



LIVESTOCK & NATURAL RESOURCES

Program Highlights

35 workshops provided
130 hours of instruction
and reached over 2,000 ag
producers

756 ag producers received
the quarterly *Foothill
Rancher* newsletter

**California Grazing
Academy** held for the 24th
time, has reached over 640
producers and agency
personnel who manage
over one million acres of
pasture and rangeland

**California Multi-Species
Academy** held for the 13th
time, has reached over 270
producers and agency
people who manage over
250,000 acres.

The Placer/Nevada Livestock and Natural Resources program provides relevant information, hands-on educational opportunities and research to support existing and new livestock producers. Livestock, range, and pasture production generates a gross income of more than \$32 million between Placer and Nevada Counties.

Many types of livestock are raised in the two county area including: cattle, sheep, goats, horses, llamas, and alpacas. Small-scale poultry production continues to expand. Niche meat marketing direct to the consumer and targeted grazing using small ruminants for fuel load reduction and noxious weed removal have emerged over the last 7 years as viable enterprises.

Economic viability and scale of operation are major issues for Placer and Nevada livestock producers. Access to grazing land, irrigated pasture, soil health, capital for developing infrastructure, and labor are identified challenges that need more education and research to help find solutions.

The Livestock and Natural Resources program provides direct assistance to livestock producers in the two county area by providing University of California research based information to help them be economically and environmentally sustainable. Sustainability for producers translates into four core concepts:

- *Structure your livestock operation to work with nature by matching the herd's forage demand with nature's cycle of when we have plenty of forage. This results in becoming a low-cost producer.*
- *Develop a plan for profitability at an appropriate scale over and above paying a salary and land rent for the rancher. This includes economic, financial, and capital planning.*
- *Manage for the ecological landscape you want to create. This means using the ecosystem processes of energy flow, water cycle, and nutrient cycle to develop a more productive landscape.*
- *Create a risk management plan for drought, marketing, and personal injury to make the ranch resilient in the face of adversity.*



CALIFORNIA GRAZING ACADEMY



Cattle grazing yellow star thistle during the California Grazing Academy

ISSUE

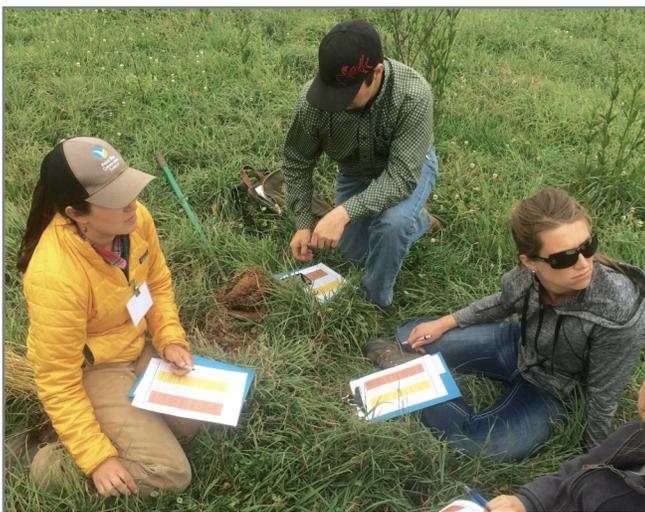
Many producers and agency personnel need increased knowledge of controlled grazing principles and ecology. Livestock producers need hands-on experience to help them implement controlled grazing on their operations. Drought management principles and grazing planning are critical needs due to lack of rain.

WHAT WAS DONE

The academy is a three-day, live-in course emphasizing the practical application of research based, controlled grazing principles. The Grazing Academy emphasizes experiential learning. Participants learn by actually applying classroom principles in real pastures with live cattle. This year's academy focused on drought planning with an emphasis on estimating carrying capacity, determining stocking rate, and developing a grazing plan.

IMPACT

The academy has now completed its 23rd year of existence. There have been a total of 24 academies since 1992. Over 640 ranchers, agency people and extension advisors have attended.



