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INFLUENCE OF INOCULATION ON LEAF AREA DRY MATTER AND NITROGEN ACCUMULATION IN LEGUMES

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ABSTRACT

Leaf area, dry matter and nitrogen accumulation of inoculated and uninoculated soybean CV. Covernia-5, phaseolus Cv. Motalskobelia, pisum Cv. psayvnoe Nemechvckoe-766 and Lupinus Cv. Jultoe Bistro rastioushi-4, were studied in podzol soil during 1979, 1980 and 1981 at Moscow Agricultural Academy Timiryazev. Leaf area, dry matter and nitrogen accumulation were better in inoculated than uninoculated legumes. From the data it was observed that in dry seanon; leaf area, dry matter and the accumulation of nitrogen was decreased. Amongst various ontogenetic stages, leaf area and dry matter of the plants increased with the age of plants and decreased after seed formation. It was observed that nitrogen contents of various parts of plants decreased with passage of time but rate of decrease was more, during seed formation.

INTRODUCTION

Well nodulated legumes are capable of obtaining a portion of nitrogen from the atmosphere by symbiotic nitrogen fixation particularly when inoculated with an effective strain of the Rhizobium. Usually, less than half of the total nitrogen in plants is derived from biological N_2-fixation Hardy et al., (1971) Ashour et al.(1969) found that the inoculation alone or application of nitrogenous fertilizer alone increased the dry matter and nitrogen content of legumes. Jamro et al. (1986) reported.that dry matter