Historical Aspects of Winter Grazing

James A. Young and Raymond A. Evans

The range livestock industry has been enduring the seemingly endless burden of market prices that barely meet increasing operating costs and seldom provide an adequate return on investments. In order to survive on a long-term basis, ranchers have to adopt technological innovation that leads to greater efficiency and costs savings.

Recently, economists, among others, have suggested that on Intermountain ranges where growing, harvesting, and feeding of hay is necessary for wintering brood cows, a key factor in economic survival is winter grazing of wheatgrass seedings. Winter grazing consists of grazing livestock on rangeland during the winter months when the range forage plants are dormant. Normally, livestock would be dependent on forage from nonrangelands during this period, either as hay or crop aftermath.

This suggestion for winter grazing appeals to both ranchers and land managers. Hay production requires labor and capital, both of which are expensive and in short supply on most ranches. Winter grazing of dormant wheatgrass seedings offers the potential to control wolf plants. Wolf plants are vigorous wheatgrass plants, especially crested *(Agropyron desertorum),* whose remnant flower stalks limit livestock preference.

Proposed winter grazing has been greeted with such euphoria that we could not help but be reminded of a proposal for winter grazing published in 1871. This original proposal for winter grazing contributed to the boom in range livestock production during the late 19th century in Wyoming, Colorado, Montana, and the Intermountain area and also almost resulted in its demise.

Trans-Missouri Stock Raising
THE PASTURE LANDS OF NORTH AMERICA: WINTER GRAZING

"The Source of the Future Beef and Wool Supply of the United States" was the imposing title of a booklet published in Omaha, Nebraska in 1871 under the authorship of Dr. H. Latham, then surgeon of the Union Pacific Railroad. This publication with 88 pages of text provided the first description of ranching on the then new western ranges. It predated Joseph G. McCoy's "Historic Sketches of the Cattle Trade" by 3 years. Although General James S. Brisbin's book "The Beef Bonanza: or How to get Rich on the Plains" is often considered the first western range book, it was published 10 years after Latham's booklet. General Brisbin quoted Dr. Latham several times without ever identifying him or acknowledging his debt to the Doctor's booklet. In actuality, the general's book is largely a rewrite of Latham's publication.

The Union Pacific Railroad distributed Latham's booklet by the thousands in order to encourage settlement along the railroad right-of-ways. The myth of the Great American Desert was much alive during the relatively dry 1870's. The Union Pacific was hard pressed to attract settlers who would generate freight revenue.

Facts and Propositions

Dr. Latham originally published the material used in his booklet as letters to the editor of the *Omaha Daily Herald.* He used a hard-hitting, telegraphic writing style to introduce his ideas. His facts included a statement of a decrease in the total value of livestock in the United States at the same time the population of beef consumers was increasing. His propositions included the strongly worded supposition that the maintenance of a large pool of cheap labor for the nation's industry was dependent on providing a diet of red meat. According to the doctor, vegetable food alone resulted in degenerating the people. Where was the red meat to come from? The Doctor's answer was the billion acres between the Missouri River and the Pacific Ocean which he considered to be one immense pasture ground, boundless, endless, gateless, and all of it furnishing *winter grazing.*

Dr. Latham went into great detail explaining to his readers east of the Mississippi River that out on the western range the grass cured standing. In the humid East, hay had to be carefully dried and stored under cover to prevent spoilage.

Cattlemen from the woodland and coastal areas of Texas were familiar with winter grazing. The immediate ancestors of many of these cattlemen had practiced livestock winter grazing as they moved with their families across the piney woods and cane breaks of the Southeastern United States during the late 18th and early 19th centuries.

In the first section of the winter grazing booklet, Dr. Latham included letters he had received from knowledgeable individuals in response to inquiries on grazing conditions. These respondents included other surgeons, cavalry officers, bankers, ranchers, and freighters.

