THE FERTILIZATION AND MANAGEMENT OF GRASSLANDS

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Several years ago it was estimated (~) that our livestock population consumed about three-fourths of the product of our improved land. In addition to that it used practically all of the product of the humid and arid grazing lands of all descriptions. Altogether, there were used for forage, 1,312 million acres out of a total of 1,903 million acres of land surface in the continental United States. Furthermore, the 231 million acres of humid grassland pastures, constituting only about one-fifth of the entire grazing area, supplied more than one-half of the forage. The significance of these figures will become more apparent when we come to consider the carrying capacity of grasslands and the relation of treatment to carrying capacity. Before we do so, however, it would be well to note certain facts that have a bearing on the utilization of pastures.

In humid regions soil type, the botanical character of the pasture plants, the intensity of grazing, and the use of lime, fertilizer, and tillage implements all serve to influence the economic returns. Beyond that, the age and species of the grazing animals and the character of supplementary feeding, if any, also play an important rôle. Obviously, then, differences in the carrying capacity of pastures must be due to one or more of these factors. When lack of water becomes a major limiting factor, the differences in carrying capacity become more striking. Thus, the 587,000,000 acres of arid and semiarid pasture and range can support, on the average, only one animal unit on each 24 acres (~). On the worst part of this area there is scarcely forage enough on 100 acres to support one animal unit during the grazing season. The entire area maintained, in 1920, but little more than 24,000,000 animal units, or about 22% of the livestock population in the country. As against that, the humid grassland was able to carry one animal unit on about 5 acres. Better still, the 60,000,000 acres of improved pastures in farms are able to carry one animal unit on each 2½ acres.

How much room is there for further improvement? An answer to this question may be found by an inquiry into the carrying capacity of pastures in certain European countries. Such an inquiry will show...