To protect the soil from irrigation erosion , methods of increasing productivity of the soil and fertileness of winter wheat

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Introduction. According to the lecture of the department of "Food andagriculture" of the UN on the theme "The degradation of soil and water resources,food safety - developing threat " 28% of the land that is used nowadays encountered with degradation, and also 8% is medium and 36% of the used land remained stable and only 10% is considered as improving lands among the lands that is used in the world.

Due to the opinions of the specialists, 4 mln ha land encountered degradation through the world and 55,7% of them influenced the process of irrigation erosion, 27,9% of the land influenced the wind erosion, 12,2% of them get worse because of lessening of minerals, the process of saline, obstruction and acid process and 4.2% of the land encountered degradation due to condensing and morossing, drowning. Generally speaking as a result of degradation every year 7 mln ha land goes out from the usage as a field of agriculture and this disturbs the population of the world.

The sowing area is an important part of the economy of Uzbekistan. All the sowing area of our republic is 4064.7 thousand ha including 3307,3 thousand ha irrigated lands and this is 16,2% of the land that is used for agricultural purposes of Uzbekistan. The 682,4 000 ha land is faced with irrigation erosion from the irrigation lands and the indication of this in Samarkand region is 121,9 thousand ha. Because of the influence of irrigation erosion in the irrigated land the 150- 200 tons fertile soil and together 600- 700kg humus, 100-200kg nitrogene, 150-160kg phosphorus, 190-210 kg potassium and other useful feeding minerals is washed off for per ha as a result it decreases the productivity of the soil and fertileness of grain crops up to 30-40 %. Therefore to protect the irrigation erosion and increasing the fertileness of winter wheat and the soil is demand of our time and is considered as significant task.

The object and the subject of the research. As an object of the research is taken typical virgin land that is faced with irrigation erosion and have different fertileness and widely spread in Samarkand region , the sort of winter wheat "Jasmina", different amount of manure, nitrogen to potassium and phosphorusand way of ploughing, different quantity of phosphoric fertilizer.

The research was carried out the typical virgin land encountered irrigation erosion in the farms that 2are specialized for growing winter wheat in Bulungur and Payarik district of Samarkand regionduring. According to these recommendation all the phonological observations and biological measurements in the experimental field were carried out in 4 repetition, the grunt water in 12-15 meter depth, the slope of the land is 0,004-0,005, the measure of each field 480-620 m^2.

The result of the research: The amount of silt in first and second irrigation of the winter wheat in the typical virgin lands that encountered irrigation erosion was different according to agro technical work. For example, the amount of the silt in overflow in the first and second watering was 18,2- 19,4 % without manure in the experimental field. It was 1.26- 2.62kg/l in the fields that used 2 ha manure before tillering and when the manure used 5 t/ha after sowing

the winter wheat on the surface of the soil and bottom of the row the flowing was 3.52- 3.72 ha/l.

Due to the influence of irrigation first of all, most humus, less nitrogen, phosphorus and potassium storage is washed off. If we count the amount of the flowing as physical fertilizer, this will show that in the position period of winter wheat from each ha field medium0,53 center ammonium nitrate, 0.89 center superphosphate and 0.46 chlorine potassium is washed off.

In our research the agro technical action ploughing is considered the main way of increasing fertileness of grain crops and decreasing the negative results of erosion process and save the soil and increase its productivity. For example, after sowing winter wheat the surface of the soil and the bottom of the rows were ploughed with 5 t/ha manure the harvest was 48.6 c/ha in the part of the land that was not washed off, 44.3 c/ha in the strongly washed off part and 49.4 c/ha in the lower part where all minerals are gathered. In the fields without manure crop harvest was less 11.9 c/ha than 20 t/ha manure used field and also in that fields got 5.1 c/ha extra harvest. According to this fertileness of the land that filled with minerals is higher than the part of the land that was not washed. For that reason we increased the amount of fertilizer in the strongly washed off part of the land and in this case we can increase the productivity of the land and also it gives an opportunity to lessen the norm of the fertilizer up to 30-40 in the condition of typical virgin land in the bottom part because of flowing.When we used the way of ploughing in contour method in the typical virgin land and using fertilizer differently on the basis of NK showed that the crop harvest reaches 21.5c/ha in the part of the experimental field without manure and was not washed off part using only NK added the harvest up to 14.2 c/ha, when using phosphoric fertilizer from 60 kg to 180kg on the basis N_{200} K_{100} the extra crop harvest was22.7- 30.8 c/ha. In the strongly washed off part of the experimental land the crop harvest was 17.3 c/ha, when adding N_{200} K_{100}fertilizer the crop harvest was 31.5 c/ha. According to our research phosphoric fertilizer 60-180 kg/ha on the basis N_{200} K_{100} kg/ha the crop harvest will be 43.7- 53.8 kg/ha or this basis provides gaining 12.2- 22.3 c/ha extra crop harvest.

As we mentioned above, the crop harvest was higher in the fields that are gathered minerals minerals that was not washed off fields or especially strongly washed of parts when using phosphoric fertilizer in high norm (100,140,180 kg/ha P_2O_5). For example, the crop harvest was 22 c/ha in the bottom part without any manure or fertilizer and harvest was 36.3 kg/ha only N_{200} K_{100} basis part , and on the basis of the fertilizer used with 60 kg/ha P_2O_5 the crop harvest was49.5 c/ha or 13.2 c/ha was higher than the basis variant. Increasing the norm of the phosphoric fertilizer on the basis of NK from 100 kg/ha up to 180kg/ha provided only 1.1-2.1 c/ha extra crop harvest than the basis variant.

We should emphasize that in our research the productivity of phosphoric fertilizer increases in the washed off part than the part that was not washed off, contrarily it decreases in the bottom part where feeding elements are gathered.

That`s why using fertilizer distinguished while rearing winter wheat in the condition of irrigation erosion the typical virgin lands of Samarkand region gives chance to rear the same crop harvest in every part of the land and it saves the fertilizer. As a result it gives economical profit and it increases the fruitfulness of the soil and also with the help of it we can save our ecology, water resources from obstruction with fertilizer.

Conclusion. For getting high crop harvest from winter wheat in the typical virgin land that encountered irrigation erosion we should put t/ha manure, make ploughing in contour method (across to the slope of the field) in 30- 32 sm depth, after sowing winter wheat tillering

the surface of the soil and bottom of the rows with 5 t/ha manure, using fertilizer in the part that was not washed off N_{200} $P_{140}K_{100}$ kg/ha, in the strongly washed off part N_{200} $P_{112}K_{80}$ + 20t/ha manure and the bottom part that feeding elements gathered decreasing the norm of nitrogen and potassium 30-40% 60kg/ha P_2O_5 and it makes comfortable condition for feeding. Therefor the root system of the winter wheat grows well and it lessens flowing of the minerals and soil improves the protection of the soil, its fertility will grow and we can gain as high crop harvest (53,5- 55.7 c/ha) in the washed off part as in the was not washed part too. We rear high quality crop harvest and we gain high economical productivity and also we save ecology from the obstruction that causes mineral fertilizer.

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