RESEARCH REGARDING THE FERTILITY CONDITION OF FARM LAND IN ORDER TO IMPROVE SOIL AND PROFITABILITY THROUGH DIFFERENTIAL FERTILIZATION

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Abstract

Nowadays the real problems regarding agriculture are the need of food production in larger quantities and the need of protecting the resources of soil and its fertility. As a consequence, the current trends are increasingly based on the adoption of sustainable agriculture through the implementation of agricultural practices aimed to protect the environment while meeting the nutritional needs of a growing population. The application of chemical and organic fertilizers plays an important role in the process of maintaining the soil productivity and that is the reason why it must be done with discernment. The productivity of the crop depends very much on the degree to which the nutrient requirements of the plants are met, avoiding situations where some elements are in excess or deficit. The researches were conducted in the lands managed by I.I CIUBOTARU BOGDAN, territory of Spineni, Iasi County. In order to determine the state of soil supply in macronutrients accessible to plants, multiple average agrochemical samples were taken from every land parcel of the farm, at the depth range of 0-20 cm using the equipment consisting of ATV HONDA 750 + auger sampler WINTEX 1000. The results obtained identifies the range of variation of the soil reaction, i.e. pH 7.5-8.1, resulting in a slightly alkaline soil reaction. The nitrogen index value on which we evaluate the nitrogen supply status of soils ranging between 2.0–4.3%. The accessible phosphorus content varies between 16-67 ppm, so the level of phosphorus in soil is low to good, and the available potassium content has values between 236-460 ppm, indicating that the soils are very good provided with potassium. Humus is present in a percentage between 2.0 and 4.8%, indicating a wide range of content.

Key words: differential fertilization, macronutrients, soil fertility