1954, though generally less common. Larkspur appeared to have been greatly reduced, whereas hoary phlox and Douglas rabbitbrush appeared to have increased.

Halogen increased rapidly during the 4 years it has been on the area, but only in heavily grazed and barren spots; it was not found in full, vigorous stands of crested wheatgrass.

ACKNOWLEDGMENT

The authors gratefully acknowledge the work of Dr. Joseph H. Robertson, Dr. George Stewart, Richard M. Hurd, and John M. Fenley, all former employees of the Intermountain Forest and Range Experiment Station, who actively participated in this project. Thanks are due the cooperators: the Humboldt National Forest, particularly Ranger T. E. Brierley for keeping records of stocking, the Bureau of Land Management, and the stockmen cooperators of Ruby Valley, Nevada.

LITERATURE CITED


Range Management Education

VI. A Rancher’s View

J. W. SOUTHWORTH

Rancher, Seneca, Oregon

From time immemorial, livestock producers have governed their operations on the presumptions that only the livestock can be managed by man and that the utilization of the grass should be governed only by the condition of the livestock, i.e., cattle should be shifted from one pasture to another when the grass is gone. Fortunately, this concept is being modified by many practicing ranchers as a result of education derived from their own observations and from the work of specialists in range management. In spite of this trend, however, ignorance of basic knowledge concerning range and pasture plants still abounds throughout the livestock industry. Consequently the question has been raised, are the students of animal husbandry, who are going to be ranchers, adequately impressed with the importance of grass management as a part of their training in the management of livestock?

This article was originally presented as part of a panel discussion on range management education at the Ninth Annual Meeting of the Society at Denver, Colorado, in January, 1956. Articles I through V have appeared in previous issues of the Journal. The remaining articles in the same series will be published in subsequent issues of the Journal.

It is generally recognized that a rancher’s real wealth lies in the forage produced on his land because, most assuredly, he cannot maintain highest meat production from his land unless the production and quality of the forage is maintained. Furthermore, certain basic knowledge of forage plants increases the rancher’s ability to maintain or to increase the forage production on his lands.

With this concept as a basis, it should be recognized that the student majoring in animal husbandry is first of all a student of agriculture, but that the adequacy of his knowledge will be evidenced by the wisdom of his use of the land. Furthermore, knowledge of any or all types of livestock is without proper foundation and is incomplete in scope without an associated knowledge of the proper use of land for the production of livestock feed.

Plant Information Important

The information that I wish I had obtained in college concerning plants is: (1) a knowledge of how plants make and use their food for growth and reproduction; (2) the ability to readily identify the parts of a plant; (3) the ability to identify the different grasses and other forage plants; (4) knowledge about the relationships that exist between plants and their environment; and (5) how plants can be expected to respond to manage-
ment. This, with a knowledge of the nutritional value of plants, would have provided me with the information necessary for most efficiently managing our cattle for the maintenance and improvement of our forage production and concomitantly our beef production. The fact that I did not obtain this information at college, and do not now possess it, is not to say that the information was not available. A review of the curricula of the major colleges shows that the information indicated above is available to any student of animal husbandry who wishes to study the particular subjects involved. Therefore, a pertinent question would be, are the animal husbandry students availing themselves of this information, and if not, why not? I believe they are not. Why? Because the animal husbandry students are neither required, nor often seriously advised, to study plant science.

I can recognize that it is unwise to require all animal husbandry students to study plant morphology, agrostology, plant physiology, and ecology, when many of them may devote their lives to an intensive study of only the animals. For them, a knowledge of grass and other range plants would be no more appropriate than a detailed knowledge of the production of grain or other livestock feed. Consequently, I do not consider it desirable to make the above subjects required study for all animal husbandry majors.

**Student Guidance Needed**

A better solution appears through proper advisement and instruction. The student should be impressed with a necessity for a fundamental knowledge of plants as a prerequisite to an adequate understanding of their use by animals. This should be done in an introductory agriculture course. If one general, introductory course in agriculture were offered instead of Introduction to Animal Husbandry, Poultry Husbandry, Dairy Husbandry, Horticulture, etc., as is presently required of all agricultural students in some colleges, it would be easier to build this appreciation of the related sciences. This introductory course, in conjunction with far-sighted guidance by the student's faculty advisor, should insure a proper start. In fact, proper guidance alone should be sufficient in most instances.

Providing proper guidance is not easily accomplished. Most professors are specialists in their respective fields, and frequently they are not aware of the scope and magnitude of the questions confronting the rancher, except as they relate to their particular specialties. For example, even as I here promote the thought that animal husbandry students do not adequately avail themselves of the opportunity to learn about plants, others interested in range management suggest that students majoring in range management are lacking information pertaining to animal husbandry. In both instances the failure and the solution are related: the failure—exceeding concentration in a limited field conditioned by the faculty advisor, who is and should be a specialist, when a broader and perhaps less intensive knowledge will be required of the student after graduation; and the solution—encouragement by the faculty advisor to acquire a broader but related knowledge.

To summarize, I believe that information concerning the growth and reproduction of plants and their respective forage values, coupled with an ability to accurately identify them, would be valuable information for any rancher. A student who is majoring in animal husbandry, with the intention of being a ranch livestock producer, should be seriously advised and encouraged to study those subjects that will provide him with such information. It is preferable to attain this by advisement rather than by altering the subjects now listed as "required."

---

**Great Plains Program and Public Law 1021**

The conservation program provided for under Public Law 1021 will be in support of the total Great Plains Program as outlined in President Eisenhower's message of January 11, 1956. PL 1021 authorizes the Secretary of Agriculture to enter into long-term, cost-sharing, contracts with farmers and ranchers for the purpose of establishing conservation plans and needed changes in land use and cropping systems in designated counties in the Great Plains region.

The program is scheduled to go into operation in July 1957, and the contracts are to be for periods not longer than 10 years. The program emphasizes the long-range aspects of planning for the complete conservation needs of the farm or ranch. It is not designed as an income supplement measure, and no new agencies have been set up to carry out the program. Neither is it to be considered a substitution for any other existing program.

Technical help in planning and installing needed conservation measures and land use changes will be provided by agencies of USDA, with the Soil Conservation Service taking administrative leadership.