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Evaluation Of Agro-Industrial Characteristics Of Beylagan Region's Land Cover On The Example Of 1st Shahsevan Village Of Beylagan Region

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ABSTRACT

It was determined by the research that the object of research was excavated plots of land with a total area of 1776.99 ha, and their morphological features were described by genetic layers. yes; Clean pasture-147.58ha; Reed pasture-6.83 ha; Shrub pasture - 4.25 ha; Other lands-942.10 ha; The area set aside was 7.2 hectares. Based on the results of field research and laboratory analysis, a soil map was compiled on topographic bases and an explanatory report was written. Professor R.H.Mammadov's scale was used to determine the granulometric composition of soils here. Natural-economic features of the area, including geographical position, relief, agro-climatic elements were studied, soil cover; vegetation. The role of vegetation in the process of soil formation and formation of soil cover, increase of soil fertility with the formation of organic matter depends on the density of vegetation, maintenance of normal soil moisture, reduction of water washing effect, prevention of formation and development of soils and erosion elm, garatikan shrubs, licorice, birch, thyme, chicory, etc. are widely spread in the area from shrubs, suitability of the area for use for grain crops; Soilforming rocks, etc., as well as the great role of the chemical composition of the parent rock in the process of soil formation have been widely studied.

KEYWORDS

Soil cover, soil-forming rocks, soil organic composition, field-soil research, laboratory analysis, gray-meadow, light gray-meadow soils; heavy clay, light clay, etc.

INTRODUCTION

With the adoption of the Law "On Land Reform" on August 2, 1996, which is the basis of agrarian reform, large-scale field land survey work was accelerated in the Republic.

Rules of land survey Prepared in accordance with the Law of the Republic of Azerbaijan, Decree No. 516 of the President of the Republic of Azerbaijan dated May 4, 2015 on amendments to the Decree of the President of the Republic of Azerbaijan No. 116 dated May 4, 2015 "On ensuring the activities of the State Committee for Property Affairs" and other normative legal acts. The research is carried out by the Cadastre and Land Management Project-Research Center subordinated to the Real Estate Cadastre and Address Register Service under the State Committee for Property Affairs of the Republic of Azerbaijan.

In accordance with the requirements of the State Program on Socio-Economic Development of the Regions of the Republic of Azerbaijan in 2014-2018, the establishment of an electronic land registration system in the Republic, regardless of the type of ownership, is used to improve the fertility, restoration, protection and use of agricultural lands. is one of the issues on the agenda now. By the Decree of the President of the Republic of Azerbaijan No. 818 dated March 7, 2016 "On additional measures in the field of regulation of land relations in the Republic of Azerbaijan", a number of tasks were set before the State Committee for Property Affairs of the Republic of Azerbaijan. These include the creation of an electronic land cadastre information system and compilation of a digital cadastral map by electronic conducting registration mapping of state, municipal and privately owned lands.

The total area of the surveyed area was 2719.09 ha, research work was carried out in 1776.99 ha. The area is divided into the following natural farms.

Planting 1611.09 ha

Dinc 7.24 ha

Net grazing 147.58 ha

Reed pasture 6.83 ha

Bush pasture 4.25 ha

Other lands 942.10 ha

During the study, soil sections were excavated in the area and morphological features were described in genetic layers. Soil samples were taken from the excavated sections and analyzed in the Center's laboratory by the following methods:

- **1.** Hygroscopic moisture by thermal method
- Granulometric composition by Kaczynski's pipette method
- 3. General humus by the method of Tyurin
- 4. Total nitrogen By calculation
- 5. Carbonate With a calcimeter device
- 6. Absorbed Ca and Mg by Ivanov method
- 7. Absorbed Na by Hedroyts method
- 8. pH water suspension with pH meter
- 9. Full and brief water weight by Hedroyts method
- 10. Dry residue by weight

Thus, based on the results of field research and laboratory analysis, a soil map was prepared on a topographic basis and a report was written. Archival materials were used in compiling the land map and writing the report.

Professor RH Mammadov's scale was used to determine the granulometric composition.

Natural conditions

Geographical position. First Shahsevan village Administrative Territorial District of Beylagan region, State Land Fund in the north, Second Shahsevan village Administrative Territorial District in the east, Fuzuli district land in the south, Amirzeyidli village Administrative Territorial District in the south-west, State Land Fund in the west and Mil settlement settlement Administrative Territorial and Milabad settlement is bordered by the lands of the Administrative Territorial District.

Relief. Relief, as a structure of the earth's surface, is directly involved in the formation of soil cover as a factor in soil formation.

It plays an important role in changing chemical and biological processes, hydrothermal

regime and microclimate. Thus, the distribution of solar energy and atmospheric sediments is directly related to relief. The relief of Birinci Shahsevan village consists of sloping and slightly sloping plains.

Climate. Climate is one of the important factors as a factor in soil formation. Beylagan region is located in the south of Mil plain.

The climate of the area belongs to the type of temperate-hot semi-desert and dry steppes with dry summers. This type of climate is characterized by very low and low humidity, mild winters and dry summers.

The average annual air temperature is 14.00C. The average monthly temperature in January is 1.80C, and the average monthly temperature in July is 26.00C. The average annual temperature of the soil surface is 18 oC, fluctuating between 2-34 oC per year

Average monthly and annual information on climate indicators.

Table 1

Me		Α	y I	а	r									
st. na me	Climate indicators	I	II	III	IV	V	VI	VII	VIII	IX	х	XI	XII	illik
В	The average temperature of the air, with 0 C	1.8	3.7	6.9	12. 5	19.0	23.3	26.0	25.4	21.1	15.4	9.2	4.2	14.0
Y L A.	Average relative humidity, in%	81	79	78	73	68	60	58	62	70	76	82	82	72
Q	Precipitation, in mm	31	28	32	30	28	26	12	12	21	37	30	25	312
A N	Possible evaporation, in mm	25	28	44	68	107	151	180	154	105	64	36	28	990
	The average temperature of the soil surface	2	5	9	16	25	30	34	32	25	18	10	4	18

VEGETATION

Vegetation is a key factor in the process of soil formation and the formation of soil cover. The increase in soil fertility with the formation of organic matter depends on the density of vegetation. Maintaining normal soil moisture, reducing the washing effect of water, preventing the formation and development of the erosion process are closely related to vegetation.

