CALCIUM AND HYDROGEN-ION CONCENTRATION IN THE GROWTH AND INOCULATION OF SOYBEANS

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The common failure of legumes on sour soils has led us to believe that the soil acidity, or degree of reaction, is responsible. Little attention has been given to the deficiency of calcium as the possible cause, and further consideration needs to be given the question whether legume failure is caused by the harmful effects of the excessive degree of acidity, or by the failure of the plants to obtain sufficient calcium. In mineral, humid soils, the increased deficiency of calcium usually parallels the excessive degree of acidity (6). Also the use of calcium carbonate on sour soils functions both to supply calcium and to reduce the degree of acidity. Thus, the two possible causes have not

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3Reference by number is to “Literature Cited,” p. 806.