GREEN MANURING: A REVIEW OF THE AMERICAN EXPERIMENT STATION LITERATURE.¹

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Introduction.

The use of clover or of some other legume in the rotation is generally considered to be a cardinal agricultural practice in the humid sections of the United States. Without attempting to trace the development of this practice, which is an old one, it may be pointed out that in 1794 Thomas Cooper described a rotation of corn, wheat, clover two years, as being practiced by the best farmers in Pennsylvania. This is the most common rotation of today throughout the northeastern United States. The belief that clover was valuable as a soil improver rested first on experience and later, when the relation between the legumes and the nodule bacteria was discovered, men felt that the faith founded on experience had been justified by science.

Many researches were made in which the tops and roots of clovers were analyzed, the quantities of nitrogen stored determined, and conclusions drawn as to the degree to which the soil must be enriched by the growth on it of a vigorous crop of clover.

Other legumes have come into use in the territory not well adapted to red clover, as the cowpea, Japan clover, and bur clover in the South, and crimson clover on the Atlantic Coast. The main function of all these is to maintain fertility or improve run-down soils. If these crops really fulfill this function the result should be larger crops following the legumes and the experience of farmers seems to warrant the conclusion that such is the case. It has been the practice of the American experiment stations to test many, if not all, of the common beliefs of agriculture to find how well founded agricultural practice is and how improvements might be made if needed. That the value of clover or other legume in the rotation or as a green manure would be so tested was to be expected. Therefore, it has seemed worth while to examine the literature of American experiment stations and to bring together our knowledge of this subject with such critical comment as may be warranted.

¹ Contribution from the Office of Forage-Crop Investigations, United States Department of Agriculture. Publication authorized by the Secretary of Agriculture. Received for publication December 9, 1916.