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**CALIFORNIA MEAT SUMMIT**

The California Meat Summit was held March 27th in Placerville. The purpose of the Meat Summit was to provide an update on several projects funded through a Rural Business Enterprise grant that was received through the High Sierra Resource Conservation and Development Council.

After hearing reports on various projects, I facilitated a group discussion on USDA inspected slaughter and processing. One of the discussion questions was what a producer would need to know and understand in order to switch to a different processor. Here were the responses:

- Competence of management (investors need to know this as well)
- Quality of work (this might be "wish list")
- Competitive Price
- Custom cutting/services
- Distance from ranch
- Distance from markets
- Willing to allow 3rd party inspection - Organic, Animal Welfare Approved, etc.
- Distribution services
- Carcass and retail cut data
- Experience
- Provide Ancillary Services - labeling was one example
- Packaging quality
- Scheduling flexibility
- Dry aging - cooler space
- Cold Storage - space, accessibility
- Storage/inventory management
- Inventory information
- Low-Stress Animal handling
- Reliability - get your meat back
- Communication
- Responsiveness
- Labeling accuracy
- Ability to tour the plant

An interesting part of the discussion centered around the point of needing to see it in order to consider making a switch. The risk factor cited was switching from a processor you have been working with to a new one and not being satisfied with the new processor. You may have "burned your bridges" with the original processor and not be able to switch back.

This creates an interesting conundrum regarding building a new facility. It would not be out of the question to assume building a USDA inspected slaughter and processing facility would cost somewhere between $2.5 - $5 million dollars. To make the math easy, let's assume it takes $3 million dollars to build the facility.

If we were able to secure a loan, a bank would most likely want at least 30% down. This would mean the business entity would need to come up with at least $900,000 to get the loan. In addition, operating costs would be needed as well, which could easily run another $600,000. This means $1.5 million is needed to build the facility and get started operating the business.

I do not know about you, but that seems like a lot of money to me. It would not be unreasonable to assume that to move forward on the project, there would be a need to be sure there is sufficient demand. This means more than looking at livestock numbers. The key thing would be the number of niche meat producers in your area or region and identifying demand from that main group.
The conundrum is that a significant investment will be made to build a new USDA inspected facility. However, the investment would have to be made with only vague assurances of demand. Based on the Meat Summit discussion, a producer would need to see the new facility build a reliable track record before being willing to commit animals. Conversely, the facility would need a regular schedule of animals for processing in order to service the debt and pay bills. For a $3 million dollar plant, you would need around 2,000 head processed annually for the facility to have a positive cash flow.

There is pretty close to unanimous agreement among niche meat producers that we need more USDA inspected facilities. I have written this article to point out the additional challenge of a new facility needing time to demonstrate competence in order to attract the number of animals needed for the plant to meet economic and financial targets.

**SIERRA RESEARCH AND EXTENSION CENTER (SFREC)**

**Range Forage Yield Update**

Dustin Flavell, SFREC Superintendent, emailed me the results of the final range forage clippings for the year. The May 1 results were the peak forage results as well.

<table>
<thead>
<tr>
<th>Date</th>
<th>May 1 (lbs/ac)</th>
<th>Peak – May 1 (lbs/ac)</th>
<th>% of Average Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2,881</td>
<td>2,881</td>
<td>96%</td>
</tr>
<tr>
<td>Average</td>
<td>2,992</td>
<td>2,994</td>
<td>100%</td>
</tr>
</tbody>
</table>

SFREC received 2.79 inches of rain in March and April. The timing of the rains and warm spring weather resulted in producing close to average forage yield for the year. The Auburn weather station reported 3.01 inches of rain in March and April. The foothills were relatively lucky. The San Luis Obispo weather station showed 0.76 inches of rain in March and April.

**MOTHER LODE MEATS**

The California Meat Summit was held on March 27th in Placerville, CA. One of the reports given was by Carina Bassin, Project Coordinator of Mother Lode Meats (http://motherlodemeats.com). They received a Rural Business Enterprise grant and have developed an excellent report on their efforts to explore the possibility of USDA inspected Slaughter and Processing. The entire report is available on their website. The following gives an overview on the project and key findings.