Among the most forceful letters were those written by Alexander Majors and John W. Iliff. Alex Majors was a Kentuckian and a member of the famous freighting firm, Russell, Majors, and Waddell. The firm developed the Pony Express in 1860. Writing from Soda Springs, Utah, May 1, 1869,

Authors are range scientists of the USDA, Agricultural Research Service, Univ. of Nevada, Reno.

Majors informed Dr. Latham that he had been grazing work cattle (oxen) on the plains and in the mountains for 20 years. During that time he had never less than 500 head to winter and at times as many as 15,000. He maintained that winter losses of cattle on the trans-Missouri ranges were less than those experienced in Missouri and Arkansas where cattle were wintered with hay, corn, and provided shelter.

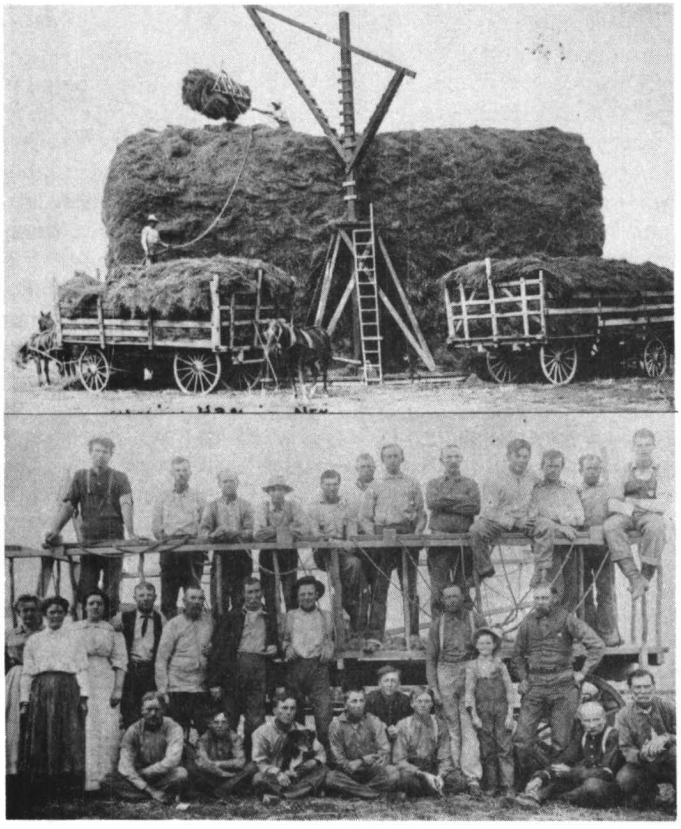

Fig. 1. *The necessity to grow and conserve forage as hay to provide winter rations for cattle required (a) the development of equipment, wagons, derricks, forks, etc. for haying and (b) large seasonal haying crews. (Figure 1a courtesy Northeastern Nevada Museum, Elko, Nev.; figure 1b from the Norris Myers collection, Adin, Calif.).*

John W. Iliff was born in Ohio in 1831 and came to Colorado during the Gold Rush in 1859. He pyramided a $750 stake from his father into a 1.5 million dollar ranching empire by 1878, the year of his death. Replying to Dr. Latham from Cheyenne, Wyo., Territory on August 21, 1869, Iliff reported that he considered the summer-cured grass on the plains superior to hay. His cattle often went into the winter in poor condition and came out in the spring as fine beef.

Dr. Latham described the geography and climate of much of the new northwest range area. He pointed out the abundance of stocker cattle available in Texas at cheap prices. The Latham booklet was probably read by such Texas ranchers as John Sparks, who was eager to drive cattle to the new ranges, and by eastern U.S. and European capitalists who hoped to profit from the cattle boom while they rubbed shoulders with the wild, young cowboys—knights of the plains.

Dr. Latham was born in Vermont in 1832. He graduated from Iowa College of Physicians and Surgeons in 1858 and became a contract surgeon for the Union Army during the Civil War. After serving at several military posts in Wyoming and Colorado, he resigned from the military and became a member of the medical staff of the Union Pacific Railroad. He was a one-man Chamber of Commerce for the Laramie Plains and a great booster for Wyoming. He was sent to Washington, D.C., in 1868 to lobby for creating the territory of Wyoming. The doctor became so convinced of the potential of the range livestock industry that he quit practicing medicine and formed a ranching company.

