slopes. *First year of data collection: 2020.*

### Normalized Annual Precipitation (1981-2010)

Precipitation tends to follow elevational bands in this part of California. Closer to the center of the valley, precipitation approaches 10 inches; closer to the Sierra Nevada, average precipitation is higher. Two annual monitoring sites (A and D) are within the 10-20” annual precipitation band, and the other three (B, C, and E) are in the 20-30” band.

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**Figure 2.** Map showing the locations of sites A, B, C, D and E relative to average annual precipitation regions.

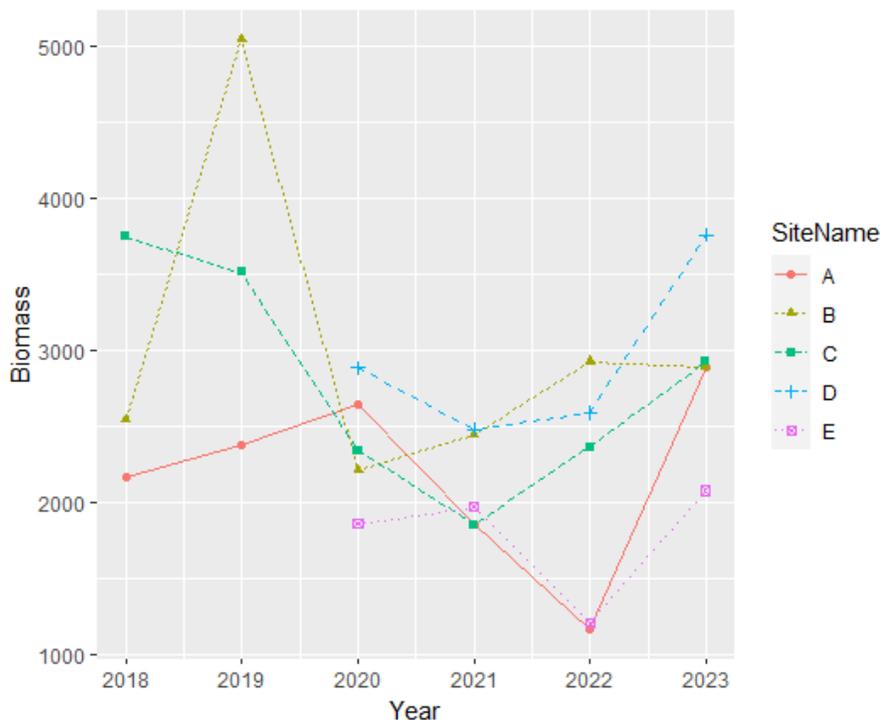


Forage continued

### Peak biomass by site

Forage production has been variable since 2018, often related to drought status. In 2022, which experienced a severe drought, almost every site performed worse than in 2023, when we had above-average rainfall. Site B performed similarly between the two years, which may mean that it is resilient to drastic shifts in rainfall patterns, or that it is in a good location to capture and utilize as much rainfall as we got during the drought. Having consistency is useful when planning stocking rates, although site B also had an extreme spike in production in 2019.

**Figure 3.** Line chart of forage production at all sites since 2018. Biomass is measured in pounds per acre (lb/ac). Sites D and E were not monitored until 2020.



### Conclusions about production

Evaluating soil, precipitation, and on-site production data tells a useful story about how these variables interact.

In most years, sites B, C, and D were more productive than sites A and E. If we only consider rainfall, site E should have better production than site D, and site C should have the highest of all. However, there are site characteristics that explain why sites E and C are less productive than we might otherwise expect.

Site C is at the highest elevation. During winter, it is exposed to colder temperatures and takes longer to warm up in spring, especially in years like 2023. Plants grow fastest when temperatures are warm and moisture is available. At site C, it was probably too cold for the forage to get an early start, while at lower elevations, like sites A and D, temperatures encouraged early growth and a longer growing season, producing similar total production at the lowest and highest elevations.

Site E has rocky, shallow soils, which means that water drains rapidly and there isn't a lot of water storage space. Site D has deeper, clay and loam soils, which are excellent at storing water for plants to access throughout the season. Sites D and E are also fairly close to one another and receive similar rainfall (about 20 inches on average) in any given year. As such, soil texture probably causes the differences in forage production between the two sites.

**Soil maps** can describe the expected forage production for a given soil type and can account for local differences like precipitation and elevation. You can find information about your local soils by visiting the [NRCS Web Soil Survey](#) – [check out this video playlist on how to use Web Soil Survey](#) – or SoilWeb, an alternate version hosted by UC Davis – [visit SoilWeb here](#).

