NEWS Cooperative Extension
Division of Agricultural Sciences
University of California

prepared by: Gary Beall
Davis, CA 59616 (916)752-1934

May 12, 1980

Agricultural Press

CLOVERS IMPROVE RANGE PRODUCTION

Legumes--particularly subterranean and rose clovers--are invigorating some northern California ranges that originally were so poor that, in the words of one farmer, "even the tax assessor didn't bother with them."

Performance of these clovers and tips for using them in range improvement programs highlighted a recent University of California Cooperative Extension field tour that covered five ranches in Glenn and Tehama counties.

UC farm advisors who organized the tour, Ron Knight in Tehama County and Monte Bell in Glenn County, stressed that these counties and neighboring Colusa County have more than 370,000 acres of rangelands with shallow, gravelly soils on which forage production can be at least doubled by introducing legumes. Although the concept of range improvement by seeding legumes has been in California more than 30 years, there is renewed interest because new seeding techniques and earlier maturing clover varieties are making it easier to get good stands.

Tour stops at the Reimers, Black Butte and Iron Gate ranches in Glenn County and the Larzabal and Alvares ranches in Tehama County gave participants an opportunity to see first hand how well these clovers perform under different management systems.

- more -

On the Reimers Ranch, a 500-acre pasture was seeded to a rose and sub-clover mix in the fall of 1978. It now supports 400 ewes from December 1 to May 1 and 35 cow/calf pairs from May 1 to June 15. The sheep are fed four to six bales of hay per day during the first two or three months they are on the pasture.

In contrast to the heavy early grazing on the clover-improved range at the Reimers Ranch, 275 acres of range improved with rose clover established 26 years ago on the Black Butte Ranch are grazed only for 6 to 8 weeks, beginning in March or April when the range is dry enough to prevent damage from trampling. It supports 278 yearling steers or 140 cow/calf pairs during this period. Both ranchers are satisfied with the performance they are getting from their rangelands.

"Although these ranchers manage their rangelands differently, both get excellent production. Stay away from formulas. What works for one person may not work for another," Bell told the field day participants.

He and Knight offered other suggestions for managing legume-improved range:

• It's usually best to graze the improved range heavily and early in the season to prevent native range grasses from crowding out the clovers;

• Drill, rather than broadcast, the clover seed. In this way, phosphorous fertilizer can be applied at the same time next to the seed where it will be readily available to the plant after it germinates.

• Rose clover seed can be spread by livestock, birds and wind, but subterranean clovers will not develop beyond the boundaries of the initial seeding.

Even though seeding clovers improves quality and quantity of range forage--giving livestock producer the options of running more animals on the same amount of land, putting more gain on the same number of animals, or buying less supplemental feed--it is not cheap and some uncertainties are involved.

The Reimers range was seeded in 1978 at a cost of $45.44 an acre. At the Iron Gate Ranch, also seeded in 1978, the cost was $31.34 an acre. Knight explained that, because of the initial seeding cost, range improvement should be a long-term ranch management objective.

Capricious fall rains can be a problem. Early rain can germinate the seed in a new planting and leave it to shrivel and die before the next rain comes along. The result, at best, will be a poor stand of clover.

Also, researchers are refining fertilizer rates for clover under range conditions. Phosphorus appears to be the chief limiting nutrient, but trials by UC Cooperative Extension soils specialist Rollie Meyer on the Alavares Ranch suggest that a combination of sulphur and phosphorus may provide the best results. Rates, frequency (maybe as seldom as once every six years), and the economics of fertilization are still being studied. Common practice is to apply 200 pounds of single super phosphate per acre at the time of planting, if the seed is drilled. Up to 500 pounds of the fertilizer is needed per acre for broadcast seeding.

Some ranchers haven't waited for all the answers before they give range improvement a try.

Commercial sheep rancher John Larzabel began seeding annual clovers on his Tehama County ranch in 1976. His first stand was devastated by a six-week drought following rains that germinated the seed and it had to be reseeded in 1977. But he has added to his acreage of improved range every year since, using various methods of seedbed preparation and seeding.

"Winter ranges are becoming harder to get, so we have to produce more on what we have," Larzabel told field day participants.

UC researchers and farm advisors are continually evaluating new varieties to help producers achieve this goal. They're looking for varieties with low estrogen levels, more hard seed production, and improved disease tolerance. Fertility problem in sheep have been associated with high estrogen content of some clovers in Australia where the variety development is being done. More hard seed would allow some of the seed to carry over to following years to help offset unfavorable rainfall conditions.

Much of the commercial clover seed comes from Australia and supplies are limited, so ranchers should plan their range improvement programs and get in touch with their suppliers well in advance of actual seeding dates, according to Jim Clawson, UC Cooperative Extension range specialist.

# # #

The University of California Cooperative Extension in compliance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and the Rehabilitation Act of 1973 does not discriminate on the basis of race, creed, religion, color, national origin, sex, or mental or physical handicap in any of its programs or activities. Inquiries regarding this policy may be directed to: Warren E. Schoonover, 317 University Hall, University of California, Berkeley, California 94720, (415) 642-0903.

University of California and the United States Department of Agriculture cooperating.