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THE USE OF ATMOSPHERIC NITROGEN BIOLOGICALLY FIXED AS AN ALTERNATIVE FOR NIROGEN CHEMICAL FERTILIZERS IN VEGETABLES ECOLOGICAL CULTIVATION

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SUMMARY

In Arad agro-ecological area were carried out some researches for peas and garden bean crops. The results of these studies recommend the use of Biotrofin biofertilizer as an alternative for chemical fertilizers nitrogen based, unaccepted by ecological vegetable gardening.

INTRODUCTION

Biofertilizers' industry has developed very much in the last period. Being based on the capacity of soil bacteria to symbiotically, associative or freely fix atmospheric nitrogen and give it to plants in an accessible form together with other bioactive substances such as phyto-hormones (auxines, gibberellins, citokinones), this industry doesn't pollute the environment and presents favourable effects for remaking soil's biodiversity (Panea, T. şi colab., 1998).

RESULTS AND DISCUSSION

The experiment was carried out between 2001-2005 for peas (Bordi variety) and garden bean (Volja variety) crops. Excepting proposed variants, there were followed specific techological steps. The study reffered to three graduated factors, in part for every year: biofertilizer's way of administration (seeds treatment and soil pulverization), bacterization (bacterizated and unbacterizated) and chemical fertilizers nitrogen based (30-120 kg a.s/ha). The bacterial product used was Biotrofin (10 l/ha).

CONCLUSIONS

By applying Biotrofin treatment, the obtained results demonstrate its favorable influence for both garden peas (160-310 kg seeds/ha) and garden bean (180-390 kg seeds/ha) crops. Appliance of nitrogen fertilizers at soil's preparation moment produced yield's increases of 270 kg seeds/ha for a dose of 60 kg a.s/ha. Higher doses are not justified by economical point of view. Administration of Biotrofin through pulverization at soil's preparation moment produced significant yield's increases for both crops (160-310 kg seeds/ha).

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