Range Research, the Foundation for Range Management and Improvement

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Range conservation, management, and improvement have made tremendous progress during the last 50 years. During that time they have advanced from the pioneering rule of thumb stage to a science based on tested knowledge. Although there are many unanswered problems and further opportunities for development, still research has laid a secure foundation for better range forage and livestock production.

The transfer of the forest reserves from the Department of Interior to the Department of Agriculture in 1905 laid the groundwork for this progress. Previously, Mr. Gifford Pinchot, Mr. A. F. Potter, and Dr. Frederick V. Coville had made a survey of the public lands and had recommended their control and regulation. It was natural, therefore, for these three to team up in developing a sounder basis of grazing for the national forests as they came to be called upon transfer of authority. Pinchot was Chief of the Forest Service. He brought Potter in to head up grazing administration. Doctor Coville was chief of the Division of Botany in the Bureau of Plant Industry. Between the three of them they planned for range studies which would facilitate efficient grazing administration on the national forests. In 1907 Dr. James T. Jardine, later Director of Research in the Department of Agriculture, and Dr. A. W. Sampson, later professor of range management at the University of California, were hired to initiate such studies.

Others were employed shortly thereafter and in 1910 the Office of Grazing Studies was formed in the Forest Service with Doctor Jardine in charge. The Great Basin Experiment Station, in the mountains of central Utah, was established in 1912. In 1915 the Santa Rita and Jornada Range Reserves in southern Arizona and New Mexico were transferred from the Bureau of Plant Industry to the Forest Service along with authority for range research on other public and private lands, as well as the national forests. The McSweeney-McNary Forest Research Act of 1928 set up an authorization which gave impetus to expansion of range research, both on forested and on untimbered ranges, public and private. In 1940 studies of grazing of forest range in the Southeast were initiated in eastern North Carolina and the last three years has been a big factor in recent expansion. Range research is now underway at all forest and range experiment stations in the Central States, Southern, and Southwestern regions. Much of our work is cooperative with federal agencies, and with the state agricultural experiment stations.

The exact acreage of native forage-producing land, commonly called range, is difficult to determine. There are roughly 950 million acres. In times of need for wheat and other grains and a good price some range land is plowed for cultivation, on the other hand, as cultivated fields are abandoned during depressions and drought periods they revert to native range vegetation. The best use that can be made is in furnishing cheap forage in an integrated agricultural enterprise. Although more productive acre for acre than cultivated pastures, aggregate range lands furnish a material part of the nation’s feed requirements of the nation’s livestock. Over one-half of the sheep and goats, over one-half of the cattle, and large numbers of other livestock are grazed on some part of the year on range lands. Nearly one-third of the range area is privately owned.

There is a vast difference between western humid improved pastures. On western ranges annual precipitation generally averages under 10 inches. This is low for plant growth at best, but where it is averaged only 5 inches, bunchgrasses which do not form a sod, succulent forbs or range weeds, and foliage and twigs of shrubs or browse largely furnish the forage. Whereas the heavy cover of turf-forming highly productive plants can withstand close grazing, but in the arid and semi-arid ranges grow in a thin cover and cannot withstand such grazing.

A great part of the western range area was heavily grazed in the early days of settlement and by 1940 the acreages received such use even up to the present. Without any control or regulation on the grazing, overgrazing became serious until legislation was passed in 1934.