THE FERTILIZER REQUIREMENT OF HAGERSTOWN SOIL

F. D. Gardner

The best evidence relative to the fertilizer requirements of the Hagerstown soils is afforded by the field experiments at the Pennsylvania State College. The Jordan soil fertility plats, now 52 years old, and the phosphorus plats that have been in progress for 16 years, afford much data relative to the fertilizer requirement, and some relative to changes in requirements, for this soil.

Twenty to 30 years of crop removal along with different systems of manuring and crop rotations must bring about soil changes so that the fertilizer requirements of one decade are sure to be somewhat modified in succeeding years.

Both the old Jordan fertility plats and the more recent phosphate plats are laid out in four tiers of plats and devoted to a 4-year crop rotation consisting of corn, oats, wheat, and mixed clover and timothy. The old plats are 1/8 acre each and the phosphorus plats 1/10 acre each and are long and narrow with permanent grass strips between. They are subject to uniform treatment adapted to the crops grown. Fertilizers, manure, and other treatments are applied to the corn and to the wheat but not to the oats or hay. All operations are as uniform as possible so that the differences in yield may be attributed wholly to the differences in fertilizer treatment.

A chemical analysis of the soil representative of the College farms shows an abundance of potash and a very moderate supply of phosphoric acid, as follows:

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2Professor of Agronomy. The writer acknowledges the helpful suggestions and data on nitrogen losses supplied by Professor J. W. White.