In the area we studied, shrubs include elm, blackberry bushes, and grasses such as licorice, birch, birch, chicory, etc. spread. The sown areas of the area are used for grain crops.

Soil-forming rocks. Soil-forming rocks affect the granulometric composition, chemical and mineralogical composition of the soil, causing the formation of soil profile and genetic layers. The chemical composition of the

parent rock plays an important role in the process of soil formation. The richer the parent rock, the better the quality of the soil formed on it.

Thus, the areas we studied consist of sloping and slightly sloping plains, and the soils are formed on proluvial sediments.

Ground cover. According to the results of field research and laboratory analysis, the following soil types and subtypes are widespread in the area.

- 1. Gray meadow
- 2. Light gray meadow

I. Gray-meadow soils

Gray-meadow lands cover 458.01 ha or 16.84% of the total area in the eastern and southern parts of Birinci Shahsevan village.

Depending on what the granulometric composition of these soils and the thickness of the soil layer; 1) Divided into heavy clayey, thick, gray-meadow species.

In order to get acquainted with the characteristic morphological features of the studied area, we give a field description of section 22 dug in the field south of Garavelli village.

o-23 cm - gray, large topavari, heavy clayey, soft,roots and rhizomes, boils, less moisture, clear transition. 23-52 cm - light gray, topavari, light clay, low kip, insect tracts, boils, less moisture, gradual transition

52-94 cm - grayish, topavari, light clay, low kip,rust stains, boiling moisture, gradual transition. 94-123 cm - grayish, small topavari, light clay, low kip, white spots, boils, gradual transition to moisture.

123-165 cm - straw, indistinguishable, light clayey, soft, white spots, boils, damp.

It is clear from the morphological description of the section that the color of these soils is gray in the upper layer, light gray and gray in the middle layer, and straw in the last layer. The structure is not selected on the top layer of large topavari, topavari and small topavari on the middle layer, and on the last layer. The granulometric composition is heavy clay in the first layer, light clay in the other layers. The density varies from soft to soft on the top layer, light to soft on the middle layer, and soft on the last layer. Roots and rhizomes, insect tracts, rust spots and white spots are found in new derivatives and nutrients. Hygroscopic humidity is low humidity in the top layer, less moisture and humidity in the middle layers, and moisture in the last layer. The transitions in the genetic layers are clear and gradual.

According to the results of laboratory analysis, the granulometric composition of gray-meadow soils is heavily clayey. However, it is found in light clay in the profile. Thus, the amount of physical clay in these soils is 45.18-49.08% in the upper layers, 43.36-53.20% in the profile. (Table 2)

The hygroscopic humidity of the main components varies between 4.6-5.7%. The total amount of humus is 2.09-2.10% in the upper layers and 0.69-2.10% in the one-meter layer. According to the total humus, the total nitrogen content in the profile is 0.08-0.17%. The pH in the water suspension is 8.10-8.37 units, which indicates that the soil is alkaline. (Table 3). The total amount of absorbed bases in gray-meadow soils is 28.50-35.43 mg. The amount of Ca cation is 66.50-70.18%, Mg cation is 27.19-31.33%, and Na cation is 2.17-2.85% of the total absorbed bases (Table 4).

I Granulometric Composition Of Gray-Meadow Soils (In Absolute Dry Soil, In%)

Table 2

Cut	With depth	Particle s	Particle size in mm, quantity in%								
Nº	cm	1-0.25	0.25-0.05	0.05- 0.01	0.01- 0.005	0.005- 0.001	<0.001	<0.01			
1	2	3	4	5	6	7	8	9			
1. Heavy	clay, thick, t	thick, gray-	grass					1			
	0-23	0.59	27.23	23.10	21.50	17.40	10.18	49.08			
	23-52	0.64	23.48	23.88	21.72	18.20	12.08	52.00			
22	52-94	0.55	24.17	24.12	20.16	19.28	11.72	51.16			
	94-123	0.88	21.96	23.96	21.20	18.24	13.76	53.20			
	123-165	0.67	27.97	21.12	18.88	16.36	15.00	50.24			
	0-23	0.74	32.96	21.12	18.88	16.32	9.98	45.18			
	23-50	0.63	28.61	23.52	19.28	17.20	10.76	47.24			
75	50-97	0.65	34.45	21.54	19.00	15.48	8.88	43.36			
	97-125	0.49	33.29	20.74	19.68	16.88	8.92	45.48			
	125-168	0.73	31.51	21.52	18.72	15.20	12.32	46.24			

I The main components of gray-meadow soils. (necessarily on dry land, in%)

Table 3

		Higros-	General			To CO ₂	pH su					
Cut Nº	With depth cm	kopik moisture	Humus	Nitrogen	CO₂	according to Ca CO ₃	suspenzi- at the age of					
1	2	3	4	5	6	7	8					
1. Heavy	1. Heavy clayey, thick, gray-gra											
	0-23	5.1	2.10	0.17	3.95	8.98	8.18					
	23-52	5.5	1.20	0.11	3.76	8.55	8.19					
22	52-94	5.4	0.69	0.08	4.14	9.41	8.14					
	94-123	5.3			3.57	8.11	8.10					
	123-165	5.7										
	0-23	4.9	2.09	0.17	4.70	10.68	8.34					
	23-50	5.0	1.20	0.11	4.51	10.25	8.30					
75	50-97	4.6	0.85	0.09	4.14	9.41	8.37					
	97-125	4.8			3.95	7.69	8.36					
	125-168	4.9			3.83	8.52	8.33					

I The amount of bases absorbed in the gray-meadow soils(absolute% in dry land

Table 4

Cut	Depth	Winning bases, in mg.ekv			Swallowed of the basics	From the sum of the won bases, %-with		
Nº	in cm	Ca	Mg	Na	in total mg.ekv	Ca	Mg	Na
1	2	3	4	5	6	7	8	9
1. Heavy clay	ey, thick, gray-	meadow				ı		
22	0-23	24.00	10.63	0.80	35.43	67.74	30.00	2.26
22	23-52	21.50	10.13	0.70	32.33	66.50	31.33	2.17
75	0-23	20.75	8.25	0.85	29.85	69.51	27.64	2.85
, , ,	23-50	20.00	7.75	0.75	28.50	70.18	27.19	2.63

II Light gray-meadow soils

Light gray-meadow lands cover 1318.98 ha or 48.51% of the total area, spreading in different parts of Birinci Shahsevan village PPP. These soils are divided into the following types according to their granulometric composition and thickness of the soil layer.

