COOPERATIVE EXTENSION..UNIVERSITY OF CALIFORNIA

LIVESTOCK & LAND NEWS
TEHAMA, GLENN, COLUSA

June 2005

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In This Issue:

NAIS Comment Period Ends July 6

NAIS is USDA's National Animal Identification System program run by the Animal and Plant Health Inspection Service (APHIS). The goal of the program is to have the ability to trace an animal back to its original premise within 48 hours if an emergency deems it necessary. Species covered by this plan include cattle and bison, camelids (alpacas and llamas), cervids (deer), equine, goats, poultry, sheep, and swine. USDA's draft of the NAIS plan can be viewed on the web at the following website: http://www.usda.gov/nais - The link for the NAIS plan is on the right under "Hot Topics".

USDA has a distinct timeline for implementing this plan. The timeline is as follows:

· July 2005:	All States capable of premises registration.
· July 2005:	Animal Identification Number system operational.
· April 2007:	Premises registration and animal identification "alerts".
· January 2008:	Premises registration and animal identification required.
· January 2009:	Reporting of defined animal movements required; entire program mandatory

USDA's APHIS has extended the comment period to ***JULY 6, 2005***. Comments will be accepted on or before this date. As the implementation of this plan will have dramatic affects on all livestock producers, it is important that those affected read, and comment, to better the implementation of this planned program. This is producer's opportunity to have a say in the program. Remember that by not commenting, you are signaling compliance with it! There are two ways in which to submit comments. The ***first*** is to mail an original and three additional copies of your comment to:

Docket No. 05-015-1
Regulatory Analysis and Development
PPD
APHIS
Station 3C71
4700 River Road
Unit 118
Riverdale, MD 20737-1238

A ***second*** means of submitting a comment to USDA is online at: http://www.usda.gov/nais
On the right hand side of this website is a box entitled "HOT TOPICS." The fourth bullet down in this box is a link that reads, "Submit a Comment." Clicking on this comment will enable you to submit your comments online. Also notice that the draft of the strategic plan is lined as the first bullet in this box.
It is also important to remember that at this time this is a voluntary program. All of these web sites can be accessed easily on the Tehama or Glenn County Cooperative Extension web pages (below) by clicking on the Livestock and Natural Resources link.
http://cetehama.ucdavis.edu/ or http://ceglenn.ucdavis.edu/
If you have any trouble or need more information on reading the NAIS plan, submitting a comment, or signing up for a premise number, please feel free to contact me at the UC Cooperative Extension Office in Red Bluff.

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Fertilizer Influence on Forage Production In California's Annual Rangeland

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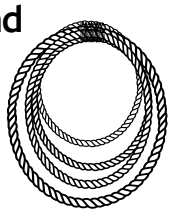


Annual range production depends on precipitation, light, and nutrients. Applications of fertilizer only affect one of these three factors. As compared to irrigated pasture, rangeland cannot be controlled with irrigation (simulated precipitation) or a guarantee of daytime light and warmth. Added variability leads to a greater chance of risk. A fall or spring with low precipitation limits growth regardless of nutrient levels.

It is important to keep in mind that in order to realize an economic benefit from fertilization, the added production from fertilization must be utilized. This is typically achieved through higher stocking rates. Remember that production cycles in the livestock industry do not provide a handy opportunity for livestock numbers to be quickly shifted in order to utilize an excess amount of forage. Most progressive ranchers stock ranges at a conservative rate because forage productivity is not known until deep into the grazing season. Before considering any kind of range fertilization program, it is essential that the reader understand that the primary drivers in forage production are temperature (amount produced) and timing of precipitation (length of season).

What Type of Fertilizer to Use

In general most range forage plants will respond favorably to nitrogen application. A well-developed stand of clover may be a good indication that phosphorus (P) levels are adequate, but this is seldom the case. Phosphorus application to many of the red clay soils of the Sacramento Valley foothills results in favorable plant growth response. Sometimes these rangelands are sulfur deficient as well. Seldom has application of sulfur (S) alone resulted in an increase in forage yields. Sulfur is often beneficial in combination with other nutrients such as nitrogen (Martin et al. 1965). Generally, potassium (K) is rarely deficient enough to warrant application (Forero et al., 1993). The foothills of Butte County and further south often are an exception to this, and legume response may be realized with potassium applications (Roland Meyer, Glenn Nader, personal communication).