In 1871 Dr. Latham was a member of the committee which drafted the constitution and bylaws for the Stockgrazing Association, predecessor of the Wyoming Stock Growers Association. He registered his brand, an arrow on the left shoulder, in Book 1, Marks and Brands of Albany County.

Apparently, Dr. Latham was a better publicist than businessman because his ranch company failed in 1873 during a national depression and he left for Japan and a teaching position at the Imperial College.

The Winter of 1886 and 1887

Following Dr. Latham's prophecy, the range livestock industry boomed and the new ranges became fully stocked. Because of drought and overstocking, however, the range animals approached the winter of 1886 and 1887 in very poor condition. If such a summer had been followed by the best of winters, cattle probably would still have suffered; but instead of the best winter came one of the worst with snow, cold, and wind. Many of the animals were new to the ranges on which they were to be wintered, being recent arrivals from Texas.

Charlie Russell and Jesse Phelps were looking after 5,000 head of Kaufman and Stadler cattle during the winter of 1886 and 1887. Louis Kaufman wrote Phelps a letter requesting information on how the cattle were surviving. This inspired the famous 2 by 4-inch drawing by Charles Russell, "Waiting for the Chinook." The drawing showed a starved-looking steer, standing humped over in the snow, about ready to keel over, while hungry coyotes waited impatiently for the meal that was soon to be theirs.

Russell and Phelps sent the drawing to their bosses without any explanation. When the watercolor was received in Kaufman and Stadler's office in Helena, Mont., it caused considerable excitement. Someone, probably Kaufman, added the subtitle "The Last of 5,000." The drawing became the symbol of the end of the open ranging of livestock on the Northern Plains.

The extent of the losses of livestock from the winter of 1886 and 1887 was difficult to establish. Many ranchers did not know how many cattle they owned and many book counts were greatly inflated to attract investors. Some ranchers lost nearly all their herds, especially if the animals were recent arrivals from Texas and were wintering on poor range conditions in Wyoming.

Old-timers hardened to losses of range operations were in a state of absolute panic in the spring of 1887. Bright, young men who had flocked to the new ranges of the Northwest from halls of ivy or English drawing rooms for the chance of fortune and associations with wild freedom in the form of the Texas cowboy were revolted by the sights on the range. A fascinating business had suddenly become distasteful. Many left, and of those who remained the common pledge was to

never again be responsible for a range animal that could not be adequately fed or sheltered.

The winter of 1886 and 1887 should not have been a great surprise to old-time ranchers. Remember how Alex Majors wrote to Dr. Latham from Soda Springs, Utah, May 1, 1869, with his glowing report of wintering cattle on the range. But just a decade before, Major's firm had tried to winter 3,500 steers in Ruby Valley, Nev. These were beeves Majors had contracted to supply federal troops who were stationed in Utah to suppress the Mormon rebellion. A heavy snow fell in November 1858 and 40 days later only 200 steers survived.

The Winter of 1889 and 1890

The winter of 1886 and 1887 had been fairly mild west of the Rocky Mountains. Many Intermountain ranchers such as Johh Sparks still had ranching interests in Wyoming and other ranges east of the Continental Divide, so they were well aware of what the consequences could be of depending solely on winter grazing. Despite the warning of the winter of 1886 and 1887, few far western ranchers were prepared for the winter of 1889 and 1890. Cattle death losses in northern Nevada reached 95% on many large ranches.

Out of these twin disasters was born the culturing of hay to winter brood cows. The changed attitude of ranchers was expressed by William Byers at the 1898 meeting of the National Stock Growers Association: "Whenevever animals are under man's control, it is his duty to see that they do not suffer from any cause which he is able to remove."

Evolution of Haying

During the first half of the 20th century, the process of making hay for wintering brood cows evolved as an integral part of the range livestock industry.[1] For much of that time horses supplied the power for making hay but large amounts of seasonal labor were also required. Since World War II, haying has become largely mechanized, but the investment in capital required for this haying machinery has severely stressed the economic fabric of ranching. The labor and capital demands of hay production are responsible for the resurgence of winter grazing.

