THE RELATIVE VALUE OF THE ANNUAL WHITE, THE BIENNIAL WHITE, AND THE BIENNIAL YELLOW SWEET CLOVERS

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INTRODUCTION

The wide spread attention given to the discovery and development of the annual white sweet clover has resulted in the expression of keen interest with regard to the merits of this clover in comparison with the biennial sweet clovers with which it is found to be in competition in some respects.

Until recently the limited amount of the annual white sweet clover seed available made it impossible for this plant to become established over any large area, or for its practical worth to be identified. Since this clover produces seed the same year that it is sown, it has been possible to develop rapidly and to extend greatly its use.

The value of the biennial sweet clovers has long been recognized, as they occupy a well defined place in the agriculture of the upper Mississippi Valley. Their use is chiefly as a pasture crop, altho in regions where they are well adapted they are grown to a considerable extent for hay and for green manuring purposes. Under certain conditions, the more rapidly growing annual white sweet clover is better suited to such uses than are the biennial sweet clovers.

Because of the growing interest in annual white sweet clover, a series of investigations have been conducted in Minnesota to learn more about the characteristic properties and behavior of this clover in comparison with the biennial white and the biennial yellow sweet clovers. Due to the fact that the sweet clovers are sensitive to acid soil conditions, and to a lesser degree, possibly, to climatic changes, the investigations were arranged to incorporate the wide range of environmental differences found in this state. A series of plot trials were laid down at the central station at University Farm, St. Paul, Minnesota, and also at the branch stations located at Crookston, Waseca and Duluth.

The chief points of interest in this investigation are the yields of forage, the quantities of roots remaining in the soil, and the ac-

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