Cooperative Extension Work in Agriculture and Home Economics
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Monterey County Livestock Notes

Range & Pasture
Dryland - Improvement

JUNE, 1963

PROGRESS REPORT ON RANGE IMPROVEMENT IN MONTEREY COUNTY

/ Brush Control /

R. I. Association Changes Leadership

The Monterey County Range Improvement Association elected Jack Varian of Parkfield to succeed Mike Trescony as president for the coming year. Trescony was retained on the board of directors and will work with newly appointed Floyd Grigory and Sam Avila, Jr. Other board members are: Harold Eade, Joe Botts, Bob Wilson, Jim Bardin, Herman Akers, Irvine Armstrong, Jr., and Art Claussen.

All ranchers who plan to conduct a control burn, regardless of size are advised to work through this association.

Crush Brush Before You Burn It

A San Benito range trial conducted a few years ago indicated that crushing chemise brush prior to burning increased the effectiveness of kill by 50% or more. Pre-treatment also results in a cleaner landscape following the burn.

Paul Aurignac has gained wide recognition for his use of a heavy anchor chain pulled by two tracklayers as an efficient method of crushing chemise and scrub oak before burning. Les Patterson reports that the Lockwood Soil Conservation District has an anchor chain that can be adapted and used by ranchers in Monterey County on a loan basis.

Of principal interest on a recent Priest Valley range tour was Nelson Palmer's excellent demonstration of converting dense chemise cover into valuable range. The Palmers have used pine trees and more recently tracklayer tracks as drags to crush the brush. Spring burns have resulted in safe, effective removal of the crushed brush. Discing and broadcasting barley has carried the reclamation project to the 85-90% completion stage. With some additional cultivation and competition from vigorous barley seedlings the regrowth of brush should be insignificant. Soil and average rainfall conditions will warrant establishment of a perennial grass and clover cover through re-seeding after the control of regrowth is complete.

Costs: Brush control costs reported by cooperators has ranged from under $2.00 per acre for a standing burn to over $45.00 per acre for complete conversion to grain production. Crushing and burning costs have generally run between $15.00 - $20.00 per acre.

Range Fertilization

Plot work conducted in recent years by Jim Lugg has resulted in several observations. These are summarized as follows:

1. In most of the cleared range areas in the county the annual rainfall is often below the 11-13" we find necessary for good response from fertilization.

2. Nitrogen fertilizer will usually increase yield of forage on any of our ranges provided the annual rainfall is above the critical level and the soil is adequate in depth. Nitrogen fertilized range generally grows faster, taller, matures earlier and is more palatable to livestock. Ammonium sulfate is usually the most economical source of nitrogen. Other sources of N may be equally as effective, but generally cost more per pound of N. For this reason our plot work has been primarily with ammonium sulfate as the nitrogen source. When applying nitrogen by air, we might consider a more concentrated form such as urea. Past test plot work has indicated superior results from ammonium sulfate over urea when applying equal units of N from both sources. Further work is needed to confirm this and determine the reason for this difference.

3. Phosphorus requirements can usually be predicted by soil analysis. Based on soil tests and test plot response throughout the county, we have found that most of our range lands have adequate phosphorus levels, 6 ppm or more for annual range species, but some do not. For this reason we recommend that ranchers have representative soil samples analyzed for phosphorus before using a phosphorus fertilizer extensively.

4. Carryover effects from phosphorus application have been observed during the second season on plots where a phosphorus deficiency existed. Sulfur has also given an indication of being useful the second season after application. We have not seen carryover effect from nitrogen application. However, we have not worked with rates over 60 pounds of N per acre. Also, we might expect a carryover effect from N when the first season after application is one of light rainfall. Our conclusions on "carryover" based on the above facts are that P and S applications can be expected to yield good results after the year of application. We can not expect a response from nitrogen after the first year under normal conditions.

5. We can temporarily alter specie composition where both grasses and legumes are present on the range. Nitrogen will stimulate grasses and phosphorus will stimulate clovers. An apparent flush of growth in a nitrogen treated strip may cause optimism when compared to the control. The value of this increased growth may be questionable if rip-gut, red brome or wild oats is the specie increased - possibly at the expense of filaree and bur clover.

6. We have observed greater response from drilling over broadcasting when the fertilizer is held constant. We have also seen that cultivation alone stimulates growth of range species. The practicality and economics of range cultivation is not known.

7. When range fertilization can be used to significantly increase the total forage produced, the extra forage must be utilized to increase pounds of beef per acre before the program will return a profit over costs of materials and application. It is difficult to accurately evaluate the results of range fertilization trials. Lack of complete economic evaluation casts doubt on apparently successful fertilization projects.

8. When establishing improved range species by drilling, it is desirable to use band fertilizing to help introduced species overcome competition from native plants. An application of 300 pounds of 16-20 or the equivalent has shown good results in one re-seeding project.