UC Cooperative Extension or NRCS can work with you to use soil information in your ranch planning. Fresno and Madera USDA Service Centers, which house the NRCS, can be contacted using the information below:

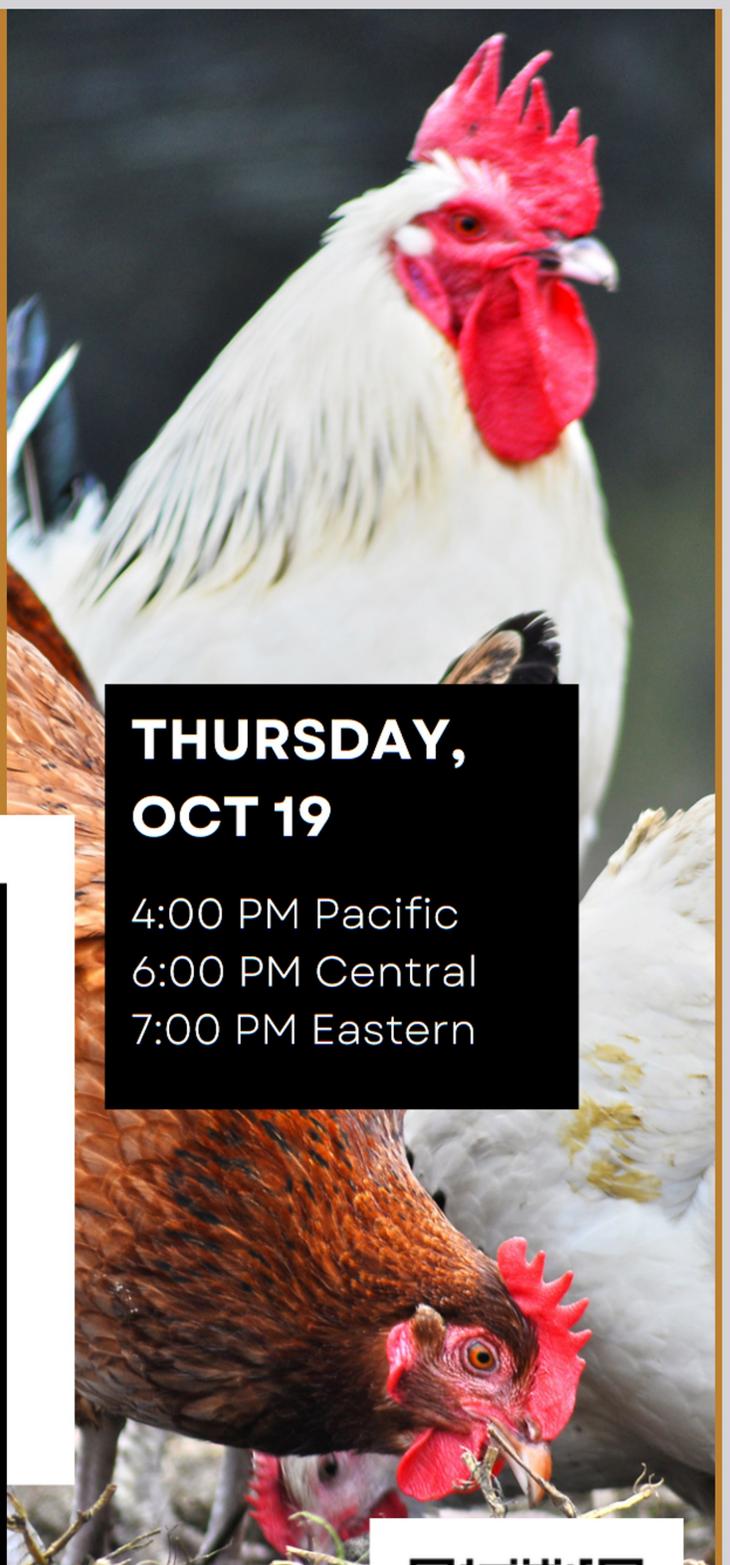
Fresno Service Center	Madera Service Center
Office Phone: (559) 276-7494	Office Phone: (559) 674-4628
Point Contact: Marcus Burks, <a href="mailto:marcus.burks@usda.gov">marcus.burks@usda.gov</a>	Point Contact: Mira Dick, <a href="mailto:mira.dick@usda.gov">mira.dick@usda.gov</a>
Address: 4625 W Jennifer Ave Ste 109, Fresno, CA 93722-6424	Address: 425 N Gateway Dr Ste E Madera, CA 93637-3163

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