- 1. Light clay, thick, light gray-meadow
- 2. Heavy clayey, thick, light graymeadow

In order to get acquainted with the characteristic morphological features of the studied area, we give a field description of section 16 dug in the field north of Birinci Shahsevan village.

o-21 cm - light gray, lizard, light clay, less kip, roots and rhizomes, boiling, dry, clear transition.21-49 cm - light gray, large topavari, light clay, kip, insect tracks, boils, less moisture, gradual transition 49-88 cm - grayish, topavari, light clay, low kip,

rust stains, boils less moisture, the transition is gradual. 88-120 cm - straw, small clumps, heavy clay, soft, white spots, boils, little moisture transition gradually. 120-161 cm - straw, indistinguishable, heavy clayey, soft, white spots, boils, gradual transition to moisture.

It is clear from the morphological description of the section that the color of these soils is light gray in the upper layer, light gray in the middle layers, grayish and

straw, and the last layer is straw. The structure is clustered in the upper layer, large topavari, topavari and small topavari in the middle layers, and not selected in the layer. The granulometric last composition is light clay in the first layer, light clay and heavy clay in the middle layers, and heavy clay in the last layer. The consistency is less kip in the upper layers, less kip in the middle layers, kip and soft, and soft in the last layer. Roots and rhizomes, insect tracts, rust spots and white spots are found in new derivatives and nutrients. Hygroscopic moisture is dry in the upper layer, slightly moist in the middle layers, and moist in the last layer. The transitions in the genetic layers are clear and gradual.

According to the results of laboratory analysis, the granulometric composition of

light gray-meadow soils is light clayey and heavy clayey. Thus, the amount of physical clay in these soils is 42.20-45.12% in the upper layers, 40.52-46.08% in the profile. (Table 5)

The hygroscopic humidity of the main components varies between 4.2-4.8%. The amount of total humus is 1.68-1.93% in the upper layers and 0.69-1.93% in the onemeter layer. According to the total humus, the total nitrogen content in the profile is 0.08-0.16%. The pH in the water suspension is 8.28-8.35 units, which indicates that the soils are alkaline. (Table 6). The total amount of absorbed bases in light gray-meadow soils is 31.90-46.30 mg.

The amount of Ca cation is 64.26-70.22%, Mg cation is 26.69-32.92% and Na cation is 2.63-3.10% of the total absorbed bases(Table 7).

II Granulometric composition of light gray-meadow soils (necessarily on dry land, in%) Table 5

Cut Nº	With depth	Particle siz	Particle size in mm, quantity in%,								
	cm 1-0.25 0.25-0.05 0.05- 0.01- 0.005- 0.001							<0.01			
1	2	3	4	5	6	7	8	9			
2. Light cla	ay, thick, lig	ht gray-mea	dow								
6	0-25	0.54	27.30	22.00	20.56	19.36	10.24	50.16			
	25-51	0.49	25.43	21.88	20.72	18.56	12.92	52.20			

	51-93	0.63	29.85	20.52	19.40	17.28	12.32	49.00
	93-124	0.77	25.75	22.44	20.00	16.36	14.68	51.04
	124-163	0.54	31.14	20.32	19.88	17.36	10.76	48.00
	0-21	0.81	25.79	22.24	18.96	17.32	14.88	51.16
	21-49	0.96	26.84	21.80	19.72	17.08	13.60	50.40
16	49-88	0.65	23.67	22.44	19.88	18.32	15.04	53.24
	88-120	0.83	32.49	20.52	18.00	16.72	11.44	46.16
	120-161	0.48	29.32	21.4	19.88	17.12	12.16	49.16
	0-24	0.81	23.91	23.12	20.52	18.22	13.42	52.16
	24-55	0.87	23.01	22.88	21.16	17.52	14.52	53.24
42	55-94	0.73	25.35	23.72	21.16	19.24	9.80	50.20
	94-123	0.69	31.31	20.00	18.56	16.84	12.60	48.00
	123-159	0.60	35.86	19.42	17.56	15.48	11.08	44.12
	0-21	0.75	26.93	21.16	19.32	17.36	14.48	51.16
	21-50	0.82	22.64	23.12	21.50	18.52	13.40	53.42
56	50-92	0.94	26.58	22.00	19.68	17.42	13.38	50.48
	92-119	0.86	32.78	19.32	17.24	15.88	13.92	47.04
	119-157	0.75	30.09	20.08	19.20	17.24	12.64	49.08
1.	Heavy clay	ev. thick. lig	tht gray-mea	dow	1	1		ı
	0-23	0.53	31.91	20.20	17.86	16.00	13.50	47.36
30	23-48	0.77	27.79	22.00	19.82	17.36	12.26	49.44
30	48-89	0.49	36.33	18.70	17.24	15.44	11.80	44.48
	89-122	0.52	33.28	20.00	19.28	17.50	9.42	46.20

	122-166	0.99	29.49	21.12	19.88	15.48	13.04	48.40
	0-25	0.69	30.87	20.04	18.24	16.32	13.84	48.40
	25-54	0.82	25.50	23.12	19.64	16.64	14.28	50.56
63	54-91	0.60	35.52	18.56	17.92	15.42	11.98	45.32
	91-122	0.55	37.13	19.32	17.48	13.56	11.96	43.00
	122-164	0.59	31.13	22.12	19.64	17.56	8.96	46.16

II The main components of light gray-meadow soils.(necessarily on dry land, in%)