Participants learned about soil health, energy flow, water cycle, mineral cycle, and community dynamics during the Academy

- The idea of using more mobile electric fencing and the impacts that all grazing animals can have on the land. I also really liked learning about the principles and different grazing phases.
- The planning that can be done in estimating carrying capacity, predicting how long to graze a given pasture, and basic cell/paddock design.
- I'll try to determine a critical date for drought planning. I'll clip some production plots to get a sense of how many animals an area can sustain. I'll work with landowners on strategies for planning grazing.
- Working with electric fence was very valuable for me. I learned about voltage, how to find a problem with the flow of electricity.



MULTI-SPECIES ACADEMY



Goats were used to graze an area surrounding a pond that a landowner wanted cleared up during the 2014 California Multi-Species Academy. Here participants set up electric netting to contain the goats.



Participants observing what the goats were grazing after putting them in the paddock for a day.



Grazing impact by the third day.

ISSUE

Ranchers, land managers, and agency people in Placer and Nevada County are interested in the use of small ruminants (sheep and goats) for fuel load reduction, removal of noxious weeds, adding a meat enterprise to their operation and/or considering starting a contract grazing business. Small ruminants can provide a flexible alternative to mechanical and chemical control methods.

WHAT WAS DONE

The California Multi-Species Academy is now in its 13th year. It is used to help local producers, land managers, and agency people gain knowledge and hands-on experience in working with sheep and goats prior to using them on their property. The academy features field work and hands-on experience at local ranches in Placer and Nevada Counties. The Academy runs for 2.5 days and gives participants a total of 25 hours of instruction. Participants work with over 100 goats and 150 sheep during the academy. Topics covered included: grazing/browsing principles, ecology, contract grazing, nutrition, reproduction, health, guard dogs, and economics.

IMPACT

Participants commented on the important things they learned:

- Power of targeted grazing to restore rangeland.
- Economics working through “real” projects with hands-on field talks about grazing.
- The fact that you can feed your animals off the land while feeding the land with your animals. PROFITABLY!
- Determining grazing days. Economic Analysis formula. Establishing good ground on electric netting.
- It was a great group of people. I was able to network, compare notes and experiences that have been very valuable to my knowledge going forward.



LIVESTOCK AND SOIL HEALTH WORKSHOPS



Participants learn how to estimate soil moisture at a soil health workshop held in Penn Valley.



A Sheep Short course was held that included field sessions on sheep husbandry and lambing. Here participants are learning how to trim feet.



Paul Glowaski of Dinner Bell Farms discusses managing pigs on annual pastures during the Pastured Pig Field Day.

ISSUE

Landowners and managers in the Sierra Foothills are interested in raising a variety of different livestock on their own and leased property. This includes: sheep, goats, cattle, and pigs. People need hands-on experience to gain husbandry skills, understand grazing management, and how to maintain or create healthy soils.

WHAT WAS DONE

Working in partnership with local farmers and ranchers, UCCE held the following:

Soil Health Grazing Workshop, Shepherding Skill Short Course, Pastured Pig Workshop, and six pasture walks. Each workshop was held on local ranches and featured presentations by local producers in addition to information provided by Roger Ingram, UCCE Farm Advisor. The Foothill Farming Livestock website added pages pastured pigs and raising boilers and layers on pasture. The quarterly Foothill Rancher newsletter featured information on managing for drought and soil health.

IMPACT

- The Soil Health Grazing workshop was held in Penn Valley and 21 people attended. The workshop was a collaborative effort between UCCE, local rancher, and the Natural Resources Conservation Service in Nevada County. Participants were able to view soil profiles of soils from irrigated pasture and range. They viewed roots in irrigated pasture and learned about grazing principles that promote root health. Participants learned about soil structure, microbes, and how to estimate soil moisture.
- The Shepherding Skills Workshops were held for 51 people. Topics covered included: introduction to sheep production, sheep husbandry field day, predator protection, and lambing on pasture field day. The two field days were held with a local rancher in Auburn in collaboration with UCCE. Participants got hands-on experience with: giving shots, trimming feet, and caring for newborn lambs.
- Pastured Pig Workshop was held for the first time for 25 people at a local ranch in Chicago Park. Participants learned how to graze pigs on pasture, raise pigs for finishing, nutrition, health, and reproduction.
- Six pasture walks were held at local Placer and Nevada County ranches for 39 people. The pasture walks were held to discuss forage conditions, drought issues, grazing planning, fencing and water, and marketing.