We are a group of local food advocates, retired professionals, and small to mid-size ranchers in the Mother Lode Region in the California Foothills. We have formed a steering committee to explore the feasibility of developing a local livestock processing facility that would be available to those who lack access to processing facilities elsewhere in the state. Many small ranchers in the region strive to raise animals in a more sustainable and healthier way than industrial farms. Demand for sustainably raised meat has increased greatly in recent years and our local ranchers struggle to keep up with demand. In order to sell single cuts of meat at farmers’ markets or at retail stores, slaughter and packaging of animals must be done at a USDA inspected facility. Currently, such facilities are only available outside of the region and are operating at capacity due to the recent increased demand from small- and medium-scale livestock operations.

Because of these opportunities and challenges, CalaverasGROWN, a marketing cooperative in the region, worked with USDA to obtain a Rural Business Enterprise Grant. This grant allowed our steering committee to hire a project facilitator who has helped us to research various facility models, explore potential facility sites, and do other groundwork that will determine what will best meet the livestock processing needs of our region.
We have made a number of key findings that we believe are important to share with anyone considering a similar process in their region or community.

by Felicity Lyons

1. Project Facilitator. Hiring a project facilitator with funds from USDA-RREIG has been critical to our progress. Without a paid facilitator, the volunteer committee members would have trouble keeping project momentum when more pressing obligations take priority.

2. Facility Scale. Developing anything smaller than a fully functional slaughter and cut and wrap facility is not likely to be profit generating. This means that we’ve ruled out a mobile unit as an option. Instead, we are looking at ways to maximize the capacity of the facility, especially through the production of value-added goods such as sausage, beef jerky, and pet treats.

3. Challenges of a Slaughter Facility. While slaughter is the most fundamental step in livestock processing, it is also the least likely to generate a profit and brings the most potential for community opposition.

4. Common Barriers. In the feasibility studies conducted elsewhere in California, the largest barriers to moving forward with facility development were ranchers’ aversion to risk as well as the difficulty in attracting qualified facility managers.

5. Committing Animals to a New Facility. It is hard for ranchers to commit to a certain number of animals that they will have slaughtered at a new facility. This is partly due to the high price that ranchers can get at auction for animals, especially beef, compared to the unknown demand and value of direct marketed products (those sold directly to consumers from farms or at farmers’ markets). Ranchers also can’t commit if they don’t know the price or the quality of the work of the yet-to-be-built facility.

6. Competition. There are other existing or new processors that could potentially compete with a new facility if developed. If we build a facility, we fear that we may not be able to keep costs as low as other processors outside of the region.

7. Relationships. Strong relationships have been key to gathering information and support. Various committee members have important relationships with elected officials, farmers’ market managers, other larger ranchers from outside the region, animal transport providers, and of course, with processors.

8. Local Officials. Part of what makes our region distinct from a more urban region, and a good place to do business, is the support we have from local officials. Because of the small population, there is also a sentiment that officials are more responsive than their counterparts in urban areas.

9. Regionalism. Acting as a region is seen as a benefit among the advisory committee members. It is important for this project to serve the region as a whole, rather than focus on one community or county alone.

10. Community acceptance. Whatever site is chosen for the facility, the opinion of the community will play an essential role in ensuring its success. Providing education about the potential benefits to the economy is a way of encouraging support. However, it will be important not to exaggerate the benefits. For example, it is unlikely that a livestock processing facility will be a big jobs generator, and the community should know this, so that they are not surprised or disappointed once it is built and running.

11. Demand. The market for direct marketed meats is increasing steadily. Ranchers in our region that sell their product to Farmer’s Markets have experienced tremendous growth in their business size in the last two years, and they struggle to keep adequate supply to satisfy their customers.

12. Common Narrative. Finally, a community or region’s economic traits alone cannot explain its well-being. In fact, the creation of a “social infrastructure”, that is, building relationships of community members within the organizations or institutions to which they belong, is actually the precursor to creating physical infrastructure. An integral part of our creation of this social infrastructure has been the development of a common narrative, or way of telling the story about the potential of this facility. This narrative binds the group together and continues to motivate us when we have disputes or when the project seems infeasible. Despite the committee’s diversity in ideological backgrounds and varied reasons for being involved in the process of determining feasibility of developing a regional livestock processing facility, there are three common themes in our individual and group narratives.

- A livestock processing facility in our region can be a way to honor the practices of past generations.
- A livestock processing facility in our region can create opportunities for meaningful work for future generations.
- A livestock processing facility can reinvigorate the local rural economy through adding value to what the land produces, rather than relying on industrial or urban economic models.

With this common idea of success, we’ve started to create a vision to work toward, creating more opportunities for regional economic development and prosperity.
INFORMATION ON EPIZOOTIC BOVINE ABORTION

(EBA; Foothill Abortion)

How long has foothill abortion been recognized?