Table 6

		Hiqros-	General			To CO ₂	pH su
Section Nº	With depth cm	kopik moisture	Humus	Nitrogen	CO ₂	according to Ca CO ₃	suspenzi- at the age of
1	2	3	4	5	6	7	8
2. Light cla	ay, thick, ligh	nt gray-meado	W	1	l		
	0-25	5.3	1.62	0.14	5.26	11.96	8.00
	25-51	5.6	1.14	0.11	4.89	11.11	8.01
6	51-93	5.2	0.81	0.09	5.64	12.82	8.03
	93-124	5.4			5.45	12.39	8.02
	124-163	5.0			5.83	13.25	8.00
	0-21	5.5	1.76	0.15	5.45	12.39	8.22
16	21-49	5.3	1.12	0.11	5.26	11.99	8.21
	49-88	5.6	0.78	0.08	6.02	13.68	8.19
	88-120	4.9			5.83	13.25	8.11

	120-161	5.2			6.20	14.09	8.14
	0-24	5.4	1.56	0.13	5.26	11.96	8.24
	24-55	5.6	1.02	0.10	4.70	10.68	8.22
42	55-94	5.2	0.64	0.08	5.08	11.55	8.19
	94-123	5.1			4.70	10.68	8.25
	123-159	4.7			4.51	10.25	8.20
	0-21	5.4	1.80	0.15	4.14	9.41	8.28
	21-50	5.6	1.08	0.10	4.51	10.25	8.30
56	50-92	5.2	0.84	0.09	4.89	11.11	8.31
	92-119	5.2			4.14	9.41	8.24
	119-157	5.1			4.70	10.68	8.27
3. Heavy	clayey, thick,	light gray-me	adow	1	1		
	0-23	5.3	1.75	0.14	5.83	13.25	8.31
	23-48	5.2	1.00	0.10	6.02	13.68	8.33
30	48-89	5.1	0.79	0.08	6.20	14.09	8.27
	89-122	4.9			5.64	12.82	8.28
	122-166	5.0			5.45	12.39	8.22
	0-25	5.0	1.68	0.14	4.32	9.82	8.18
	25-54	5.4	1.02	0.10	3.95	8.98	8.25
63	54-91	4.9	0.65	0.08	4.89	11.11	8.26
	91-122	4.6			4.51	10.25	8.25
	122-164	4.9			5.08	11.55	8.22

II. The amount of bases absorbed in light gray-meadow soils (absolute% in dry land)

Table 7

Cut, №	Depth in cm	Winning bases, in mg.ekv Ca Mg Na			Swallowed of the basics in total mg.ekv	bases, %-with	%-with		
1	2	3	4	5	6	7	8	9	
2.Ligl	nt clay, thick, lig	ght gray-r	neadow						
6	0-25	20.38	10.00	0.90	31.28	65.15	31.97	2.88	
	25-51	20.13	9.00	0.80	29.93	67.26	30.07	2.67	
16	0-21	19.50	8.75	0.90	29.15	66.90	30.02	3.09	
	21-49	23.00	12.25	1.05	36.30	63.36	33.75	2.89	
42	0-24	20.50	8.13	0.85	29.48	69.54	27.58	2.88	
	24-55	22.25	10.25	0.85	33.35	66.72	30.73	2.55	
56	0-21	24.25	9.63	0.80	34.68	69.93	27.77	2.31	
	21-50	23.00	10.00	0.85	33.85	67.95	29.54	2.51	
3. Heavy clay	yey, thick, light	gray mea	dow						
30	0-23	20.13	8.62	0.95	29.70	67.78	29.02	3.49	
	23-48	21.63	8.75	1.10	31.48	68.71	27.80	3.20	
63	0-25	24.25	9.63	0.70	32.58	74.43	23.42	2.15	
	25-54	22.00	9.00	0.70	31.70	69.40	28.39	2.21	

SOIL SALINIZATION

In addition to field research in the municipal and privately owned and state-owned areas, it is also planned to study the salinity of these lands. For this purpose, soil samples taken from the

surveyed areas were analyzed in the laboratory of the Center and their salinity levels and types were determined. The results of the analysis show that the salinity types of soils in the studied area are chlorinated-sulfate and sulfate.

Classification of soils for cultivated crops according to the degree and type of salinity

Salinity	Types of s	alinity, salinit	y, in%				
gradation %-with	Soda		Chlorinate d	Sulfate - chlorinated	Chlorinate d - sulfated	Sulphated	
	High Alkaline	Neutral,				Gypsum, 1-2%	Gypsum,
Şorlaşmamış	<0,15	<0,20	<0,20	<0,25	<0,40	0,60-0,80	0,80-1,00
Weakly salted	0,15- 0,20	0,20-0,30	0,20-0,40	0,25-0,50	0,40-0,80	0,80-1,00	1,00-1,30
Moderately salted	0,20- 0,40	0,30-0,50	0,40-0,70	0,50-0,80	0,80-1,30	1,00-1,50	1,30-1,80
Severely salted	0,40- 0,70	0,50-0,80	0,70-1,00	0,80-1,30	1,30-1,80	1,50-2,20	1,80-2,50
Very severe Salted	0,70- 1,00	1,80-1,20	1,00-1,50	1,30-2,00	1,80-2,50	2,20-3,00	2,50-3,50
Brine	>1,0	>1,2	>1,5	>2,0	>2,5	>3,0	>3,5

Classification of soils for wild plants by degree of salinity and type

Salinity gradation	Types of sa	linity, salinity	, in%					
%	Soda		Chlorinate d	Sulfated -	Chlorinate d -	Sulphated		
	High	Neutral		d	sulfated	Gypsum,	Gypsum,	
	alkaline					1-2%	>2%	
Not salted	<0,20	<0,25	<0,25	<0,30	<0,40	<0,80	<0,1	
Slightly salted	0,20-0,30	0,25-0,40	0,25-0,50	0,30-0,60	0,40-0,80	0,80-1,20	1,00-1,50	
Medium saline	0,30-0,50	0,40-0,80	0,50-1,00	0,60-1,20	0,80-1,50	1,20-2,00	1,50-2,20	
Severely salted	0,50-0,90	0,80-1,30	1,00-1,70	1,20-2,00	1,50-2,50	2,00-3,00	2,20-3,20	
Very severe salted	0,90-1,50	1,30-2,00	1,70-2,50	2,00-3,00	2,50-3,50	3,00-4,00	3,20-4,50	
Brine	>1,5	>2,0	>2,5	>3,0	>3,5	>4,0	>4,5	

Salinity rates k.t.e.n. Q.Z. Azizov and S.C. Appointed on the basis of the above scale of Orujov: Based on the materials of field research and the results of laboratory analysis, a salinity map of the study area was compiled. All full, brief water weight and dry residue analyzes were used in compiling the map and writing the report.

