Influence of applying different composts in fertility of soil and fruitfulness of cotton plant

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Abstract: *This article describes the effectiveness of preparation and use of compost by mixing various organic wastes in order to improve the fertility of soils in the current state of local fertilizers. It is given when using various composite composts in decreasing of soil capacity weight increasing of pariferousness, promoting of active nitrogen, phosphorus anal potassium in soil in the certain quantity, intensive, developmental growth of cotton-plant and providing high quality yields.*

Key Words: *Fertility of soil, humus, soil weight capacity poriferousness, food elements, compost, organic mineral, various wastes, developmental growth of cotton-plant, qualitative yield.*

1. INTRODUCTION:

It is important to ensure efficient and fruitful agriculture using irrigated land in rural areas, in this case the main task is improving and increasing the fertility of soil, it acts for rearing heavy and qualitative crop production. And this has always been one of the most update tasks.

Nowadays due to applying large quantities of organic minerals, there is observed a sharp change in soil composition of organic matter, decreasing the quantity of soil year by year, confusion of biological balance of soil, and decreasing the fertility of soil. It has brought serious problems in the development of agriculture.

The world farming experiment indicating that, the fertility of soil closely dependent on the given quantities of minerals.

As a rule the effectiveness of minerals are indicated with taken quantities extra yields.

S.Azimbaev and others [1] writes, that consumption of various waste composts in pure form or in conjunction with mineral fertilizers allows a large amount of organic substance to accumulate in the soil. In the experiment due to applying composts also obtains to diminish the harmful cations in the soil. Thus shows that applying natural substance and composts give positive effects to the properties of soil.

According to the researchers, due to applying composts as the result of increasing of humus quantify will increase activeness of microorganisms and will be excessive of soil fertility. That gives an opportunity of rearing an ecologically pure production in the agriculture, productivity will be high, also income will increase [2; 3; 5; 6].

Intensive use of land, the confusion of objective laws of nature and the error methods on managing of farming will not increase. It is known, nature has not diminish “law” of soil fertility. However, ignoring the real laws of farming is a violation of it, or, if the nutrients from the soil are sown with the crop, but if there substances do not return to the soil, the soil fertility will definitely decrease.

On condition the irrigated farming not to cared about fertilizing, nowadays is observed diminishing the humus quantity in the soil. To prevent the diminishing the quantity of humus, we should apply more local minerals, composts and organic wastes.

It present time, the production and use of composts with the mixing of various organic waste in improved soil fertility in the conditions of domestic fertilizer deficiency ensures ecologically high yields of agricultural crops.

When used with 15-20 tons per hectare of homemade compost, the amount of humus is increased in the soil.

2. MATERIALS AND METHODS:

Field experiments are carried out by the Tashkent State Agrarian university research and development experimental station in typical gray soils.

Experiments were in 9 variants and 4 repetitions, which were applied in the first control variant organic minerals $N_{200}P_{140}K_{100}$ kg/ha, in the second variant to minerals extra NPK + manure (dung) 10 tons/ha, in the third variant NPK + manure (dung) 20 tons/ha, in the forth variant NPK + compost -1 (rice plant and sawdust 25 %, husbandry dung 25%, poultry dung 45%, phosphorus gypsy 5 %) 10 tons/ha, in the fifth variant NPK + compost -1 20 tons/ha, in the sixth variant NPK + compost -2 (rice plant and sawdust 25 %, husbandry dung 25%, poultry dung 35%,

phosphorusgypsy 15 %) 10 tons/ha, in the seventh variant NPK + compost -2 20 tons/ha, in the eighth variant compost -3 (rice-plant and sawdust 25 %, husbandry dung 25%, poultry dung 25%, phosphorusgypsy 25 %) 10 tons/ha, and in the ninth variant NPK + compost -3 20 tons/ha.

Experimentation was carried out the bases of "The methods conducting the field experiments" (2007).

3. RESULTS AND DISCUSSION:

In the experimentations were taken results soil fertility of various composts and improving the physical properties of water, also increasing the productivity of cotton - plants.

According to the results it was found that the poriferousness of the soil increased by 2,4-3,2 % in composted versions of 20 t/ha. Also were observed on the condition of applying various composts of humus quantity in the soils versions by 0-30 sm. layer at the end of the vegetation in comparatively increased by 0,105 -0,15%, active nitrogen 1,8-3,3 mg/kg, active phosphorus 3,0-4,0 mg/kg and active potassium in control versions. It can be said the positive effects of composts indicate the improved soil fertility.

At the same time, the effect of application of various composite composts on growth and development of cotton was determined. According to the data, the height of the cotton stalk was 88,0 sm. as of August 1, while the highest indicator was the compost -2 20 t/ha the elements of the product are high. Being the yield elements of the cotton plants main indicators, in the version fertilized by compost-2 20 tons/ha yield elements of cotton plants was high. The cotton plant`s yield branch was 15 as of august 1, general cotton golls were 13 as of September 1.

