METHODS OF APPLYING INOCULATED SOIL TO THE SEED OF LEGUMINOUS CROPS.1

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INTRODUCTION.

The beneficial interrelationship between leguminous crops and certain bacteria in utilizing the free nitrogen of the air has been known since 1886. Since that date various practices in securing inoculation for leguminous crops have been worked out. It has been found that the particular bacteria needed for a certain group of crops may be isolated and increased as pure cultures and so distributed. Various pure cultures have been put out from time to time. The earlier and some of the later attempts in the preparation of pure cultures have not always been entirely satisfactory and hence the soil transfer method has been used very widely. This consists of transferring to the new field and scattering thoroly from 100 to 300 or more pounds of soil per acre from a nearby field which has grown a legume and which is known to have the necessary bacteria present.

Transfer of this amount of soil for each acre in which the plants are to be supplied with bacteria for short distances involves only the labor of hauling and scattering, which is considerable, while for greater distances the additional expense of freight must be considered.

To reduce the expense of the soil transfer method the practice of

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