It is known from the field research materials and the results of laboratory analysis that the studied soils were subjected to the following salinization:

- I. I Not salted
- II. Weakly salted

I Non-saline soils

These lands are distributed in the northeastern and eastern parts of the studied area and make up 1667.12 hectares or 61.31% of the total area.

The granulometric composition of these soils is light clayey and heavy clayey.

In non-saline soils, the amount of dry residue increases and decreases between 0.145-0.647% along the profile. The area is mostly not saline. Non-saline soils are located in light clayey light meadow-gray, heavy clayey meadow-gray, heavy clayey light meadow-gray varieties. In the 0-100 cm layer, the average dry residue for

cultivated plants is between <0.25% in saline-chlorinated soils. <0.40% in chlorinated-sulphate soils, and the average dry residue for wild plants is in saline-chlorinated saline soils. These soils are considered non-saline as they are <0.30% and less than <0.40% in chlorinatedsulphate soils. Types of salinization are sulfate-chlorine and chlorine-sulfate (Table 8).

I Results of complete, brief water absorption and dry residue analysis of non-saline soils (necessarilyondryland,in%/eq)

Table 8

	Depth	Anion	S			Cations			Dry
Cut	in cm							Na +	Residue
N ₀		CO ₃	HCO₃	CL	SO ₄	Са	Mg	The difference	%-with
								according to	
1	2	3	4	5	6	7	8	9	10
1) Light	clay light gra	y-mead	low (chlor	inated-su	lfate)	L	l	L	
	0-25		0.043	0.018	0.140	0.022	0.006	0.057	0.295
	0 23		0.70	0.50	2.91	1.12	0.50	2.49	0.233
	25-51		0.046	0.031	0.170	0.027	0.006	0.076	0.368
	23-31		0.75	0.87	3.54	0.50	0.50	3.29	0.308
6	51-93		0.040	0.027	0.155	0.022	0.008	0.066	0.330
	31 33		0.65	0.75	3.23	1.12	0.63	2.88	0.550
	93-124		0.043	0.022	0.131	0.020	0.006	0.059	0.299
	73-124		0.70	0.62	2.73	1.00	0.50	2.55	0.233
	124-163		0.037	0.022	0.124	0.020	0.004	0.056	0.276
			0.60	0.62	2.58	1.00	0.37	2.43	

			1	1	1			T
	0-24	0.046	0.018	0.118	0.020	0.004	0.054	0.275
	0 24	0.75	0.50	2.46	1.00	0.37	2.34	0.273
	24-55	0.046	0.013	0.112	0.015	0.003	0.056	0.259
	24 33	0.75	0.37	2.33	0.75	0.25	2.45	0.233
42	55-94	0.043	0.018	0.118	0.017	0.004	0.055	0.263
72	33 34	0.70	0.50	2.46	0.87	0.38	2.41	0.203
	94-123	0.043	0.022	0.102	0.017	0.004	0.054	0.260
	34 123	0.70	0.62	2.27	0.87	0.38	2.34	0.200
	123-159	0.043	0.018	0.115	0.017	0.003	0.057	0.266
	123 133	0.70	0.50	2.39	0.87	0.25	2.47	0.200
	0-21	0.040	0.027	0.128	0.015	0.004	0.057	0.259
	0-21	0.65	0.75	2.66	0.75	0.37	2.47	0.239
	21-50	0.043	0.022	0.135	0.020	0.006	0.063	0.312
	21-30	0.70	0.62	2.81	1.00	0.50	2.76	0.312
56	50-92	0.046	0.018	0.120	0.020	0.004	0.055	0.274
	30 32	0.75	0.50	2.50	1.00	0.37	2.38	0.274
	92-119	0.043	0.013	0.132	0.022	0.004	0.059	0.298
	32 113	0.70	0.37	2.75	1.12	0.38	2.57	0.230
	119-157	0.046	0.018	0.130	0.017	0.008	0.057	0.288
	113 137	0.75	0.50	2.71	0.87	0.63	2.46	0.200
	0-25	0.046	0.009	0.048				0.145
		0.75	0.25	1.01				
	25-50	0.049	0.013	0.075				0.225
3		0.80	0.37	1.56				
	50-100	0.043	0.013	0.111				0.332
		0.70	0.37	2.30				
	100-150	0.046	0.013	0.117				0.350
		0.75	0.37	2.43				

	1	1	1	1	1	1	ı
	0-25	0.043	0.018	0.140			0.420
	0 23	0.70	0.50	2.91			0.420
	25-50	0.043	0.018	0.108			0.324
10	25-50	0.70	0.50	2.25			0.324
10	50-100	0.046	0.027	0.060			0.180
	30-100	0.75	0.75	1.25			0.180
	100-150	0.046	0.022	0.052			0.155
	100-130	0.75	0.62	1.08			0.133
	0.25	0.043	0.027	0.050			0.450
	0-25	0.70	0.75	1.04			0.150
	25-50	0.040	0.022	0.080			0.240
13	23-30	0.65	0.62	1.67			0.240
	50-100	0.046	0.018	0.106			0.317
	30 100	0.75	0.50	2.20			0.517
	100-150	0.046	0.018	0.110			0.330
	100 130	0.75	0.50	2.29			0.330
	0-25	0.043	0.022	0.129			0.387
	0-23	0.70	0.62	2.69			0.387
	25-50	0.046	0.018	0.109			0.328
15	25 50	0.75	0.50	2.28			0.320
	50-100	0.049	0.018	0.117			0.350
	30 100	0.80	0.50	2.43			0.550
	100-150	0.046	0.013	0.097			0.290
		0.75	0.37	2.01			0.230
	0-25	0.043	0.022	0.110			0.330
21	0 23	0.70	0.62	2.29			0.550
	25-50	0.046	0.022	0.123			0.370
		0.75	0.62	2.57			

