

EFFECT OF NITROGENOUS FERTILIZER ON DM AND N ACCUMULATION AND SEED YIELD OF FIELD BEANS

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ABSTRACT

The influence of nitrogenous fertilizer on dry matter, nitrogen content and seed yield of nodulated, non-nodulated field bean Cv. Motalskobelia was studied at Moscow Agriculture Academy.

The dry matter accumulation increased and nitrogen accumulation decreased with the passage of time. The application of nitrogenous fertilizer to the nodulated and non-nodulated field beans increased the dry matter, nitrogen content in all the parts and seed yield was higher in inoculated field beans with fertilizer followed by non-nodulated with fertilizer and nodulated and non-nodulated without fertilizer. The data showed that inoculation and application of nitrogenous fertilizer as basal dose is essential for better dry matter, nitrogen accumulation and seed yield of field beans.

INTRODUCTION

Phaseolus vulgaris L. (Field beans) received N from the soil, fertilizer and by fixation of atmospheric N, like other leguminous crops through a symbiotic relationship with rhizobium phaseoli. A well nodulated phaseolus is capable of obtaining a portion of its nitrogen from the atmosphere by symbiotic N fixation when nodulated with effective strain of rhizobia. As the large amount of nitrogen required in the short growth period of field beans for the development of plant. Weber (1966) used nodulating and non-nodulating isolines of soybean to examine this question after showing that these lines gave the same yield when grown with adequate nitrogenous fertilizer. Allos and Bartholomelo (1959) concluded that about one and half to three quarters of the total nitrogen for maximum yield is generally supplied by the nitrogen fixation and no better yield was obtained from nitrogen fixation and no better yield was obtained from nitrogen fertilized non-nodulating lines than from unfertilized nodulated plants and well nodulated soybean variety gave no significant yield response to nitrogen fertilization. Dart and Wildon (1970) reported that starter doses of nitrogen stimulated