Extension Range Work in Texas

A. H. WALKER

Range Specialist, Texas Extension Service, College Station, Texas

TEXAS with some 93½ million acres of range land presents a tremendous problem in range management. All of this land is owned by individuals, partnerships or corporations and operated by these individuals or concerns or leased out. This area is all more or less fenced and for the most part grazed the year long. In 1945, this area earned 589 million dollars for Texas operators from the sale of livestock and livestock products. During 1949, this amount further increased until the sale of these products amounted to more than 807 million dollars.

Even with this tremendous production, Texas range lands are only producing 50% of their former capacity. This is due to (1) overgrazing over a long period, (2) drought, and (3) brush infestation. All of these factors have brought range management to the forefront in Texas.

The primary problems are (1) failure of ranch people to recognize and know the grazing value of native range plants and (2) insufficient appreciation for a coordinated range management program including proper stocking rate, brush control, range reseeding, poisonous plant control, management systems and many others. In other words, more operators are finding, for example, that brush control without proper stocking and deferred grazing in connection therewith results in few permanent benefits. The Extension Service in Texas recognizes these problems and in the past two years has undertaken an educational program to aid in solving them.

Since most Texas county agents are graduates of Texas colleges and none of these offered any courses in range management until the last few years, only a few of them have any background in this science. The Range and Forestry Department was not established at A. & M. College until September 1946. In cooperation with the teaching staff of this department, three range management schools for county agents have been held during the past three summers. This is an accredited field course lasting about three weeks. A total of 75 county agents have attended this school. The agents study plant identification, range ecology, and range economics. They visit and study the operation of selected ranches in various areas of Texas. They study management in all phases on these ranches, learning the factors contributing to their failure or success in the business (Fig. 1).

In cooperation with the teaching staff of the Range and Forestry Department, A. & M. College, three forest schools were held for county agents in the East Texas timber area during 1947 and 1948. In 1949, 15 agents attended a forest-range school in this area. The importance of proper grazing of forest land to secure maximum returns through this combined use has been realized. This is an accredited course similar to the range school.

County agents have been encouraged to prepare display boards of mounted range specimens for use at exhibits, field days, meetings, work with 4-H club boys and as a display in county offices. Nearly half, or 123 of the 254 counties in Texas, have such display boards of the most important range plants. These exhibits promote more interest and understanding by ranchmen of range vegetation—the basic essential in range management.

Through demonstrations, county agents are showing the ranchmen and stock farmers of Texas the value of following accepted range management practices. County agents supervised 362 proper stocking demonstrations on 1,019,178 acres in 1949. Also deferred or rotation grazing demonstrations were carried on in 114 counties involving 381 demonstrations on 642,807 acres. Deferred grazing has been found to be the most practical method of range recovery where as much as 15 per cent of the key species are present. Range reseeding was demonstrated by county agents in 1949 with 1,374 demonstrations on 152,480 acres. This included demonstrations on abandoned cultivated land, barren range land and following brush control. Results on the whole were very good since 1949 was an above normal rainfall year, but many more demonstrations and research are needed in this field.

FIGURE 1

County agricultural agents studying range vegetation on a ranch in Southwest Texas during the third annual range school held in the summer of 1949.

Texas has some 60,000,000 acres of range land infested with brush of various species. Mesquite, cedar, sand sagebrush and prickly pear are the most important invading species. Texas operators are using many mechanical methods in an effort to control brush. This includes bulldozing, roller cutters, cabling with anchor chains and tractor rails, stingers and root cutters. For the most part, these methods are expensive and sprout growth will have to be controlled in the future. There is a definite need for a more practical and economical method of brush control. Present research indicates that 2,4-D and 2,4,5-T have definite possibilities in this field. Proper management before and after brush control is of utmost importance. County agents conducted 98 brush control demonstrations on 235,002 acres in 1949.

Meetings and field days play an important part in extension methods. Many ranchmen can see the results of demonstrations at these meetings and many of them have followed these recommendations on their own ranches. Eight hundred and sixty five indoor and demonstration meetings were held by county agents

in the past year. In addition, 163 field days were conducted which were attended by 24,950 persons. One hundred fifty nine county agricultural agents found time to write 1,138 news stories on range management demonstrations and practices.

Four-H club boys, the ranchers of tomorrow, are receiving much training in plant identification and are participating in county, district, and state grass judging contests. The late R. R. Lancaster, Texas Extension Pasture Specialist, initiated plant identification contests for 4-H club boys at county and district club camps in 1936. Since one of the essential fundamentals in range management is the knowledge and grazing value of native range plants, emphasis has been intensified on this work in the past two years. Boys have not only been taught to identify range plants but to learn their grazing value and the relationship between the kind and amount of plants and range condition classes. The tremendous importance of this work is indicated by the following figures: 123 counties trained 2,144 boys in plant or grass identification and these boys participated in 207 contests in 1949. In addition to the 5 area grass judging contests at the major livestock shows, a 4-H contest was held in connection with the annual roundup in June, 1949.