		0.049	0.027	0.134		
	50-100	0.80	0.75	2.79		0.402
	100-150	0.046	0.022	0.139		0.418
	100 150	0.75	0.62	2.90		0.410
	0-25	0.046	0.022	0.128		0.385
		0.75	0.62	2.67		0.555
	25-50	0.043	0.013	0.133		0.400
54	23 30	0.70	0.37	2.78		0.100
	50-100	0.046	0.018	0.103		0.310
	30 100	0.75	0.50	2.15		0.510
	100-150	0.043	0.018	0.072		0.215
	100 130	0.70	0.50	1.49		0.213
	0-25	0.043	0.022	0.105		0.315
	0-23	0.70	0.62	2.19		0.515
	25-50	0.040	0.018	0.101		0.302
58	25 50	0.65	0.50	2.10		0.302
	50-100	0.043	0.022	0.088		0.265
	30 100	0.70	0.62	1.84		0.203
	100-150	0.043	0.022	0.080		0.240
	100-130	0.70	0.62	1.67		0.240
	0-25					0.332
1	25-50					0.290
	50-100					0.345
	0-25					0.497
2	25-50					0.348
	50-100					0.245

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	0-25					0.297
4	25-50					0.228
	50-100					0.240
	0-25					0.447
5	25-50					0.395
	50-100					0.328
	0-25					0.440
7	25-50					0.350
	50-100					0.280
	0-25					0.593
11	25-50					0.635
	50-100					0.480
	0-25					0.485
18	25-50					0.405
	50-100					0.335
	30 100					0.555
	0.35					0.570
10	0-25					0.570
19	25-50					0.385
	50-100					0.260

		,		1	1	
	0-25					0.367
20	25-50					0.318
	50-100					0.265
	0-25					0.415
24	25-50					0.315
	50-100					0.240
	0-25					0.542
43	25-50					0.480
	50-100					0.245
	0-25					0.237
47	25-50					0.200
	50-100					0.195
	0-25					0.150
50	25-50					0.190
	50-100					0.244
	0-25					 0.457
51	25-50					0.396
	50-100					0.312
52	0-25					0.350

	25-50							0.425
	50-100							0.310
	0-25							0.395
53	25-50							0.420
	50-100							0.375
	0-25							0.392
55	25-50							0.408
	50-100							0.320
	0-25							0.160
57	25-50							0.200
	50-100							0.175
	0-25							0.432
59	25-50							0.350
	50-100							0.400
2) Light	clay light gray-m	neadow (sulfat	ed)	I			l	
	0-21	0.040	0.013	0.112	0.020	0.003	0.048	0.246
		0.65	0.37	2.33	1.00	0.25	2.10	
	21-49	$\frac{0.037}{0.60}$	$\frac{0.018}{0.50}$	$\frac{0.118}{2.46}$	$\frac{0.020}{1.00}$	$\frac{0.003}{0.25}$	$\frac{0.053}{2.31}$	0.257
16	40.00	0.046	0.013	0.130	0.020	0.006	0.054	0.204
	49-88	0.75	0.37	2.71	1.00	0.50	2.33	0.284
	88-120	0.037	0.022	0.145	0.022	0.006	0.060	0.308
		0.60	0.62	3.02	1.12	0.50	2.62	

	120-161	$\frac{0.037}{0.60}$	$\frac{0.013}{0.37}$	0.122 2.54	$\frac{0.020}{1.00}$	$\frac{0.006}{0.50}$	$\frac{0.049}{2.14}$	0.256
	0-25	$\frac{0.040}{0.65}$	$\frac{0.022}{0.62}$	$\frac{0.174}{3.62}$				0.522
40	25-50	$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.183}{3.82}$				0.550
49	50-100	$\frac{0.043}{0.70}$	$\frac{0.027}{0.75}$	$\frac{0.102}{2.13}$				0.307
	100-150	$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.092}{1.91}$				0.275
	0-25							0.352
12	25-50							0.400
	50-100							0.210
	0-25							0.362
17	25-50							0.272
	50-100							0.375
	0-25							0.477
36	25-50							0.328
	50-100							0.280
	0-25							0.300
37	25-50							0.270
	50-100							0.186

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	0-25								0.485
38	25-50								0.365
	50-100								0.290
	0-25								0.620
39	25-50								0.550
	50-100								0.425
	0-25								0.547
40	25-50								0.448
	50-100								0.325
	0-25								0.500
41	25-50								0.420
	50-100								0.380
	0-25								0.522
48	25-50								0.475
	50-100								0.340
3) H	leavy clayey	, gray-m	neadow (c	hlorinated	d-sulfate)			<u> </u>	l
	0-23		0.043	0.018	0.115	0.020	0.004	0.056	0.284
	0-25		0.70	0.50	2.60	1.00	0.37	2.43	0.264
	23-52		0.043	0.018	0.128	0.020	0.004	0.057	0.282
	23 32		0.70	0.50	2.54	1.00	0.37	2.49	0.202
	52-94		0.046	0.022	0.112	0.017	0.003	0.057	0.268
	32 34		0.75	0.62	2.33	0.87	0.25	2.46	0.200
22	94-123		0.040	0.018	0.118	0.017	0.004	0.054	0.265
			0.65	0.50	2.46	0.87	0.38	2.36	

