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Research Article

Phytomeliorative Events for Combat Desertification

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Abstract

Annotation: The rational use of the soil cover of the republic in agriculture today is one of the important problems. Soil erosion, causing enormous damage to agriculture. It has a negative effect on the economy of the state, since meadows and pastures, losing their potential fertility, in turn worsen the feed base. As a result of erosion processes, the most fertile upper accumulative horizon is swept away under the influence of wind and water. Washing away the nutrients of the soil, erosion affects the water-physical properties of the soil, reduces microbiological activity, and the subsurface aeration is disturbed. Lack of oxygen and nutrients, impaired structure in the aggregate affect the growth and development of natural vegetation, leading it to a gradual degradation. On the other hand, abnormal livestock grazing also reduces the productivity of hayfields and pastures. Therefore, in today's market relations, raising livestock and improving feed supply depends on the rational use of land. However, it should be noted that aridization of the climate on the Absheron Peninsula, combined with environmental pollution, intensifies pasture degradation. According to the International Convention to Combat Desertification (UNCCD), adopted by the International Community, an integrated approach is needed to tackle the problem of dryland degradation.

Keywords: Soil; Desertification; Erosion; Deflation; Pastures; Fertilizers; Mineral Perennial Grasses; Yield

Introduction

In Modern market relations one of the important tasks of agricultural production is the rational use of soil cover, protection from erosion processes and other negative factors leading to the sinking, in order to raise Economy of the Republic. As you know, soil erosion causes huge damage to agriculture, being a natural factor of nature, in addition to the anthropogenic load, it reduces the productivity of pastures, hayfields, pasture. Irrational use of pastures, pasture, irregular unsystematic grazing of cattle from year to year reduces productivity of valuable fodder grasses and thus creates conditions for strengthening of erosion.

Degradation of soil and plant cover in the arid zone together with pollution of the environment, with additional economic activity of the person contributes to the development of the desertification process. Under This situation, Professor B. G. Aliyev for the first time developed mathematical modelling of the development of desertification in Absheron Peninsula, on the basis of which the spread of the process of the emptied No In the region. Thus, the exact estimation of natural and anthropogenic factors on the process of desertification is given. It Should also be noted that the aridization climate in the Absheron peninsula increases the degradation of pastures. According to the International community, a holistic approach is needed to address the problem of dryland degradation.

Research Facility and methodology

Studies were carried out on the Absheron peninsula on eroded gray-brown soils. Field experiments are laid by the method of B. A. Armour in 3 h multiple repetition according to the following scheme: 1. Control without fertilizers natural grass. 2. Lucerne + Meadow-grass and pasture. 3. Espartset + grassland Meadow + pasture. 4. Espartset + злаковые + $N_{30}P_{30}K_{30}$ Kg/GA. 5. Lucerne + злаковые + $N_{30}P_{30}K_{30}$ Kg/GA. 6. Espartzet + Cereal + $N_{45}P_{45}K_{45}$ Kg/GA. 7. Lucerne + Cereal + $N_{45}P_{45}K_{45}$ Kg/GA. The Aim of the research is to study the development of desertification in the Absheron peninsula and to develop activities to combat desertification.

Results and Discussion

Eroded Grey-brown soils of Absheron Peninsula are characterized by low content of humus, gross nitrogen, nutrient elements, absorption capacity of investigated soils low, carbonate soils boil in the presence of NSL.

The Results of the research found that in the control without fertilizers in 0-30 cm layer of humus content amounted to 1.03%, while under the sowing of alfalfa with grasses 1.34%, but to the hanging fertilizer at the calculation $N_{30}P_{30}K_{30}$ Kg On rThe content of humus increased to 1.46%, and in the variant with the use of mineral fertilizers at the calculation of $N_{45}P_{45}K_{45}$ kg per hectare amounted to 1.48% (AB. 1). The same similar pattern is observed in determining the content of gross nitrogen, i.e. in the control version of the gross nitrogen content was 0.044%, and under the crops of perennial and cereal grasses with the introduction of mineral fertilizers the content of gross Nitrogen increased from 0.044% to 0.098%. Mineral fertilizers also affect the absorption capacity of exchange chestnuts "Are" And "Mg", exerting great influence on soil properties and living conditions of agricultural plants. When the absorbed cation is dominated by calcium, which has a strong co-regulating effect, the soil colloids are in a coguliable state, which contributes to the formation of water-resistant aggregates and the creation of a good soil structure. Absorbed calcium, precipitating organic and mineral colloids helps to conserve and accumulate them in the soil and increase the absorption capacity. From Table 1 It is visible that in the control variant without fertilizers the sum of cations (Sa + Mg) amounted to 19.5 m. ЭSq. On 100 g of soil, but at the introduction of mineral fertilizers under the sowing of perennial and cereal grasses the sum of exchange cations increases. (AB. 1). It Should also be noted that the content of different forms of phosphorus in the soil depends on its content in the mother breed, on the degree of weathering, on the content of organic matter in the soil. Plants also absorb phosphorus in the form of anion H_2 After$_4$, therefore, the introduction of soluble phosphate fertilizers has a beneficial effect on the productivity of sown herbs. From the data shown in table 1 it is clearly seen that in the unfertilized counter in May-June the content of P_2O_5 amounted to 7.8 to 3.5 mg per 1 kg of soil.

