FOOTHILL RANCHER

...Practical Information for Foothill Livestock Producers

Fall 2011

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The purpose of the California Multi-Species Grazing/Browsing Academy is to teach, demonstrate and provide practical experience in using sheep and goats to reduce fuel loads, control invasive plants, utilize forage for grazing and browsing, and develop a saleable product for a profit. The California Multi-Species Grazing/Browsing Academy will be a three day course emphasizing the practical application of research based grazing and browsing principles using sheep and goats.

Target audiences are ranchers, land managers, and agency personnel who manage livestock on privately owned or public pasture and rangeland. Participants learn by actually applying the principles taught in range and pasture with live sheep and goats. Topics to be covered include: grazing/browsing principles, ecology, fencing, nutrition, supplementation, grazing/browsing planning, contract grazing/browsing, and much more.

Registration information is included in this newsletter and on-line at http://ceplacer.ucdavis.edu. Sign up today for this exciting course.
The Multi-Species Grazing / Browsing Academy is scheduled for September 16-18 in Auburn. We will be covering contract grazing in more detail at the academy. We still have room for more registrations. This article is a summary of things I have observed and heard over the years.

The need for vegetation management continues to grow. In 2009, the city of Rocklin adopted a permit process to allow managed grazing within city limits for fuel load reduction and weed abatement. Commercial and housing development has slowed with the economy. When development was in high gear, environmental impacts needed to be mitigated. This meant easements and habitat development were needed to offset environmental impacts. Many of these mitigated lands require some form of management - mainly to reduce the threat of fire. Many cities and developed communities have open space that need to be managed. Levee vegetation would be another example of needed vegetation management.

Control Options
Vegetation management has three main options:

- Mechanical - This would mainly be in the form of mowing. Another example would be mastication of brush.

- Chemical - This would be used to either completely eliminate vegetation or remove noxious weeds.

- Contract Grazing - Livestock are used to reduce fuel loads and noxious weeds. In some cases, they may be used to eliminate vegetation to create a firebreak. There may be a need for any and all options. They are the current tools in the toolbox. One hundred years ago, grazing and fire would have been the main tools.

Contract Grazing
Contract grazing has grown tremendously over the last ten years. This is due to increased need for fuel load reduction, environmentally sensitive areas, and weed abatement. Topography can limit an effective mowing area. Other areas do not allow the use of chemicals. This has created a growing window of opportunity for contract grazing. There are thousands of acres with potential for contract grazing.

The most common species used to complete contract grazing jobs are goats and sheep. Cattle are used to a much lesser extent. This is mainly due to dietary preference. Cattle prefer grass over forbs / brush. Sheep tend to be intermediate in their dietary preference. Goats prefer forbs / brush over grass. If the vegetation component is mostly forbs / brush, goats will be the predominant species. If it is more grass, then sheep will be the predominant species. One predominant use of cattle has been for maintaining vernal pool habitat.

Scale
The highest demand for contract grazing is in the spring and early summer. A grazing contractor is faced with the need to bid contracts in order to generate business revenue and livestock feed. Contiguous and larger projects are more desirable as they allow your animals to be working an area for a longer period of time. One of the highest costs faced by the grazing contractor is moving in and off a project.
This cost includes labor for initial set-up and transportation. Those desirable larger and contiguous projects can only work successfully if you have a large number of sheep and goats. A minimum definition of large would be approximately 1,000 head. In many cases, this size can grow to 3-5,000 head. In other cases, it may make sense for two grazing contractors to combine their herds in order to have a sufficient number of animals to complete a project in a timely manner. In that type of situation, the contractor who received the bid is the lead person and contact with the other being essentially contract labor. In other cases, contractors may sub out certain pieces of a contract for a variety of reasons. An example would be a contractor with mostly goats grazing an area that might better be utilized by sheep.

Small Job Demand
There is plenty of demand for small jobs of less than 5 acres to over 100 acres. There is good potential for small jobs to provide a part-time income. You would need other revenue sources to meet all of your living expenses.

Small projects are great ways to gain experience in completing projects, working with landowners, developing your expertise, and improving labor efficiency. Small numbers of animals stay on a project site longer with small returns than a large project. The labor component is essentially the same. Whether large or small in scale, you must travel to check livestock, set up fence, perhaps haul livestock water, feed guardian animals, respond to animals being out, customer questions and / or complaints, and a host of other issues. Smaller scale translates to higher labor cost that is spread across a smaller number of animals.

In the Middle
As with most types of businesses, being in the middle increases the challenges. The middle could be loosely defined as 200-500 head. Unless real small parcels are contiguous to larger areas, they are not cost-effective to bid. Large projects are not feasible, as you do not have enough animals to complete a large project in the timeframe of the contract terms if you did receive the bid. You would have potential to be a sub-contractor on a larger job to do a smaller part of that larger job.

