

**SOIL FERTILIZATION IN CONTROLLED REGIME:
ADVANTAGES OF MICRO GRANULATED FERTILIZERS**

**FERTILIZAREA SOLULUI ÎN REGIM CONTROLAT:
AVANTAJELE UTILIZĂRII ÎNGRĂȘĂMINTELOR MICROGRANULATE**

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Abstract: *An important part in increasing the agricultural production and in obtaining a high operating efficiency and superior quality is taken by soil fertilization in controlled regime using micro granulated fertilizers.*

Rezumat: *O importanță deosebită în sporirea producției agricole, în obținerea unei eficiențe ridicate și a unei calități superioare, o are fertilizarea solului în regim controlat folosind îngrășăminte microgranulate.*

Key words: *micro granulated fertilizers, granulated fertilizers, fertilization, advantages*
Cuvinte cheie: *îngrășăminte microgranulate, îngrășăminte granulate, fertilizare, avantaje*

INTRODUCTION

In order to achieve an important increase of farming productions for different crops chemical fertilizers will be used in rational manner. In addition, the rest of production features will be taken in consideration. Between those factors, there are interdependency and mutual limitations, which mean that any restriction coming from significant factors leads to the changes of the remaining features ratio.

Fertilizers applications using the same doses and in the case of the same crops will not necessarily have the same efficiency in each year. In addition, the effectiveness can show a discrepancy from farm to farm.

MATERIAL AND METHOD

In order to observe the effect of micro granulated fertilizers, the following experiments were conducted in experimental field:

- Positioning the experimental devices in experimental field;
- Crop treatment using fertilizers;
- The examination of the development for vegetation period for crops used in experiment.

The researches were conducted in USAMVB Didactical Station experimental field using Alex variety.

Fertilizers, which are used for the experiment, are micro granulated fertilizers 11.45.0 + 18 SO₃ + 1.8 Zn and bi-ammonia 16.48.0.

The experiments were kept under observation regarding the soil and plant modifications.

RESULTS AND DISCUSSIONS

The figure 1 shows crop productivity following the application of micro granulated fertilizers.

The major particularity of agriculture from material production point of view consists in the following: - the soil function in the same time as a working object as well as a working means. Therefore, the soil is considered the main revenue of agriculture production, the one without agriculture cannot be practiced.

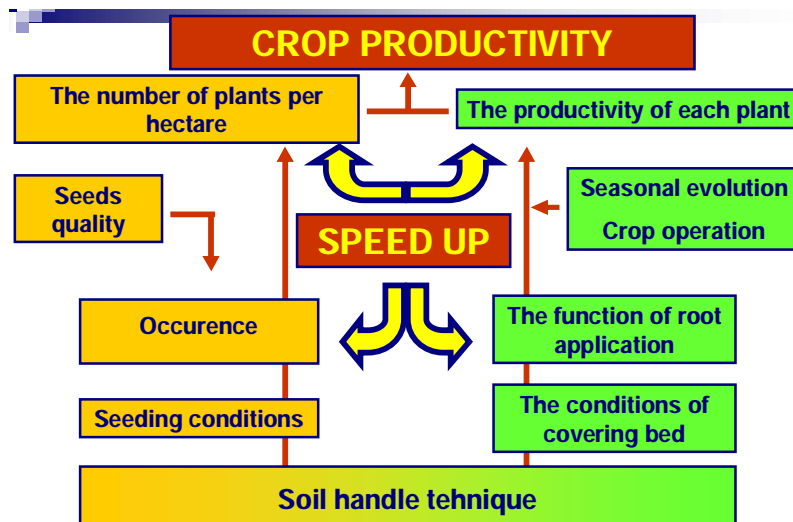


Figure 1. Crop productivity following the application of micro granulated fertilizers

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The table 1 and figure 2 presents several comparisons between micro granulated fertilizers 30 kg/ha which contain 11.45.0 + 18SO₃ + 1.8 Zn and granulated fertilizers, phosphate bi-ammonia 200 kg/ha which contain 16.48.0.

Table 1

Comparison between micro granulated fertilizers and phosphate bi-ammonia
(number of fertilizers grains per dm^3 fertilized soil)

Fertilizer	Medium diameter (mm)	Fertilizers dose (kg/ha)	No. grains per fertilizers dose	No. grains per dm^3 soil
Micro granulated fertilizers	0.7	30	200 mil	3000
Phosphate bi-ammonia	3.0	200	9 millions	150 (located) 10 (dispersion)

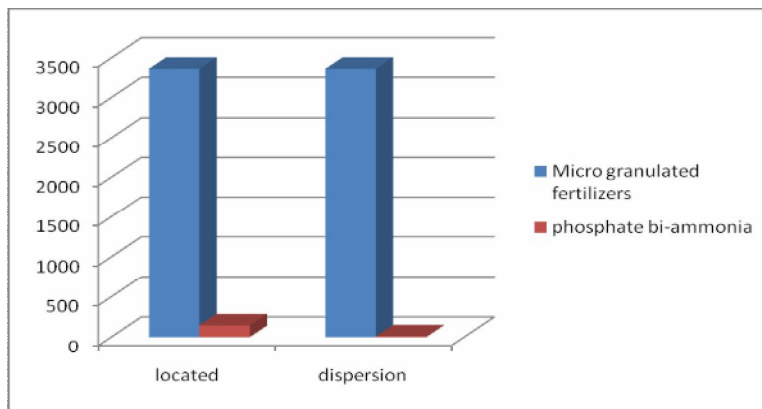


Figure 2 Comparison between micro granulated fertilizers and phosphate bi-ammonia

These figures point out very distinctively the differences between the two types of fertilizers. The features taken under consideration are diameter (mm) and the number of grains plant in the soil per dm^3 .

The figure 4 shows the starter effect of micro granulated fertilizers. This effect leads to a well-developed reticular system as well as to a thicker plant parcel. In addition, this effect increases plant resistance to winter climate conditions.

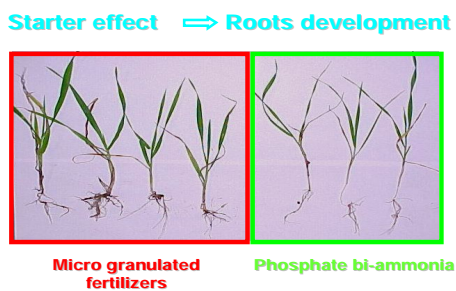


Figure 3. The effect of micro granulated fertilizers upon roots development

Agriculture is a non-polluted branch if taken in consideration the characteristics of his natures. The use of small quantities of chemical fertilizers contributes to soil, water and air multiple pollution decrease.

CONCLUSIONS

The use of micro granulated fertilizers together with seeds in the seeding machine hopper (which may be mechanical or pneumatically) eliminates the classical fertilization work. This imply the removal of well known disadvantages provoked by soil settlement, fuel consume and un-uniform distributions.

LITERATURE

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