

R-Red
Tulare

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
PROCESS REPORT

County of Tulare Date December 10, 1952 State Number 3038
County Number _____
Name of Project Improvement of Range Pasture Reported by Ralph L. Worrell

1. Procedure: For the last three years primary emphasis on this project has been placed upon that phase of removing brush from foothill rangeland and reseeding the area to grasses and legumes for livestock forage production. Although some time has been devoted to mechanical clearance and chemical spraying, most of the efforts have been placed upon the use of control brush burns. Four Range Improvement Committees have been organized in each of the natural range improvement districts and a countywide Range Improvement Association formed to promote and correlate the activities in the districts. This Association in turn has been represented on the San Joaquin Valley Range Improvement Association.

2. Results: During 1952 major emphasis was placed upon advance preparation of control burn sites in order to insure greater results with less danger. Accordingly, in a number of instances ranchers who were interested in control burning this year were counseled to further prepare their areas and develop their program in order that greater results might be obtained the following year. This resulted in a considerable reduction in control burns and acreage treated as compared to the last five years.

This year fourteen ranchers took out applications for control brush burning. These were combined into four burns totaling approximately 2,100 acres. Of this area approximately 1,800 acres were reseeded according to Extension Service recommendations, using mostly perennial species.

Greater progress was made in 1952 on development of information concerning advance preparation of control burn sites. Tulare County has been acknowledged the leader in the state in this regard. Results have progressed to the point where we are now recommending that in every possible instance ranchers break down aisles or lanes through the brush with a bulldozer at intervals ranging from 30' to 60' apart, depending upon the density and type of brush and the topography. These lanes increase the intensity and heat of the fire and result in much greater destruction of the fuel.

In addition, we are recommending in every instance, that ranchers crush down the brush completely around the bottom or starting part of the control burns. This year this practice has proved most beneficial in obtaining greater heat and more effectiveness of the burn at the start.

Area ignition was tried on three burns this year. All were highly successful and demonstrated beyond doubt that wherever topography and size of the burned area permitted the igniting as much of the brush at one time as possible, this practice was desirable. Our results this year have also shown that area ignition generally results in a safer fire, since the air is drawn into the burn, thus reducing the likelihood of spot fire across the guard lines. A 140 acre control burn was tried on November 1 with outstanding success. It proved to be the most complete burn ever conducted in the county. On this area, the brush was 100% crushed by bulldozer. This same area was also treated by area ignition and despite the fact that it was a cold day with high humidity, nearly 100% destruction of the brush was obtained with no spot fires and little danger.

Two new large test plots of grasses and legumes reseeded on control brush burns were established this year in the Badger and Eshom Valley districts. In addition, observations were conducted on three other test plots established previously. We now have observations and results from six years of such trials. The following varieties have proved best over this period: tall fescue grass, harding grass, burnet and alfalfa. A number of other plants have also showed value, including: orchard grass, intermediate wheatgrass, rose clover, yellow sweet clover, prairie bromegrass and harlan bromegrass. These are all perennials or bi-annual. We are recommending their use above 3,000 feet elevation on areas of good soil deep enough so that the roots can penetrate at least 3 feet. A sample seed mixture would be approximately as follows:

tall fescue grass	-	2 lbs.	per acre
harding grass	-	1 lb.	" "
domestic ryegrass	-	1 "	" "
alfalfa	-	1 "	" "
burnet	-	2 lbs.	" "

On burn areas below 3,000 feet elevation and at all elevations where soil is poor and shallow, recommendation is only for domestic ryegrass at the rate of 6 lbs. per acre.

Four demonstration meetings and one tour were held this year to inspect results of the foothill range work. In addition, nine meetings of district and county Range Improvement Associations were held and results of the brush control program were presented at eight other meetings.

Two years ago the University of California entered into an agreement with Keith Manley, Eshom Valley rancher, concerning the use of 400 acres of brush covered lands for a range demonstration project. 150 acres of this area was control burned in 1951 and reseeded. Tests were initiated on reseeding, range management and grazing. This project has attracted much attention and it is anticipated that much information of value will be obtained.

Conclusions:

We feel the foothill brush control program is going forward on a firm economic basis. It is essentially a rancher's program and the Extension Service assists in the capacity of helping perfect the organization of the ranchers and programs, the conducting of field tests and demonstrations on methods of brush control, reseeding and range management, and in the taking of observations of brush burning techniques. Much progress has been obtained on all these factors.