Finding the grazing contracting niche somewhere between 100-400 acres can prove challenging. The more you push towards a larger job of 3-400 acres, the more you will need more animals. With the late spring rains of 2011, this becomes even more problematic as there is more feed to consume. This would most likely mean a capital purchase of more animals. You could demand 100% return on capital investment in a year, but you might be faced with cash flow issues, as you will most likely have to self-finance. How do you pay monthly bills while waiting for contract payments?

Transportation becomes another big issue with being in the middle. If you are small, you will be at less than 100 total head. Most likely, three stock trailer loads would be the most trips you would make and most jobs would be 1-2 trailer loads. If you are at 300 head, you might need 10 trips to move off a project site with a typical stock trailer. You might be able to contract with a livestock transporter, depending on their availability of when you need animals moved. Another option would be a double deck trailer, but you would need to make sure you had a truck big enough to pull it.
Grazing Considerations

It will need to be clear in the contract terms as to how the project will be deemed completed. You will most likely want to negotiate some sort of up-front or mid-project for needed cash flow. For example, what does fuel load reduction mean? Is it a desired residual dry matter of less than 1,000 lbs per acre or more? Is it grazed less to a four-inch height or less? Is it before and after photos or something else?

This becomes really critical in wet years like the one we just had. Auburn has a weather station that reports data to the California Irrigation Management Information System (CIMIS). Here are the 2011 January - June rainfall totals:

<table>
<thead>
<tr>
<th>Month</th>
<th>Precipitation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>2.19</td>
</tr>
<tr>
<td>February</td>
<td>5.93</td>
</tr>
<tr>
<td>March</td>
<td>11.61</td>
</tr>
<tr>
<td>April</td>
<td>0.55</td>
</tr>
<tr>
<td>May</td>
<td>2.50</td>
</tr>
<tr>
<td>June</td>
<td>2.81</td>
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</tbody>
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The heavy March rains set the stage for a rapid flush of growth in April. The rains of May and early June totaled 5.31 inches. To give a frame of reference, the combined rainfall total for May and June from 2006-10 was 6.03 inches or an average of 1.2 inches for the previous 5 years period. The result - two spring flushes of growth.

Timing

Let’s say that you had planned to achieve contract objectives with two passes. What would happen if your second pass occurred the first half of May? The rainfall for the rest of May and June would have resulted in significant re-growth.

You may have achieved your target grazing level on the second pass and turn around a month later needing a third pass. This translates to more time and results in falling behind on completing the project you are on and delays moving to other projects.

Even at high stock densities, grazing will be patchy. Most likely, some areas will be grazed perfectly. Others might be too light and other areas too heavy. A few grazing enclosures might prove beneficial in providing a visual frame of reference of how much forage had been removed. Other times, the project might be adjacent to ungrazed areas that could provide the same reference point.

Delays in getting on a project later in the year can present other challenges. What happens if the forage is dry and consists of predominately medusahead and barbed goatgrass - both low quality and low palatability? You can provide a protein supplement to help increase consumption of the dry feed. If the area is predominately low-quality, will you need to feed hay? Are there ways to mix in other areas of grazing to increase diversity of plants? Will you get intensive and move everyday? Will animals start testing the electric fence because the feed quality is not good? All of these factors result in increased direct costs and labor.

Environmentally sensitive areas may require other special considerations. Are you able to graze goats in a oak seedling planting? If not, is that an area you hit lightly with grazing and follow-up with string mowing?

Livestock Health

Starting out small is a way to build your husbandry skills. You must be able to assess livestock health at a glance in the midst of...
everything. These include: moving fence and energizer, moving livestock to the new paddock, feeding and care of guardian animals, animals getting out, and project concerns and complaints.

Body condition, feet, and poop are big things to monitor constantly. Does any animal lay down longer while others are getting up to graze? Does anything look a little off? Are there weepy eyes? If you see a problem, do you instantly know what to do? If animals are limping, do you have a way to bring animals in to check and trim feet and soak them? Mineral supplementation plays a big role in keeping animals healthy. You should have a regular vaccination schedule for your flock and herd.

Carefully evaluate projects that will require you to nutritionally stress animals due to low quality feed or to create a firebreak. You may need to move animals in and out of a project if they are getting thin. Thin animals would need to run on good feed to regain condition.

Poisonous Plants
You must do a plant survey prior to moving animals on a project and continue to monitor closely. Plants such as oleander, azalea and poison hemlock can be deadly. If you are unfamiliar with plants, you should find a knowledgeable source of plant identification to help you with your plant survey.