Strategy 1 Fertilize with nitrogen:

Strategy one uses nitrogen to promote the rapid growth of grasses as well as filaree and other broadleaf plants. Typically, this strategy will encourage grasses and discourage legumes (sub clover, rose clover, bur clover, etc). Data from the Sierra Foothill Research and Extension Center has shown that the higher residual dry matter (RDM) levels from fertilizer or the introduction of legumes will shift rangeland toward grass production. If the forage is not grazed and higher residual dry matter levels remain, then grasses and not clovers will more likely grow.

The following fertilizers are higher in nitrogen and lend themselves to this strategy: Urea - (46-0-0), Ammonium nitrate - (34-0-0), Ammonium sulfate - (21-0-0-24S). Since sulfur is needed in much smaller amounts, economics may favor mixing urea and ammonium sulfate. A 50:50 blend of the two fertilizers would result in a 33.5-0-0-12S or a 2:1 blend would give even a higher nitrogen content of 38-0-0-8S with enough sulfur to maximize forage production.

Strategy 2 Fertilize the phosphorus:

This strategy encourages legume production. Encouraging the legume population will provide the nitrogen for good legume growth as well as grass growth. This assumes soils are deficient in phosphorus (almost always true) and that there is enough of a legume population to respond to the applied phosphorus. Seeding legumes such as rose and sub clover along with the fertilization of phosphorus and perhaps sulfur may be desirable. The following fertilizers are higher in phosphorus and lend themselves to this strategy: Monoammonium phosphate - (11-52-0-0S), Elemental sulfur - (95%S) & Ammonium phosphate sulfate - (16-20-0-12S)

Timing of Application

The application of fertilizer in the fall encourages added production in the fall and winter, which could help to provide additional feed during this low production period. Fertilizer application s just prior to the spring season are generally not as necessary, as this is already the high producing adequate green season, and summer will quickly cease forage production with the lack of moisture and the end of the plant life cycle (George 2001).

Longevity of Benefit

The longevity of fertilization benefit is a function of the product applied. Straight nitrogen mixes have a lasting effect only as long as the forage fertilized is not removed. Phosphorus differs in that it is only necessary to apply every two to three years, and more typically the latter (Forero 1993). Knowing the application will last three years spreads the cost over a period of seasons as compared to a single year's investment. In figuring this, the application of phosphorus seems to be more appealing. An application of elemental sulfur every ten years can also be considered.

Application Rates

Rates generally applied to foothill ranges on a <u>per pound of nutrient</u> basis:

Nitrogen 30 to 50 lbs N/acre, Phosphorous 15-40 lbs P_2O_5/acre, Sulfur 5-15 lbs S/acre.

Calculating Benefits of Range Fertilization

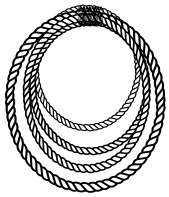
Table 1. Hypothetical range of forage production increases as a function of fertilization

Lbs. of forage / acre gained in season	500 lbs.	1000 lbs.	1,500 lbs.	2,000 lbs.
Animal Unit Months Gained	+0.50	+1.00	+1.50	+2.00

If 100 pair historically grazed a 1,000-acre range for a six-month season, the ranch would be stocked at 10 acres/pair/season. Each pair would require 6 AUM's of forage/season. The ranch produces 600 AUM's/season. If fertilization increased forage production 250 lbs/acre, this 1,000-acre range would now produce a total 850 AUM's of forage. Dividing 850 AUM's by the 6 AUM's of forage each pair would require this range could be theoretically stocked with 142 pair,- an increase of 42 pair.
If winter forage could be valued at $110 per pair/year, this increase in forage quantity could be worth $4,620. Valuation of this as a profit depends on management goals of the added forage. These benefits can be very different including: saving purchased feed costs, pounds of beef gained, or added animal units gained.

Summary

Fertilizing annual rangeland is inherently risky because forage production is closely tied to the amount and timing of precipitation. Hypothetical examples assume all the land can be fertilized and often times the vegetation, slope and terrain make fertilization impossible. When debating on rangeland and fertilization, consider the costs and potential returns closely. Estimate increases in potential stocking rate as a function of fertilization conservatively.



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