Also, it was observed that the yields of cotton plants increased by compost applied versions, comparatively in control versions has obtained 5-7 centner/ha extra yields. It can be seen, as the result of improving of effective fruitfulness of soil, it will entirely provide higher fertileness of crop production (**Figure**).

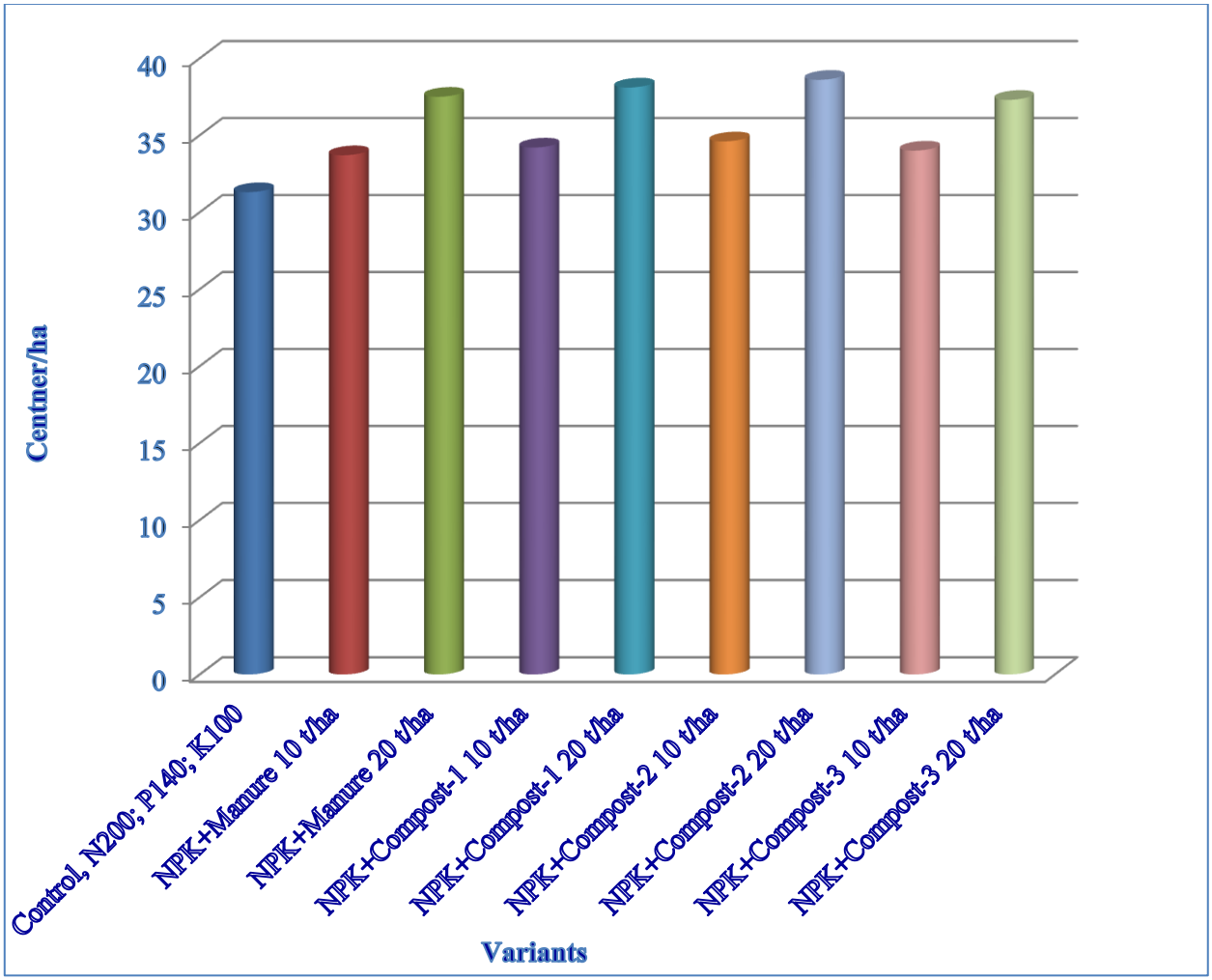

Figure. INFLUENCE OF APPLIED VARIOUS COMPOSTS TO COTTON YIELDS, (CENTNER/HA)

4. CONCLUSION:

Thus, we can say that the preparation of composts for the production of fertilizers, to phosphoriumgypsy husbandry manure, poultry manure and various wastes and its use at 20 t/ha are effective for improving anal maintaining soil fertility, and quality of yield.

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