However, under the crops of perennial and grass grasses there is a tendency to increase.

When studying the influence of mineral fertilizers and perennial grasses on the structural-aggregate composition of gray-brown soils, it was revealed that at Natural travail (Control B/UD) the number of aggregates larger than 1 mm was 35.79%, water-resistant 15.62. However, in the variants with the sowing of perennial and cereal grasses and with the introduction of mineral fertilizers, the number of aggregates larger than 1 mm increased, the same trend is observed in respect of water-resistant aggregates [1-6].

Experience Options	Depth In cm	Humus %	Nitrogen %	P_2O_5 mg/kg for 100 g soil		Content (Sa + Mg) M. Eq. 100 g soil
				May	Jun	
1. b/Fertilizer Control Natural Lawn	0-30	1,03	0,044	7,8	3,5	19,5
2. Lucerne + cereals + Herbs	0-30	1,34	0,078	8,0	4,1	20,0
3. Espartset + grass Grasses	0-30	1,26	0,070	8,0	4,0	22,0
4. Espartset + Cereals + $N_{30}P_{30}K_{30}$	0-30	1,40	0,084	8,3	4,2	22,5
5. Lucerna + cereals + $N_{30}P_{30}K_{30}$	0-30	1,46	0,095	9,2	4,8	24,0
6. Espartset + Cereals + $N_{45}P_{45}K_{45}$	0-30	1,44	0,096	8,6	5,7	21,5
7. Люцерна + cereals + $N_{45}P_{45}K_{45}$	0-30	1,48	0,098	9,4	6,0	25,0

Table 1: Influence of M the Nogoletних Herbs and Mineral fertilizers on Nutritional Elements and absorption capacity of gray-brown soils.

Options Experience	Depth in cm	Faction							
		>7	7-5	5-3	3-1	1-0,5	0,5-0,25	<0,25	>1
1. b/Fertilizer Control Natural Lawn	0-30	11,0 -	0,10 2,0	12,61 4,92	12,08 8,70	41,08 14,60	19,60 26,48	3,54 43,30	35,79 15,62
2. Lucerne + cereals + Herbs	0-30	18,00 2,0	7,00 2,6	11,56 4,2	11,65 9,2	25,89 19,00	18,96 21,00	6,94 42,00	48,21 18,00
3. Espartset + grass Grasses	0-30	13,70 -	8,70 4,7	14,40 3,7	14,26 14,5	27,26 15,5	15,68 23,00	6,00 38,60	51,06 22,9
4. Espartset + Cereals + $N_{30}P_{30}K_{30}$	0-30	15,70 -	9,92 2,6	12,99 4,4	13,99 9,4	34,78 19,4	8,62 21,0	4,00 41,20	52,60 16,4
5. Lucerna + cereals + $N_{30}P_{30}K_{30}$	0-30	10,20 -	11,91 4,7	12,00 3,4	30,9 14,6	13,00 13,8	19,99 20,4	2,00 40,7	65,01 22,7
6. Espartset + Cereals + $N_{45}P_{45}K_{45}$	0-30	16,0 -	11,14 -	16,00 3,4	16,08 4,6	25,02 10,00	10,00 20,40	5,76 39,20	59,22 18,00
7. Alfalfa + Grass + $N_{45}P_{45K4}5$	0-30	17,99 -	10,98 5,2	16,74 5,2	15,78 9,2	18,51 16,0	16,00 28,4	4,00 36,00	61,49 19,06

Table 2: Effect of mineral fertilizers and M The year lies Herbs on Structural-aggregate composition of eroded soils pasture.

Conclusions

Based on the results of research carried out on the grey-brown soils of the Absheron Peninsula, it has been established that perennial grasses in mixed crops with cereals and mineral fertilizers have had a differential impact on the improvement of basic Fertility parameters of eroded soils. Thus the content of humus increased from 1.03% to 1.48%, total nitrogen from 0.044 to 0.098% of exchange chestnuts from 19.5 to 25.0 m EQ/100 g of soil. The Number of aggregates more than 1 mm increased from 35.79% to 61.49%, water-resistant from 15.62 to 19.6%. It Should also be noted that the roots of perennial and cereal grasses decompose, leave in the bakatnom layer a large amount of organic material, which through the cycle of biochemical processes improve the nutrient regime of the soil, beneficially affect the yield Agricultural pastures, which is seen as a method of combating desertification.

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