Foothill abortion (referred to as Foothill in this communication) is believed to have existed in California as early as the 1920's and became recognized as a significant deterrent to maximum calf production in California in the early 1950's.

Where is foothill abortion found?

Originally, Foothill appeared to only affect pregnant cattle that were pastured for the first time on dry, foothill areas of California (both coastal and Sierra Nevada ranges). This fetal disease is believed to exist wherever the vector is found (see "Where does the Parjaroello tick live?") and has now been documented in Northern and Central Nevada and Southern Oregon. Efforts are underway to determine the extent of Foothill and its vector with concentration on Central and Eastern Oregon and Southwestern Idaho.

Which animals are affected by foothill abortion?

Foothill abortion has only been recognized in the bovine species and only in the developing fetus. Mature animals do not show any signs of clinical disease. The causative agent, a bacteria, can now be grown in a specialized type of laboratory mice; one with a severely compromised immune system.

How is foothill abortion transmitted?

Work done in the 1970's determined that the primary, if not only vector, is the Argasid tick, Ornithodoros coriaceus; the common name is the Pajaroello tick. Its range is coincidental with the disease. The tick was first described in Mexico and is now known to be present throughout California and parts of Nevada and Oregon.

Where does the Parjaroello tick live?

The Pajaroello tick prefers deer and cattle beds in dry, hilly (or mountainous) areas and it is therefore surmised that deer are its primary and historic food source. The tick lives in the soil, under a variety of tree types which include juniper, pinyon pine, Ponderosa/Jeffries pine, mahogany and oak. These ticks are not found in damp areas (meadowlands, irrigated pastures or along banks of streams or creeks below high water mark), but might be found under a tree adjacent to such areas. There have been recent reports of the ticks being trapped under large sage in sand dune areas. Ticks can be found at a variety of elevations; as low as a few hundred feet in California foothill areas and as high as 8,000-9,000 feet. They are most active during the warm summer months.

Tick distribution can be spotty within a localized area of similar vegetation. Hundreds of ticks can be collected under a single tree and nearby tree produce nothing. Ticks are more prevalent than indicated by trapping because fed ticks (those feeding within the last 2 to 3 months) will not come to the bait (dry ice). Trapping success is maximized by avoiding areas recently grazed by cattle. The percentage of ticks infected with the bacteria appears to range from <5 to 40%; most populations tested are below 20% (<1 in 5 ticks).

Which cows are susceptible to foothill abortion?

Any cow that has never been bitten by an infected O. coriaceus tick is at risk. Only a small percentage of ticks are infected, so in areas with a low tick population cattle may still be susceptible. In endemic areas, first year heifers or replacement cows brought from non-endemic areas, are at the greatest risk. Cows that have been pastured in non-tick infested areas for a few years and then exposed to tick-infested pastures may also be susceptible. Susceptible pregnant animals being brought into an endemic area will typically result in significant fetal/calf loss. Natural immunity is known to last for at least one year and may last longer.
When are cows most susceptible to foothill abortion?

Cows exposed to the bacteria (i.e. the tick) in late first or early second trimester are the most likely to abort their calf. The affect of exposure within the first 2 months of pregnancy is uncertain. Research indicates that fetuses infected between from ~60 to 145 days of gestation may develop disease and ultimately abort. The incubation period for the infection is long (>100 days), therefore, cows exposed late in pregnancy (>5 months) should produce a healthy calf and should be immune the following year.

What causes foothill abortion?

This question has plagued researchers for 50 years. However, identity of the agent was published in 2005 as being a bacteria. This bacteria is unrelated to any other bovine pathogen and falls into a large group of bacteria with very few other pathogens. While we can now detect the Foothill-causing bacteria, we cannot grow the organism in artificial medium so it still remains largely a mystery.

What is the typical gestational age of Foothill fetus?

Foothill-infected fetuses may be aborted anytime during the last trimester (5 1/2 to 8 1/2 months gestation), thought they are typically 1 to 2 months premature. Early gestation fetuses may be hairless and have been described as “pig-like”. Older fetuses are often haired with teeth erupted. Though most calves are stillborn, it is not uncommon for calves to be born alive. They may even stand and try to suckle, but are weak and usually do not survive.

External/Internal appearance of a Foothill fetus?

Examine the mucosal areas (eye lids, gums, under the tongue). A typical fetus/calf will have very small hemorrhages under the skin in these areas (red or purple pinpoint “spots”); they may be difficult to see on a dark pigmented calf or one that has been dead for more than a day.