	123-165	0.043	0.013	0.117	0.020	0.003	0.052	0.259
		0.70	0.37	2.44	1.00	0.25	2.26	
4) I	Heavy clayey, gi			0.000	0.005		0.000	1
	0-23	0.043	0.022	0.228	0.035	0.009	0.082	0.431
		0.70	0.62	4.75	1.75	0.75	3.57	
	23-50	0.043	0.018	0.199	0.030	0.009	0.070	0.379
		0.70	0.50	0.408	1.50	0.75	3.03	
	50-97	0.040	0.013	0.186	0.032	0.004	0.067	0.356
	30-37	0.65	0.37	3.87	1.62	0.38	2.89	0.550
	07.125	0.046	0.018	0.170	0.027	0.004	0.070	0.240
75	97-125	0.75	0.50	3.54	1.37	0.38	3.04	0.349
	125 169	0.043	0.013	0.155	0.020	0.006	0.064	0.210
	125-168	0.70	0.37	3.23	1.00	0.50	2.80	0.318
	0-25	0.049	0.018	0.166				0.497
	0-25	0.80	0.50	3.45				0.497
	25 50	0.046	0.013	0.150				0.450
29	25-50	0.75	0.37	3.12				0.450
29	FO 100	0.049	0.022	0.133				0.400
	50-100	0.80	0.62	2.78				0.400
	100 150	0.046	0.018	0.123				0.070
	100-150	0.75	0.50	2.57				0.370
		0.043	0.018	0.175				
	0-25	$\frac{0.043}{0.70}$	$\frac{0.010}{0.50}$	3.64				0.525
		0.046	0.018	0.140				
	25-50	$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.140}{2.91}$				0.418
74								
	50-100	$\frac{0.046}{0.75}$	$\frac{0.013}{0.27}$	0.112				0.335
		0.75	0.37	2.32				
	100-150	0.049	0.013	0.101				0.302
		0.80	0.37	2.10				

	0-25	0.043	0.022	0.172		0.515
	0-25	0.70	0.62	3.57		0.515
	25-50	0.046	0.018	0.157		0.470
76	23-30	0.75	0.50	3.26		0.470
/ 0	50-100	0.040	0.020	0.163		0.490
	30 100	0.65	0.75	3.40		0.430
	100-150	0.046	0.018	0.129		0.386
	100 150	0.75	0.50	2.68		0.500
	0-25					0.602
26	25-50					0.550
	50-100					0.490
	0-25					0.435
27	25-50					0.310
	50-100					0.390
	0-25					0.647
28	25-50					0.588
	50-100					0.520
	0-25					0.495
65	25-50					0.530
	50-100					0.380
68	0-25					0.460

	25.50		ı	ı		1	0.366
	25-50						0.360
	50-100						0.272
	0-25						0.392
69	25-50						0.315
	50-100						0.270
	0-25						0.365
70	25-50						0.320
	50-100						0.275
	0-25						0.590
71	25-50						0.450
	50-100						0.270
	0-25						0.437
72	25-50						0.505
	50-100						0.335
	0-25						0.352
73	25-50						0.310
	50-100						0.275
77	0-25						0.562
	25-50						0.520

	50-100								0.450
78	0-25								0.482
	25-50								0.512
	50-100								0.380
	0-25								0.285
79	25-50								0.325
	50-100								0.250
5) I	Teavy clayey,	, light gr	ray-meado	ow (chlori	nated-su	lfate)			
,	0-23		0.046	0.036	0.120	0.017	0.004	0.069	0.310
	0 23		0.75	1.00	2.50	0.87	0.38	3.00	0.510
	23-48		0.043	0.022	0.103	0.017	0.003	0.055	0.263
		0.70	0.62	2.21	0.87	0.25	2.41	0.263	
30	48-89	3-89	0.040	0.022	0.099	0.015	0.003	0.054	0.245
30	40-03		0.65	0.62	2.06	0.75	0.25	2.33	0.243
	20_122	0.043	0.027	0.112	0.017	0.003	0.062	0.278	
	09-122	89-122	0.70	0.75	2.33	0.87	0.25	2.66	0.278
	122-166		0.043	0.018	0.120	0.015	0.003	0.061	0.280
			0.70	0.50	2.50	0.75	0.25	2.70	0.280
	0.25		0.043	0.027	0.128	0.020	0.004	0.063	0.202
	0-25		0.70	0.75	2.66	1.00	0.37	2.74	0.302
	25.54		0.046	0.022	0.135	0.020	0.006	0.062	0.211
	25-54	-54		0.62	2.81	1.00	0.50	2.68	0.311
62	54-91		0.046	0.018	0.146	0.025	0.004	0.061	0.314
63	54-91		0.75	0.50	3.04	1.25	0.37	2.67	0.314
	01,122		0.043	0.013	0.125	0.022	0.003	0.053	0.275
	91-122		0.70	0.37	2.60	1.12	0.25	2.30	0.275
	122-164		0.043	0.018	0.118	0.020	0.003	0.055	0.269
	122 104		0.70	0.50	2.40	1.00	0.25	2.41	0.203

			1	1			
		0.049	0.018	0.094			
	0-25	0.80	0.50	1.96			0.282
	25-50	0.046	0.018	0.101			0.304
35		0.75	0.50	2.11			
	50-100	0.043	0.018	0.087			0.262
	30 100	0.80	0.50	1.82			0.202
	100 150	0.043	0.013	0.078			0.225
	100-150	0.80	0.37	1.63			0.235
	0-25	0.043	0.022	0.150			0.450
	0-23	0.70	0.62	3.12			0.430
		0.046	0.018	0.107			
	25-50	0.75	0.50	2.22			0.320
61		0.040	0.018	0.090			
	50-100	$\frac{0.040}{0.65}$	$\frac{0.010}{0.50}$	1.87			0.270
	100-150	0.043	0.018	0.077			0.230
		0.70	0.50	1.60			
	0.25						
	0-25						
31	25-50						0.410
	50.400						0.220
	50-100						0.320
	0.25						0.260
	0-25						0.260
67	25-50						0.250
	F0 100						0.245
	50-100						0.245
6) I	leavy clayey, light	gray-meado			· · · · · · · · · · · · · · · · · · ·	<u> </u>	
	0-25	0.040	0.027	0.138			 0.415
45		0.65	0.75	2.88			0.413
45	25 50	0.043	0.022	0.158			
	25-50	0.70	0.62	3.30			0.475
				5.50			

		0.046	0.022	0.184		
	50-100	0.75	0.62	3.83		0.552
	100-150	0.046	0.013	0.176		0.528
		0.75	0.37	3.66		
	0-25	$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.177}{3.68}$		0.530
66	25-50	$\frac{0.046}{0.75}$	$\frac{0.013}{0.37}$	$\frac{0.143}{2.98}$		0.425
66	50-100	$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.127}{2.65}$		0.382
	100-150	$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.117}{2.43}$		0.350
	0-25					0.425
32	25-50					0.375
	50-100					0.402
	0-25					0.165
33	25-50					0.186
	50-100					0.175
	0-25					0.612
34	25-50					0.528
	50-100					0.425
						0.55
44	0-25					0.365
	25-50					0.320

	50-100				0.440
	0-25				0.475
46	25-50				0.386
	50-100				0.245
	0-25				0.582
60	25-50				0.500
	50-100				0.528

II. Weakly saline soils

These lands cover 109.87 hectares or 4.4% of the total area, spreading in different parts of the studied area.