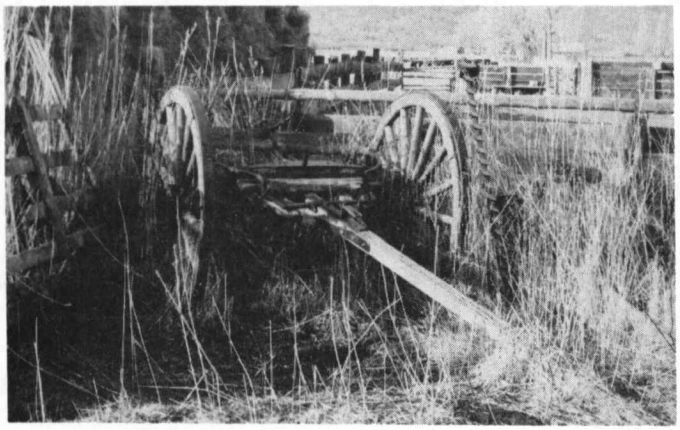

Fig. 2. *The historic and continued role of hay production and winter feeding is illustrated by this antique jig cart parked in a modern stockyard in Surprise Valley, Calif. The jig cart was used to stack hay with an incline ramp. The cart was fabricated in a ranch blacksmith shop from the running gear of a freight wagon. The equipment necessary to produce and stack the baled hay in the background represents an investment of over $100,000 dollars for the ranching operation.*

Points to Consider Concerning Winter Grazing

As we consider the historical perspective gained by the grand 19th century experiment in winter grazing, there are several points that should be stressed about proposed modern use of winter grazing.

Obviously, the concern for safety of the animals remains paramount. Ranchers must have sufficient hay reserves to protect the grazing animals and confidence that they can get the hay to the animals if the reserves are needed. Ranchers will have to raise and put up these hay reserves themselves and invest labor and capital, or risk purchasing and transporting hay under emergency conditions. Such purchases would be at seller's markets. If the incidence of emergencies is very infrequent, it may be economically desirable to plan on purchasing emergency hay and expect to pay inflated prices.

In the Intermountain Area stacked hay can be carried over for several years without undue losses in protein or energy providing the hay does not get wet. The portion of the stack that gets wet suffers a rapid loss in quality. Hay that is stored for more than one season will decline in carotene content. Carotene is the precursor of vitamin A and animals fed exclusively on old hay might suffer from vitamin A deficiency Supplements of old haystacks with freshly harvested hay with a good green color would be required.

If hay reserves could be carried over from year to year or possibly 3 years without undue losses of quality, labor requirements could be substantially reduced. If the ranch operator has a given amount of haying equipment and reduces the amount of hay produced because of reduced requirements for winter conserved forage because of winter grazing, the capital requirements per acre of hay harvested will be increased. Use of custom hay processors for the portions of the reserve of hay that must be renewed annually would substantially reduce capital requirements.

The forage reserves for winter grazing must be set aside from spring and summer growth. If insufficient summer forage is available in a grazing allotment, thoughts of winter grazing simply compound the problem. Range managers will have to determine how far into the early spring growth period it is feasible to graze wheatgrass species or devise grazing systems that permit periodic use into the spring growth period.

The use of winter grazing to control wolf plants in wheatgrass stands is correcting a problem that should have been prevented by proper grazing management. Care must be exercised to assure that the winter forage provides adequate nutrition especially for wintering pregnant heifers. The remoteness of many wheatgrass stands can contribute to problems in livestock management with winter grazing.

Grazing crop aftermath often substantially contributes to the forage base of many range livestock operations. The partial release of cropland from the requirement to produce hay by the substitution of winter grazing offers the potential for substantial additional flexibility in grazing management. Hay land converted to irrigated pasture could be used to

[1]See McCormick, J., J.A. Young, and W. Burkhardt. 1979. Making Hay. Rangelands. 1:203206.

partially finish yearlings or otherwise enhance operation.