FARM BUSINESS PLANNING SHORT COURSE

ISSUE

There are 2,097 farms in Placer and Nevada Counties according to the 2012 Census of Agriculture. A total of 601 farms (29%) have less than 10 years experience. The renewed interest in farming has been driven by: providing food for local communities, need for part- or full-time income, and a strong desire to get back to the land. This interest needs to be coupled with development of a business plan and learning from experienced farmers and ranchers.

WHAT WAS DONE

The eighth annual Farm Business Planning class was conducted in 2015. The five week six session course featured sessions on: mission and vision statements, enterprise analysis, economic plan for profit, cash flow, operations plan, risk management plan, and marketing. The final session covered development of an action plan for the next 3-6 months that includes important tasks, when they will get done, and by whom. A follow-up meeting is held three months later to hear farm updates.



Graduates of the 2015 Farm Business Planning Class

IMPACT

Over 60 farms and ranches representing 93 producers have completed the Farm Business Planning Course since 2008. This year's class used a new crop metric tool developed by UCCE to better evaluate costs and returns on a per crop basis.

A survey of Farm Business Planning participants was recently conducted. Results from each participating farm or ranch shows:

- Over 85% are using Profit and Loss projections, cash flow statements, production records, marketing costs, and time and motion studies as part of an overall record keeping system for decision making. This is up from an average of 44% prior to taking the short course.
- 41.4% have expanded the scale of their operation.
- 79% have used their risk management plans to reduce on-farm risk.
- 39% indicated that profitability has increased.
- Over 50% identified capital and labor as the two biggest resource barriers being faced with their business.



Peer input from other farmers in the class is one of the most valuable things with Farm Business Planning Short Course. This photo was taken during an all day economic planning session held during the short course.



RICE STRAWLAGE RESEARCH AS AN ALTERNATIVE FEED FOR CATTLE

ISSUE

Rice and cattle are the two top commodities being produced in Placer County. Drought conditions have impacted both rice and cattle. The lack of rains' impact on water supply has impacted rice straw's ability to decompose. The dry conditions have resulted in a 30-50% reduction in forage supply for livestock producers. The reduced forage supplies have producers looking for alternative feed resources. Rice strawlage is baled at high moisture to improve forage quality that has a higher protein and energy content than rice straw baled at low moisture.

WHAT WAS DONE

Research on rice strawlage was conducted at the UC Sierra Foothill Research and Extension Center (SFREC) with a team of Livestock and Dairy Farm Advisors from Placer/Nevada, Yuba/Sutter/Butte, and Glenn/Tehama Counties. Rice straw was harvested at a Glenn County farm. The straw was harvested with the following four treatments: proprionic acid, proprionic acid and a microbial inoculant, microbial inoculant, and a control. Strawlage samples were taken for forage quality. After harvest, a feeding trial was conducted with four groups of 20 heifers at SFREC. Heifers received an additional supplemental feed in the form of rice bran and canola meal. Proprionic acid and the bacterial inoculant decreases mold counts in the high moisture strawlage, improving palatability.

IMPACT

- Heifers consumed the high moisture strawlage in excess of 15-20 lbs./day.
- The heifer group performance consuming strawlage treated with proprionic acid was similar with the control group.
- The bacterial inoculant heifer group had higher intake and performance than the control group during the second half of the 62-day feeding period. Efforts to determine the reason for the increased intake were not evident based on rice strawlage forage quality results.
- The California Rice Commission provided another year of funding for continuing the research.
- Research in 2015 will focus on seeing if moisture content at time of baling impacts nutritional quality and intake of strawlage. The benefits of two additives including bacterial inoculants and nitrogen will be quantified.



Rice strawlage being baled.



Heifers on the 62-day feeding trial at the Sierra Research and Extension Center