The granulometric composition of weakly saline soils is light clayey and heavy clayey. The amount of dry residue in these soils increases and decreases between 0.325-0.707% along the profile.

In the o-100 cm layer, the average dry residue for cultivated plants is 0.40-0.80% in saline soils with chlorinated sulphate, and the average dry residue for wild plants is 0.40-0.80% in saline chlorinated sulphate soils. soils are considered weakly saline.

The salinity type is chlorinated-sulphate (Table 9).

Zəif şorlaşmış torpaqlar

Bu torpaqlar tədqiq etdiyimiz ərazinin müxtəlif cəhətlərində yayılmaqla ümumi sahənin 109,87 hektarını və ya 4,4 %-ni təşkil edir.

Zəif şorlaşmış torpaqların qranulometrik tərkibi yüngül gilli və ağır gilicəlidir.

Bu torpaqlarda quru qalığın miqdarı profil boyu 0.325-0.707% arasında artıb-azalır.

o-100 sm-lik qatda mədəni bitkilər üçün quru qalığın orta rəqəmi, şorlaşma tipi xlorlu-sulfatlı olan torpaqlarda o.40-o.80%, yabanı bitkilər üçün isə quru qalığın orta rəqəmi şorlaşma tipi xlorlu- sulfatlı olan torpaqlarda o.40-o.80%, olduğu üçün bu torpaqlar zəif şorlaşmış hesab olunur.

Şorlaşma tipi xlorlu-sulfatlıdır (Cədvəl 9).

II. Full, brief water absorption and dry residue of weakly saline soils analysis results (absolute dry soil, in%eq)

Cut	Depth	Anions				Cation	Cations			
N_0	in cm								Residue	
		CO ₃	HCO ₃	CL	SO ₄	Ca	Mg	Na +	%-with,	
								The difference		
								according to		
1	2	3	4	5	6	7	8	9	10	
7) Light	clay, light gr	ay-mead	dow (chlor	rinated-su	ılfate)			<u> </u>	ı	
	0-25								0.707	
8	25-50								0.650	
	50-100								0.685	
	0-25								0.557	
9	25-50								0.500	
	50-100								0.390	
	0-25								0.593	
11	25-50								0.635	
	50-100								0.480	
	0-25								0.550	
23	25-50								0.490	
	50-100								0.386	
8) Heav	y clayey, ligh	 nt gray-g	rass (chloi	 rinated-su	lfate)				0.500	
	0-25				,				0.570	
62	25-50								0.440	

	50-100				0.410
	0-25				0.620
64	25-50				0.510
	50-100				0.325

REFERENCES

- 1. Aliyev H.A. The use of classification of rational use (as in the Eastern Caucasus). The rationalization of the rational use of the Northern Caucasus and the northern slopes of the hydrology. Principal.1971. h 53-62.
- 2. Alekperov K. A. 1980. Soil-erosion map of and protection of land Moscow
- 3. KA Alekberov. Protection of soil from erosion "Azernəşr", Baku, 1967.72 p.
- 4. Aliev B.H. The problem of desertification in Azerbaijan and ways to solve it, "Ziya-Nurlan" publishing house Baku-2005
- 5. Aliev Z.H. Regional Geographic Problems of the Republic of Azerbaijan. (On Guba-Khachmaz economic region) Baku, 2006, 156 p.
- 6. Z.H.Aliyev Aerospace monitoring of soil cover dynamics // Aerospace methods in soil science and their use in agriculture. M .: Nauka, 1990 .-- S. 55-60.
- **7.** B.H.Aliyev, A.C.Musayev, A.A.Ibrahimov Ways to increase the

- efficiency of farming in erosionprone and eroded soils in the mountainous area of the Republic of Azerbaijan Baku 2003. 80 p.
- **8.** Akimtsev V.V. Ganja region soils. Materials on zoning of Azerbaijan SSR., v. 2, Press 5, Baku, 1997
- **9.** Budagov B.A. The natural landscapes of Soviet Azerbaijan. Baku,1988,230 p.
- **10.** Budagov B.A. Natural phenomena of Azerbaijan. Baku, 1990, 208 p.
- **11.** Vinogradov B.V. Aerospace monitoring of ecosystems // M .: Nauka, 1984. 320
- 12. Dokuchaev V.V. Prior account on investigations in the Caucasus in summer of 1899. Press. The Caucasus, IRTO Department, v. XII, pub.3, 1899
- 13. Дjafarov A.B.Agroecological assessment and grouping of pasture lands of Azerbaijan, Sat. scientific works of the Research Institute of GT and M 29th volume of Iflu-2009 p. 133-139
- **14.** Zaslavsky M.N. Erosion Studies, Moscow, Higher School Publishing House, 1963 pp. 212.
- **15.** Mustafaev Kh.M. Alakbarov K.A. Increasing of erosion in the south

- slope of the Great Caucasus and basis of struggle with them, Baku, 1975.
- **16.** Salayev M.E. Soil formation conditions and top-soil in Azerbaijan in km.
- 17. Salamov Q.B. Formation and characteristics of chernozem soil of forest-steppe and forest zone of the Great Caucasus. Baku, 1991.
- **18.** S.S.Sobolev. On the spread of erosion in the European part of the USSR and on measures to combat it. Soil Science No. 7 M-1969

- 19. F.Sadovnikov, The physiology of heat and drought tolerance of plants. M .: Nauka, 1982.– 280 p.3. Improving the eroded soils of pastures in Azerbaijan.
- 20. Figurevsky I.V. Climate of the Caucasus (prior account). Tiflis, 1999
 [20]. Shikhlinski A.M. Defense of soil from erosion. Baku, Azernashr., 1997,p.25-36.
- 21. M.E. Salaev Diagnosis and classification of Azerbaijan. Searching for "Elm" Baku, 1991. c. 162-170.