Other plants may not be deadly, but can cause problems. Did you know that buckeye can cause blistering of the mouth? Did you know that scotch broom causes abortions? Did you know toyon is toxic in winter and spring? There are many variables. If you can stand the cost, over $300, I would recommend buying Toxic Plants of North America by Burrows and Tyrl. A lower cost quick reference could be Field Guide of Plants Poisonous to Livestock Western US by Weathers.

Diversity can play a big role in mitigating toxic plant issues. Variety keeps consumption high and limits intake of a toxic plant that could be poisonous at higher levels of consumption. You should keep a supply of charcoal on hand for emergencies in case of a sudden problem. Finding sufficient charcoal at a veterinarian's office at the last minute for a large number of animals will not be likely. This means going to several different locations to round up adequate charcoal.

Guardian Animals
You will need guardian animals to protect sheep and goats. It costs approximately $500 a year in feed and health costs per dog. The larger the area, the more guard dogs you will need. If you are in a heavy residential area, you may need to consider alternatives such as a llama. The primary deterrent of a dog is barking. This may not work well in heavy traffic areas. Llamas will work okay with coyote pressure. They will not be able to stand up to mountain lions.

There is a variety of different guard dog breeds. Here is a link to the livestock guardian association: www.lgd.org/.

Infrastructure
We have already discussed transportation. This is one part of infrastructure. Other parts include: fencing, livestock water, mineral supplementation, and dealing with sick animals.

Fencing
Many contractors use electric netting and solar power energizers. Electric netting comes in two forms: all positive or positive-negative.
(Continued from page 5)

(pos-neg). Either one can work. The potential for a short is higher with pos-neg in case the positive wire comes in contact with the negative wire. I have seen both work on projects. There are some people who use 3-5 strands of polywire and fiberglass rods.

Clearing a fence line can be a critical component in making sure you have the maximum charge in the fence. If there is a lot of vegetation on the fence, it can lower the voltage. Keep in mind that you fence the desire. If animals are being kept on high quality feed and you are moving frequently, the desire to get out is minimal. A little lower voltage on the fence can still work. If you are on low quality feed and having to remove most of the forage, as close to maximum as possible is needed, as there will be more desire to get out.

The type of energizer you should purchase should be a low impedance style. There are able to power through vegetation that may be on the line and have pulse that lasts only .3 of a millisecond. A lot of vegetation can lower the voltage that is being put out.

Most contractors would use a solar powered energizer. The solar panel keeps the battery charged. You should use a marine deep cycle battery rather than an automotive type. The deep cycle battery will provide a lower amount of energy from the battery over a sustained period. A car battery is designed to give a high amount of energy for a short period of time, such as starting the engine. You should have at least one extra charged battery - stuff happens!

The number of joules in the energizer determines the unit’s fencing capacity. One joule can power up to six miles of one wire electric fence or three miles of two-wire fence and so forth. It is important to match the energizer to the solar panel. A 2-3 joule unit would ideally use a 40-watt panel. A 6-joule unit would need a 75-watt panel. You can power a 2-3 joule unit with a 20-watt panel in the summer due to the longer days. In winter, the days are short and you will not be able to keep the battery charged. You would need a 40-watt panel for winter.

Grounding is the most critical component to an effective fence assuming the energizer is working properly. For permanent electric fence over an entire ranch, the minimum grounding requirement would be 3 rods pounded 6 feet in the ground spaced 10 feet apart. In contracting situations, you will need a more portable solution. I have seen a set-up of three copper pipes four feet long pounded two feet in the ground. Other times, you may get by with one pipe or a couple or perhaps a galvanized t-post if it is a wet area. If dry, you could fill a 5 gallon bucket with water and punch a small hole in the bucket and the dripping water can keep the ground rod moist.

Livestock Water

Sheep and goats will drink approximately on average, 1-2.5 gallons per head per day in hot weather. Water consumption will be towards the

This solar pump is pumping water to tank that gravity feeds livestock water

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high end if vegetation is dry and stemmy. You will need to know where all the water connections are on a project site. If there is no on-site water, it will mean hauling water. They make fairly inexpensive 300-gallon water tanks that will fit on the back of a pick-up. If running larger mobs, you would need a higher capacity trailer on a trailer. Hauling water mean higher costs including transportation, depreciation on equipment, and labor. Encourage development of water hook-ups on projects, as this can be a real time and labor saver for you. In some cases, you may be able to use a solar pump to pump into a tank and then gravity feed water. You will need hose and polypipe to deliver water. Water tanks can either be filled manually or put on a float system with a Jobe valve. The slower the water flow (slow recharge rate), the more water tanks you will need. Water tanks should be kept clean and check water quality to be sure there are no limitations. If animas do not drink, they will not eat.