Winter grazing is potentially not limited to wheatgrass seedings. Plant communities growing on non-arable situations such as basin wildrye *(Elymus cinereus)* communities on saline/alkaline soils can be used to winter dry cows.[2] This type of use can provide beneficial to the plant community as well as reducing hay requirements.

Winter grazing will not be a cure-all to the economic problems of ranching, but it offers the potential for additional flexibility in making management decisions. Evaluation of winter grazing in terms of the total ranch economic and biological situation is important.

[2]See Lesperance, A.L., J.A. Young, R.E. Eckert, Jr., and Raymond A. Evans. 1978. Great Basin wildrye. Rangeman's J. 5:125-127.

Note on Winter Grazing

Despite the fact that the Union Pacific Railroad distributed thousands of copies of Dr. Latham's booklet, apparently only a dozen copies of the original edition survived and only perhaps one copy is in a private collection. The booklet was reprinted by the Old West Publishing Company of Denver, Colo., in 1962 with an excellent introduction and appendix prepared by Jeff C. Dykes.

The Grazing Lands Forum: What It Is and Is Not

Evert K. Byington

The Grazing Lands Forum (GLF) is an organization of representatives from existing organizations interested in various aspects of grazing land stewardship. It hopes to focus interest on the use of our grazing lands by providing a forum for those who wish to engage in a factual dialogue on the future of these lands and to share the results of this dialogue with the public. GLF is not a formal organization. At present it is an educationally oriented ad hoc group working toward creating a formal nonlobbying, nonprofit organization by the end of 1984.

This article explains some of the what, where, why, how, when, and who of the GLF.

What Will the Grazing Lands Forum Do?

The mission of the GLF will be to improve management of grazing lands through programs to increase knowledge, understanding, and awareness. This will be done by sponsoring an open forum to improve communications and understanding among all those interest groups active in grazing lands use. Improved communications should help member organizations in the following activities:

1. Identify, describe, and stimulate factual analysis of the complex issues and options affecting grazing lands.
2. Encourage the development, maintenance, and use of a standardized, quantitative national grazing-lands-information base to support informed decision making.
3. Develop and implement educational strategies and projects to increase public awareness and appreciation of grazing lands—particularly in cooperation with other organizations having active programs related to grazing lands use.

Thus the GLF will concentrate on promoting the assembly, processing, packaging, and dissemination of factual information on the nature, extent, and use of all the nation's grazing land.

Where Are the Grazing Lands the Grazing Lands Forum Will Address?

The GLF will focus on those lands in the United States that provide forages for livestock and wildlife grazing. These include range, pasture, and forest lands, plus lands that provide harvested forages essential to the use of grazing lands, and croplands that are periodically grazed. Since economic, social, and environmental factors affecting grazing lands frequently cross national borders, the GLF will encourage participation by grazing lands organizations in other countries, particularly in North America.

Why a National Focus on Grazing Lands?

Over 800 million acres of the 50 states are being grazed by livestock—that's one acre in every three! In addition, there are hundreds of millions of acres that could be used for livestock grazing should the need arise. In 1978, the farmgate value of ruminant livestock was $51 billion or 40% of the nation's agricultural output. But livestock products are just one of the benefits that come to us from our pasture and rangelands. These lands provide a large part of our wildlife habitat, recreational opportunities, forest products, and water and air sheds; and they are a colorful part of our heritage.

Despite this vast contribution, Americans seldom think of our grazing lands as one of our great natural resources. Why is the general population so poorly informed about the value of these lands? Unfortunately, much of the fault is with us, the ones who care the most. We are not doing an adequate job of public education.

In this increasingly complex world, there is a tendency to become specialized—academically, geographically, and by user groups. (1) Academic and geographic specialization have given us two major grazing land types: *pasture* (per-

The author is a range scientist with Winrock International. Peter Jackson, Executive Vice-President of the Society for Range Management, is one of the founding members of the Grazing Lands Forum.