THREE YEARS RESULTS WITH AN INTENSIVELY MANAGED PASTURE

D. S. Fink, G. B. Mortimer, and E. Truog

It is becoming well recognized that permanent pastures in this country are no longer producing profitably, nor as they should. In many cases the fertility of the soils has become depleted. Until recent years, systematic rotational grazing has been practically unknown, and the restitution of grazed away fertility, likewise, has rarely been practiced. Although bad grazing practices undoubtedly have been an influence in reducing the productivity of these pastures, unpublished data from the Wisconsin Agricultural Experiment Station show that this is inconsequential compared to the major ill of depleted fertility. For the most part, because of improper management, these pastures have been allowed to drift into a deplorable condition. For the past several years the Wisconsin Station has carried on extensive investigations relative to grazing management and fertilization, and this paper is a progress report on one phase of the work, having to do with systematic rotational grazing and heavy fertilization, especially with nitrogen.

ORIGIN OF THE INTENSIVE SYSTEM OF PASTURE MANAGEMENT

Rotational grazing has been practiced to a certain extent in England and other European countries for many years. In Germany, during the early part of the nineteenth century, Falke\(^3\) carried on extensive pasture investigations involving not only systematic rotational grazing, but also the use of artificial fertilizers. It was, however, not until near the close of the war and thereafter that commercial nitrogen fertilizers became cheap and plentiful enough to make heavy nitrogen fertilization practical in conjunction with systematic rotational grazing. The urgent need of vast quantities of nitrogen compounds for the manufacture of explosives for war purposes brought about the perfection of the methods of manufacturing these compounds synthetically so that the free nitrogen of the air could be utilized on a grand scale.

In Germany, as a result of the war, there thus existed on the one hand an abundance of nitrogen compounds that might be used either for explosives or fertilizers, and on the other, a deficiency of concentrates for the feeding of dairy cows and other livestock. Impelled by this situation, Professor Warmbold at the Hohenheim Station, in 1916, inaugurated the most thorough and searching experiment of the time to test a system of pasture management involving not only

---

\(^{1}\)Joint contribution from the Departments of Agronomy and Soils, University of Wisconsin, Madison, Wis. This work was supported in part by a fellowship grant from the American Cyanamid Company, New York City. Published with the permission of the Director of the Wisconsin Agricultural Experiment Station. Received for publication November 14, 1932.

\(^{2}\)Fellow, Professor of Agronomy, and Professor of Soils, respectively.

\(^{3}\)Falke, F. Die Dauerweiden, Bedeutung, Anlage, und Betrieb derselben unter besonderer Berücksichtigung intensive Wirtschafts Verhältnisse. Hanover, Germany. 1907.