Team demonstrations presented by two boys, wherein sound range management practices are shown and described to the audience, are receiving emphasis. The range specialist has prepared 6 such team demonstrations to be used as guides in the counties for presenting facts and figures with photographs, drawings and charts on range management practices. A state 4-H range management team

TABLE 1

Extension range management work in 1949

1. Operators assisted with range management problems during the year (Est.) No.[1] (218) 9,500			
2. Indoor meetings	a. No. (128) 449	b. Attendance (128) 14,324	
3. Demonstration meetings	a. No. (133) 416	b. Attendance (133) 13,663	
4. Did you conduct a field or achievement day?	a. No. (105) 163	b. Attendance (105) 24,953	
5. Do you have a grass exhibit?		123 Counties	
6. Proper stocking demonstrations	a. No. (102) 362	b. Acres (102) 1,019,178	
7. Deferred or rotation grazing demonstrations	a. No. (114) 381	b. Acres (114) 642,807	
8. Water developments this year	a. No. wells (92) 1216	b. No. tanks (126) 4064	c. Others (10) 68
9. News items and articles		No. (159) 1138	
Brush And Poisonous Plant Control Or Eradication Demonstrations			
10. No. of demonstrations	a. No. (98) 904	b. Acres 235,002	
Range Reseeding Demonstrations			
11. Abandoned cultivated land reseeded	a. No. (126) 660	b. Acres (126) 47,813	
12. Barren range land reseeded	a. No. (68) 260	b. Acres (68) 58,774	
13. Reseeding following brush eradication or control	a. No. (80) 454	b. Acres (80) 45,893	
	1374	152,480	
4-H Club Work			
14. Plant or grass identification team		a. No. boys trained (123) 2,144	b. No. Contests (106) 207
15. Range demonstration teams	a. No. trained (18) 37	b. No. performances (18) 78	c. Attn. (18) 4,832
16. Club boys carrying on range management demonstrations		a. No. enrolled (45) 211	b. No. completing (39) 132

[1] Numbers in parentheses indicate numbers of counties participating.

demonstration contest was held during the roundup last year. These demonstrations are presented before 4-H groups, at field days, meetings, civic clubs and others interested.

In cooperation with soil conservation districts, a range management contest has been worked up and is in operation in 10 or more counties at the present time. The boys keep a record for a year on a pasture of stocking rates, moisture penetration, vegetational composition, forage production on various range sites, soil erosion, etc. This is the most practical range management contest yet devised and it is being expanded to other districts. The local soil conservation district supervisors are helping to sponsor these contests and the boys, without expense, are learning the differences in grass and the value of management. Monetary or livestock awards are given as prizes.

The range specialist prepares a monthly set of range notes citing outstanding demonstrations as reported by county agents, recent research findings and dates of proposed meetings and field days over the state. This is an informal report distributed to all extension personnel and most newspapers. The range specialist has prepared several leaflets and circulars on management to aid ranchmen in doing a better job. Research findings from experiment stations as well as those from graduate students are made immediately available to co-workers.

In summary, a total of 3,021 range demonstrations were conducted by Texas county agricultural agents in 1949. This number was 2 to 4 times as great in all phases as those conducted in any previous year. A break-down of Extension range work in Texas as compiled from county agricultural agents' annual reports is shown in Table 1. The soil conservation districts, Soil Conservation Service, Production and Marketing Administration and Extension Service are all working together on the same problem and these results indicate we are making much progress.

CHEMICAL WEED CONTROL

We should raise some questions about the place of chemicals in weed control. Chemical weed control methods are here to stay without question. In fact, chemicals will undoubtedly play an ever increasing role in weed control programs. The question is whether we are permitting research with chemicals to overshadow research with other control methods.

It is my considered opinion that from the standpoint of a well-balanced weed research program the chemical aspect is being over-emphasized. We must never lose sight of the fact that there is no panacea for weed control, and chemicals cannot be considered a means to avoid all other weed control measures. If the farming job is done right, chemicals may not be needed. If a particular weed control job may be done more efficiently by some other method, it is our responsibility to explore the possibilities. Furthermore, many farmers have been willing to adopt chemical methods during a period of relative prosperity in the agricultural economy. During periods of declining agricultural prices we can anticipate an ever increasing tendency for farmers to fall back on weed control methods that do not call for a cash outlay for materials. Those in charge of weed research should be prepared with improved methods that, although less spectacular, will be equally satisfactory in a period of lower agricultural income.

R. M. Salter, Chief
Bureau of Plant Industry, Soils, and Agricultural Engineering, U. S. Department of Agriculture