**Bidding Contracts**

You must understand your costs of production and how they will change by site in order to be profitable. This would include: transportation, depreciation on fencing, health, supplementation, whether you are hauling water, labor, project set-up and tear-down, and any other costs. On a per acre basis, a lot of bids will end up being in the $250-500 range. You may be able to go lower than that if it is a large contract or is adjacent to an existing project. The key principle is cover your costs with a built-in profit margin.

Be sure to understand emergency and potential evacuation routes on a project in case of a fire or flood. If there is only one way in or out and it is mid-to-late summer that may be a project to let pass. Ideally, you should have two routes to access the project and haul animals off if needed.

**Insurance**

The city of Rocklin does allow grazing within the city limits for weed abatement. As part of the grazing permit process, they require contractors have the following insurance:

- **Worker’s Compensation:** Statutory Limits
- **Commercial General Liability:** $2,000,000 combined single limit
- **Commercial Automobile Liability:** $1,000,000

Other projects might have different requirements. You might consider livestock and full mortality insurance. Third party firefighting and fire suppression expense liability should be considered if doing a lot of fuel load reduction or firebreak work.

**Resources**

- **Multi-Species Grazing / Browsing Academy** scheduled for September 16-18. Registration space is still available.

**Final Thoughts**

I have only skimmed the surface on a variety of opportunities and challenges associated with contract grazing. If you have questions, please contact me at 530.889.7385 or rsingram@ucdavis.edu. You can find information on our website: ceplacer.ucdavis.edu.
UPCOMING EVENTS

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

Pasture Walks
Fall 2011
Date and location to be determined

California Multi-Species Grazing/Browsing Academy
September 16-18, 2011
UC Cooperative Extension Office, Auburn, CA
This will be our second multi-species grazing academy. You will work in teams and manage sheep grazing and goat browsing during the academy. Ecology, grazing, nutrition, fencing, grazing planning, and a lot more will be covered.

Pond Management and Irrigation Classes for Small Landowners
Keith Crabtree, Green Acres 101
Call 530-269-1217 or go to greenacres101.com for information.

PlacerGROWN Farm Conference
February 4, 2012 (tentative)
Lincoln, CA

Rog
Roger Ingram
County Director, Placer and Nevada Counties
Livestock & Natural Resources Advisor
2011 California Multi-Species Grazing Academy
Registration Form

Date: September 16—September 18, 2011

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://ceplacernevada.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: ________________________________

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://danr.ucop.edu/aa/danr_nondiscrimination_and_affir.htm)
California Multi-Species Grazing Academy

September 16 – 18, 2011
Auburn, CA

Fees and Enrollment:
$160.00 (includes meals, and course materials) No walk-in registrations due to set-up needed for hands-on activities. NO REFUNDS. Your check guarantees your space.

About The California Multi-Species Grazing Academy
This Academy is a unique and exciting program emphasizing the practical application of controlled grazing/browsing principles to improve the environment and increase ranch profit. This challenging course consists of a minimum of lecture and a maximum of hands-on experience. Participants learn by actually applying the principles taught in range and pasture with live animals.

Who Should Attend:
Ranchers, land managers, and agency personnel who manage livestock on privately owned or public pasture and rangeland.

After completing the Academy, course participants will be able to:
- Assess the condition of the four basic ecological processes that determine ranch productivity.
- Apply principles of time and stock density to improve pasture productivity and stock performance.
- Estimate carrying capacity.
- Determine the supplementation needs of grazing/browsing sheep and goats.
- Design a layout to efficiently use resources and apply controlled grazing principles that will immediately improve grazing management on your own ranch.
- Identify target plants to be grazed to determine best time of the year to browse.
- Apply principles of time control, animal impact, and stock density to reduce fuel loads and control invasive species.
- Monitor results of grazing/browsing by using the indicators of rangeland health to determine whether grazing/browsing strategies are meeting desired goals and if any change is needed.
- Understand how to get started in contract grazing.
- Predator control using guard dogs.
- Marketing options, including strategies for different classes of goats and sheep stock.
- Develop a herd health and breeding program.
- Apply principles of animal behavior to reduce handling stress.

For More Information
Contact Roger Ingram at the UC Cooperative Extension Office/Placer County, located at 11477 E Avenue, Auburn, CA 95603, call (530) 889-7385, or email at rsingram@ucdavis.edu

Complete the registration form on the reverse and include your check payable to University of California, Regents to:
Roger Ingram
California Grazing Academy
11477 E Ave.
Auburn, CA 95603

OR
An on-line registration form is available at ceplacernevada.ucdavis.edu – Just follow the link to Livestock and Natural Resources and then to 2011 California Multi-Species Grazing Academy.