ORGANIC FERTILIZERS AND THEIR USAGE

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ABSTRACT

In the article, we analyze the organic manures (based on their classification and their characteristics) as well as their use in agricultural production.

KEYWORDS: manures, composts, green manure, micro-organisms, fermentation, dehydrate, humus, nitrogen, vegetation.

The organic fertilizers might as well be considered as soil improving matters, since they increase the macro and micro element contents in the soil as well as the organic matter and humus contents, the biological activity and improve the physical-chemical characteristics. These effects are especially conspicuous in poor quality soils, but the best quality chernozem soils need them too.

The organic fertilizers can be grouped as follows:

1. Manures and composts
2. Green manures
3. Plant, stubble and root residues
4. Other fertilizers

1. Manures and composts

Out of the organic fertilizers the good quality manures, which consist of the solid and liquid faeces and litter, are at the first place. The fresh manures from the stock-yards cannot be used immediately, because the good quality is provided by the suitable storing and curing. The purpose of curing (fermentation) is to humificate the components of the manure, the straw would decay, and the manure would be a homogenous, loose mass to ensure even distribution.

2. Green manure

Green manures have a past of several thousand years, however they were effaced by the spreading use of manures in the 19th and by chemical fertilizers in the 20th century. Due to the objectives mentioned in the Introduction the significance of green manures increased again in the third millenary. Certain EU supports even determine the use of green manures as a prerequisite.

3. Plant, stubble and root residues

Out of the fertilizing materials listed here it is the root residues that have the greatest importance. The roots of cultivated plants play a significant role in the maintenance of the fertility, digestion of nutrients and improving the structure of 4 the soil. They have a great advantage on the organic manures that they homogenously net in the soil and in this way the organic material distribution is even. The digested nutrients keep transforming and they are continuously available for the plants.

4. Other fertilizers

Turf (peat) is also suitable for organic fertilizing but primarily to correct the harmful characteristics of manures and sub serve composting. Its advantages are the great hygroscopic ability and bactericidal effect, which facilitate the use of malodorous materials and the considerable decrease of the number of pathogens. Turf also diminishes the nitrogen loss of the manure. The exploitation of peateries are allowed only under strict regulations.

Bacterial fertilizers are not novel, however brilliant achievements of science. Their principle is to beneficiate the flora of the free living, nitrogen-fixing bacteria in

the soil, so the use of chemical fertilizers containing nitrogen is unnecessary. One well-known product is the BioNitroPhos, which has the following advantages:

- the bacteria-product contains cellulose- and lignin-degrading fungi
- lignin is the main component of humus, this is why it is important to degrade stem and root residues,
- it is produced weekly only on order, so it can preserve its quality,
- environmentally friendly solution,
- improves soil structure,
- phosphorus digestion according to demand,
- 50-60kg nitrogen active agents develop in the soil when applying a dose of 10 l/ha; this amount from a chemical fertilizer would cost twice as much.

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