Foothill fetuses typically have enlarged lymph nodes. Some can be felt under the skin; the most prominent of these is the prescapular lymph node. To find it, run your hand down the fetus’s neck toward the point of shoulder. In front of the point of the shoulder you will feel the node (firm and may seem to shift under the skin as you apply pressure). An infected fetus will have an unusually large node (larger than the size of your thumb) and therefore easy to palpate. This node may be hard to find in non-EBA fetuses and is rarely larger than your thumb.

The abdomen can be (not always) distended due to accumulation of fluid (ascites); this excess fluid is easily visible upon opening the abdominal cavity. Internal gross lesions often include a swollen and mottled liver, enlarged spleen and hemorrhagic thymus. The thoracic portion of the thymus (sits above the heart) is the best to observe for pin-point hemorrhagic spots as the cervical thymus (extends up the neck) is often subject to hemorrhage as a result of parturition. Fetuses should be examined by a pathologist for a definitive diagnosis of Foothill.

How are Foothill fetuses diagnosed?

Until recently, the only way to diagnose the disease was by pathological examination. Animal history, necropsy and pathological evaluation are an important part of diagnosis. Since the discovery of the bacteria, it is now possible to detect the organism. While the bacteria has never been found in a fetus/calf without foothill abortion, it cannot always be detected in pathologically diagnosed cases (about 10% are missed). Work is underway to improve diagnosis. A serologic test on fetal serum/fluid is currently being developed and appears highly sensitive and specific. Efforts to apply this serologic text to dam serum are underway but still in the early stages of development.

Is there a commercially available vaccine?

Not at this time.
Is vaccine for Foothill likely in the very near future?

Unknown. Until the organism can be cultivated without the use of live animals, vaccine production will be difficult. However, efforts are underway to test a candidate vaccine (grown in specialized mice, the bacteria is live and infectious). The live vaccine appears effective and safe, but the logistics of production have yet to be determined.

For Additional Information:
Dr. Jeffrey L. Stott
University of California
Vet Med: Pathology, Immunology and Microbiology
One Shields Ave. Bldg VM3A, Rm 4206,
Davis, CA 95616
Office: (530) 752-2543
Cell Phone: (530) 902-3971
E-mail: jlstott@ucdavis.edu

Myra Blanchard (Research Specialist); address above
Cell phone: (530) 902-7623
E-mail: mtblanchard@ucdavis.edu
UPCOMING EVENTS

Contact Roger Ingram at (530) 889-7385 or rsingram@ucanr.edu to register or if you have questions. Check website for updated information at ceplacer.ucdavis.edu

K-Line Irrigation and Grazing, for Grass Finishing Workshop
July 23
Elster Ranch
24999 Elster Place, Grass Valley, CA
6:00 PM – 8:00 PM

Demonstration of K-Line irrigation system; forage quality and grazing management for grass finishing.

Pasture Management for Sheep
July 27
Auburn, CA (Location to be announced)
9:00 AM – 11 AM

Learn about rotational grazing, pasture management, irrigation management and fencing systems.

Preparing Ewes for Breeding
August 25
9:00 AM – 11:00 AM
Oak Hill Ranch, Auburn, CA

Topics to be covered include: body condition scoring, flushing, ewe nutrition, culling policies, ram selection and management, and ram effect.

California Multispecies Academy
September 13-15
UCCE Extension Office - Auburn
11477 E Ave, Auburn, CA

Registration information is included in this newsletter.

Pastured Poultry Workshop
August 2013
Location to be announced

Roger Ingram
County Director, Placer and Nevada Counties
2013 California Multi-Species Grazing / Browsing Academy Registration Form

Date: September 13—15, 2013  -  Registration closes September 6, 2013

Cost: $160.00 (includes meals, and course materials)
No walk-in registrations due to set-up needed for hands-on activities

Register: Complete this form, mail with your check payable to University of California-Regents, to:
Roger Ingram
California Multi-Species Grazing Academy
11477 E Ave.
Auburn, CA 95603
OR, visit our website: http://ceplacer.ucdavis.edu and follow the links.

Location: Auburn, CA

First Name ___________________________ Last Name ___________________________
Address: ____________________________
City ____________________________ State/Zip ____________________________
Email: ____________________________ Phone Number: ____________________________

What types of animals do you graze or manage?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

How many head: ____________________________ On how many acres: ____________________________

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