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SEED TREATMENT and INOCULATION OF LEGUMES

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SEED TREATMENT AND INOCULATION OF LEGUMES

J. L. Weihing and D. L. Gross

Recently the question has been raised as to the advisability of using seed treatment materials on legume seeds that have been, or are to be inoculated with nitrogen-fixing bacteria.

Seed treatment materials are used to protect the seed and seedling from invasion by disease organisms that may retard or prevent growth of crops. These materials also destroy beneficial bacteria. In fact the legume bacteria are more easily killed than many of the disease organisms. It would seem therefore that it would be unwise to use seed treatment materials on legume seeds that require inoculation.

What then should be done to assure maximum returns from a legume crop? In view of the above considerations, no practical recommendation can be made that will cover all circumstances, but the following procedure seems best. (1) It is advisable to inoculate, if the legume to be planted has never before been grown on that soil. Even though a legume had been grown on the land a number of years previously, it still may be advisable to inoculate, in order to insure the presence of a highly active strain of nodule bacteria. (2) Where obtaining a stand is difficult, soil samples should be tested, and lime applied if the test shows a deficiency. (3) Many soils in Nebraska are too low in phosphorus for alfalfa and clover. Superphosphate fertilizer should therefore be tried when seeding these crops, especially on soils where their growth has not been satisfactory. (4) If the preceding three steps fail to obtain a stand, treat the seed and rely upon the natural occurring nodule-forming bacteria of the soil for nodulation.

Prepared by the Departments of Plant Pathology and Agronomy, cooperating.