## Why Not Say It the Way It Is!

The value of range forage on the public lands of the West can be pointedly demonstrated by considering herbage as a source of energy for the production of table meat in the following manner. Let us assume that the conventional practice of raising beef calves on the range followed by finishing these animals in the feedlots is reversed. Thus the cow-calf operations would be carried out in total confinement on mixed rations and the offspring would be finished to high good grade of marketable meat on the public ranges during the spring and summer grazing season. Based on this assumption the actual energy and food potential of the native forage resource on public lands can be presented in the proper perspective.

During the past five years or so, we have commonly heard or read reports from economists, preservationists and nature lovers that livestock grazing on public lands is of little or no economical consequence. This philosophy is based on the biased reasoning that the forage resource on public lands furnishes less than four percent of the total feed requirement for table red meat from lamb and beef in the United States. Certainly such reports do not adequately evaluate the true worth or this renewable source of energy. Other

reports have stated that the total meat produced from public range lands approximates two hamburgers per individual in the United States per year. Thus, these reports suggest that it might be well to forget the forage resource on public lands because of it's apparent inconsequential input into table red meat. Logical evidence shows that such reports are short sighted, biased, and distort the true value of range forage on public lands.

Let us consider the value of the range resource on public lands, both real and potential, in a true sense of importance to man's welfare. The first consideration is the capturing of the sun's energy and the fixation of this solar energy in the form of chemical energy. This chemical energy is passed on in livestock production and is essential for man's sustenance. The future certainly dictates that we manage the herbage resource on the basis of efficient energy conversion for food at a tremendously high degree of intensive concern and use.

Studies by the author during the past 25 years suggest that range lands of the Western U. S. produce about 1,536 megacalories of gross energy per acre. This production figure assumes about equal proportions on mountain, foothill and desert ranges respectively. During the spring and summer while vegetation is growing this gross energy is, on an average, 60 percent digestible by sheep and cattle. Therefore, some 922 megacalories of digestible energy is available on each acre of native rangeland (1536 $\times$ 60% = 922). For discussion purposes, we can suppose that 50 percent of this herbage can be removed as forage under intensive and efficient management systems and still provide for sustained yield of herbage over time. Therefore, 461 megacalories (922 $\times$ 50%) of digestible energy per acre is available for fattening steers or lambs when utilized during the spring and summer grazing season. This range herbage is actually capable of producing finish on a steer to the degree of high good or a low choice grass fat animal which is considered an adequate quality of marketable table meat similar to meat that is consumed in much of the Western World today.

According to recent surveys, there are some 275 million acres of public rangelands in the West. Consequently, approximately 127 billion megacalories of digestible energy are produced annually on public lands (275,000,000 $\times$ 461 megacalories of digestible energy per acre = 127,000,000,000). Approximately eleven megacalories of digestible energy are required to produce one pound of beef in the form of steer gain during the spring and summer from range forage. Therefore, this 127 billion megacalories of digestible energy produced on public rangelands is capable of producing 11.5 billion pounds of beef (127 billion $\div$ 11 = 11.5 billion pounds).

Finally, if the solar energy fixed in the range forage on public lands is converted at optimum levels of efficiency each individual in the United States could received about 56.7 pounds of beef from this range forage yearly (11,500,000,000 lbs. of beef from range forage $\div$ 203,000,000 people in U.S. = 56.7 pounds).

Furthermore, the 11.5 billion pounds of potential beef from range forage on public lands is equal to 55 percent of the total beef production in the United States at the present time (11.5 billion pounds potential from public rangelands $\div$ 21 billion pounds total = 55 percent). Stated in other terms, the forage resource on public lands is capable of furnishing enough energy to produce about 52 percent of the total beef consumed per capita in the United States at the present time. The per capita consumption of beef in the United States at present is about 110 pounds of carcass weight per year. Therefore, the 56.7 pounds per capita potential from range forage on public lands is about 51.5 percent of the meat annually consumed by each individual (56.7 $\div$ 110 = 51.5%).

At the moment, the great potential of stored solar energy in rangeland herbage is not being used at optimum to meet national food needs. However, someday it may be sought to feed our rapidly growing population. The rangeland herbage not only fixes great quantities of solar energy for food but it also purifies the air and furnishes protection for watersheds.

From this discussion we can see that if the feeders were to produce the weaner calves from ration feeding of the cow-calf herds in total confinement, and the range forage on public lands were used only to fatten steers during spring and summer, the capability of this forage resource could produce more than one-half of the total finished beef normally consumed by the entire population in the United States. Since all life on earth is dependent upon energy fixed in plants, it is more reasonable to evaluate the importance of the forage resource on the basis of energy conversion and transfer rather than the distorted calculations made by biased estimates of biased individuals.—*C. Wayne Cook*, Range Science Department, Colorado State University, Fort Collins.

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**SRM Annual Meetings**

**1972**—Washington, D.C.
Marriott Twin Bridges
February 5–11

**1973**—Boise, Idaho
Rodeway Inn
February 11–16