

Some Problems in the Development of a Range Management Extension Program

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GREAT and important though the western range resource is in western economy, the western State Land Grant College Extension Services do not, as yet, have an extension program in range management.

This statement is not made critically. The reasons why they do not have an extension program are fairly clear. There is some extension work in range management, but it is usually done as a part of the extension program either in animal husbandry or in agronomy. An extension program in range management has not been developed because of some rather important problems that must be resolved before such a program is fully feasible.

What we do in this article is to state the problems most frequently discussed, analyze them, and try to see how they might be resolved.

1. *"Much of range management must now be based upon long-range conservation objectives, requiring some sacrifice of present ranch income for possible future ranch benefits and for social objectives."* This problem is part of the larger one of extension work in resource conservation, when the need for conservation is greater than that which can be afforded by the short-run individual farm and ranch economics. Herein lies the justification for "action programs" in conservation, to invest public funds in conservation objectives in a cooperative program of subsidy, demonstration, and education.

Doesn't this mean that a range management extension program, insofar as range management involves long-range conservation objectives, should be cooperatively tied in with the programs and work of the conservation action agencies?

Much of the work of range management lends itself, however, to an educational approach in terms of ranch income objectives, and does not require long-range conservation investment. We need a better comprehension and delineation of these differences. Perhaps we could undertake an inventory by major natural regions and range types of the management techniques that should "pay dividends", and also of those that are needed but which are not profitable to the ranches. For example, there are reasons for believing that, for the mixed prairie type of the northern plains, livestock income responds quickly and favorably to moderate grazing. Again, as an example, there are reasons for believing that this may not be true for the Rocky Mountain foothill bunchgrass range types, and that for this range type the ranch income benefits of moderate grazing may be too remote to motivate ordinary management.

If an extension program in range management is going to be developed and properly related to conservation action programs, we must have a much clearer concept of this demarcation between the long-run range conservation needs and approaches, and the foresee-

able ranch income aspects of range management.

2. "*Ranch people have not generally understood the need for educational work in range management.*" To the laymen, the response of range vegetation and soils to such things as annual variations in weather and changes in the rates of stocking often seem complex, unpredictable, and contradictory. Trends are not easy to discern, and the ranchman often becomes a fatalist about changes that occur in the range resource. He may tend, consequently, to base his range management entirely on his livestock husbandry, but often this is not a safe guide. Changes in animal production may lag many years behind a downward trend in range plants and soils.

Perhaps this is the reason why much of our present educational work in range management centers around the agronomic approach, especially the reseeding of depleted ranges. Here the need for and the results of work are clear and foreseeable, as compared with the slow working out of an ecologic problem to change a trend in range condition resulting from mismanagement or lack of management.

In this latter kind of problem, an extension specialist in range management should be a good scientist who is able to think and talk range management in terms of ranch management. For illustration, overuse and unseasonal use have taken the mid-grasses out of the mixed prairie association, for a northern plains cattle ranch. This problem might be described to the ranch operator entirely in terms of range science and the corrective measures needed for the range plant association. Or, it might be presented in terms of the unbalanced seasonal forage capacities due to loss of the cool-weather grasses, the consequent loss of production and income for the ranch, and the prob-

able cost and income for a plan of deferred and rotation grazing to bring back the mid-grasses.

3. "*Range science and subject matter are not well oriented to extension work.*" This seems to be due in part to the fact that range science has "grown" without benefit of a long-range plan. Also rather important is the delayed realization of the basis of plant ecology in range science; the consequent fragmentary and uncorrelated character of the ecologic information pertinent to range management. Perhaps we could add to this the observation that much of range management thinking is not enough in terms of ranch management.

It seems probable that range science might make a very valuable contribution to the future of extension work in range management by the preparation of a range management problem analysis, by major natural regions and main range types. Such an analysis would undertake to show for such regions and range types the trends and changes in range plant associations, the management techniques now available for range restoration and improvement, and the economic impact of the changes upon ranch operations.

For an illustration of this analysis, let us look at the "short-grass" type of the central plains. In many areas of this type the native mid-grasses, shrubs, and forbs are depleted or gone. As a consequence, the capacity of this type is seasonally unbalanced, so much so that many of the cattle ranches must operate with stockers that are bought in June and sold in September. There are management techniques that can restore the seasonal balance to this range type, and enable these ranches again to operate on a breeding herd basis, rather than seasonal speculative purchase and sale, using only the summer and fall feed from the buffalograss and the gramas.

Again, by way of illustration, it may be noted that the cattle ranches of the sagebrush type of the intermountain region have been forced to operate more and more on meadow land summer and fall pasturage because of the extensive replacement of the bunchgrasses by cheatgrass. Yet, where crested wheatgrass can be reseeded successfully in this range type, it will help to correct the unbalance caused by the loss of the bunchgrasses.

For each extensive change in a major range type, there has been a change also in the organization and production economics of the ranches. We need this picture of change, in terms of both range ecology and ranch economics.

4. *"We lack men with sufficient training, experience, and observational background for the work of range management specialists."* There are men who meet the needs and specifications of extension range specialists—quite a number of them. They are, to quite a degree, a product of the range country itself. That environment has provided a rather wide experience over the western United States in the management of wild lands. Range men have learned, through application of their training in the sciences, how to read the story of native plant associations and the changes that occur in them. They are not crop agronomists. They are wild land ecologists who have learned how to apply their science training. Wide travel and observation have been an essential part of their development.

In a possible future development of range management extension work, we may need more men with these talents than are available. Perhaps it is possible for Schools of Forestry and Range Management to point the training of more people in this direction. Viewpoint and interest (some may call it "indoctrination") are essential. A trained botanist with the right viewpoint and opportuni-

ties for experience may develop into a qualified extension specialist in range management. Much of the training to meet the qualifications of an extension specialist in range management must come after graduation from college. Most essential in this development is wide observation and study of the conditions and trends of the many and diverse range plant associations of the West.

5. *"Much of the range land of the West is public land, managed by administrative agencies, and extension work in range management would not apply to this land."* Approximately thirty percent of the grazing capacity of range lands in the eleven western states is on lands in public ownership. Since this public land grazing is mainly seasonal, about half of the ranches of these states use some public land, and the other half of the ranches operate entirely on "deeded" land. Nearly all of the grazing in the Great Plains is on privately owned land. Great Plains grazing, including Texas, accounts for about half of the total of western range grazing.

We see, consequently, that public land grazing should not be a deterrent to range management extension work. On the contrary, such work can make a real contribution to the management of public lands by bringing to the ranch operator the management viewpoint and approach for good balance between the various seasonal ranges that constitute year-around range livestock production.

In summary, there are no insuperable hurdles to the starting of a workable program of extension work in range management. There are, too, a good many things that can be done in the field of range management to strengthen and aid future range management exten-

sion work. The ecologic approach, as applied to the problems of ranch operation, must prevail for most of this work. This is because most of the results in range management must come through working with nature on wild lands. Range reseeding has an important role, but it can easily be overemphasized in an extension program. The livestock husbandry approach to range management must be viewed critically; it can give misleading results. This is true because the animal production response to levels of stocking and to other management techniques can, under certain conditions, be favorable for a period of time while

adverse trends and changes take place in the range plants and soils.

We do not wish to minimize the extension work now being done in connection with agronomy and animal husbandry. But this should, we believe, be regarded as an interim phase, to be followed as soon as possible by an approach to range management *as range management*. Such work must use a ranch management approach where possible, and tie in with conservation "action programs" where the range management problems are, for the foreseeable future, beyond the scope of ranch production economics.