TECHNIC IN PASTURE RESEARCH

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TECHNIC in pasture research is an extremely broad subject. Not only does it include most of the agronomic research methods, but also, as the word "pasture" implies, is directly concerned with animals. Thus, in pasture research, we must take into consideration the effects of numerous factors on the pasture and on the grazing animals and also the effects of animals on the pasture. Even if the author were capable of discussing intelligently the endless details involved in pasture research, space will not permit such a discussion in this paper. For many pasture research situations, the report of the joint committee of the dairy and animal husbandry specialists and agronomists gives procedures that had the general approval of experienced investigators. Therefore, such important phases of technic as uniformity in the physical and chemical characteristics of soil; replication, size, and shape of plats or other cultural units; repetition over a period of years to obtain a representative cross-section of the weather; and the need for care in performing all operations, will not be discussed here. This paper will be confined to a few topics peculiar to this relatively new subject, "pasture experimentation".

GRAZING VERSUS MECHANICAL HARVESTING OF HERBAGE

In farm practice, the primary difference between pasture and other forage crops is that the former is harvested by animals, the latter by tools or machines. In pasture research, both methods are employed. It is pertinent to inquire what significance the data from machine-harvested plats have. No one knows the answer, but there are available some interesting facts.

Animals exercise preferences both for kinds and parts of plants in their grazing. For example, Stapledon (7) found that sheep ate much more of some species than others and more leaf than stem in all species. As a consequence of animal preferences, the herbage of grazed and mowed plats may, in time, differ markedly in botanical composition. The importance of these differences would depend on many factors, including the type of sward and animal, the time and rate of stocking, and soil fertility or fertilization.

Animals void a large proportion of the fertilizer elements consumed in their feed. This is particularly true of nitrogen and potassium. That the previous use of the land may have a very important bearing on its response to fertilizers may be illustrated by some observations made at the Storrs Agricultural Experiment Station. There, a meadow runout by the mowing and removal of hay crops responds

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1 Contribution from the Department of Agronomy, Connecticut (Storrs) Agricultural Experiment Station, Storrs, Conn. Also presented before a joint session of the Northeastern Section of the Society and Section O of the American Association for the Advancement of Science at Atlantic City, N. J., December 29, 1936.
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3 Figures in parenthesis refer to "Literature Cited", p. 476.