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Agro-production assessment of land cover in Beylagan region on the example of Birinci Shahsevan village

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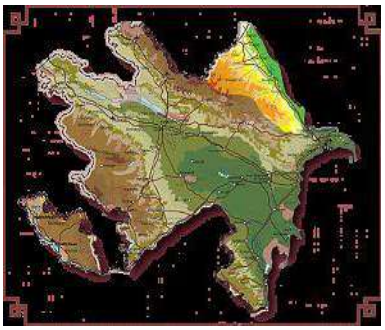
Abstract
It was determined by the research that the object of research was excavated plots of land with a total area of 1776.99 ha, and their morphological features were described by genetic layers. yes; Clean pasture-147.58ha; Reed pasture-6.83 ha; Shrub pasture - 4.25 ha; Other lands-942.10 ha; The 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; Soil-forming 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.

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 the compilation of a digital cadastral map by conducting electronic registration and 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:

- Hygroscopic moisture - by thermal method
- Granulometric composition - by Kaczynski's pipette method
- General humus - by the method of Tyurin
- Total nitrogen - By calculation
- Carbonate - With a calcimeter device
- Absorbed Ca and Mg - by Ivanov method
- Absorbed Na - by Hedroyts method
- pH water suspension - with pH meter
- Full and brief water weight - by Hedroyts method
- 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 14.0oC. The average monthly temperature in January is 1.8oC, and the average monthly temperature in July is 26.0oC. The average annual temperature of the soil surface is 18 oC, fluctuating between 2-34 ^{o}C per year.

Table 1: Average monthly and annual information on climate indicators

Meteo st. name	Climate indicators	Aylar												
		I	II	III	I V	V	VI	VII	VIII	IX	X	XI	XII	XIII
BEYLA.QAN	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
	Average relative humidity, in%	81	79	78	73	68	60	58	62	70	76	82	82	72
	Precipitation, in mm	31	28	32	30	28	26	12	12	21	37	30	25	312
	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.
0-23 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).

Table 2: I Granulometric composition of gray-meadow soils (in absolute dry soil, in%)

Cut №	With depth cm	Particle size in mm, quantity in%						In% of physical clay
		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, thick, gray-grass								
22	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
	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
75	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
	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

Table 3: I The main components of gray-meadow soils.(necessarily on dry land, in%)

Cut №	With depth cm	Hiqros-kopik moisture	General		CO_2	To CO_2 according to $Ca CO_3$	pH su suspenzi-at the age of
			Humus	Nitrogen			
1	2	3	4	5	6	7	8
1. Heavy clayey, thick, gray-gra							
22	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
	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					
75	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
	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

Table 4: I The amount of bases absorbed in the gray-meadow soils(absolute% in dry land)

Cut №	Depth in cm	Winning bases, in mg.ekv			Swallowed of the basics in total mg.ekv	From the sum of the won bases, %-with		
		Ca	Mg	Na		Ca	Mg	Na
1	2	3	4	5	6	7	8	9
1. Heavy clayey, thick, gray-meadow								
22	0-23	24.00	10.63	0.80	35.43	67.74	30.00	2.26
	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.

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

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.

0-21 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 last layer. The granulometric 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 one-meter 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).

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

Cut №	With depth cm	Particle size in mm, quantity in% ,						In% of physical clay
		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
2. Light clay, thick, light gray-meadow								
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
16	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
	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
42	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
	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
56	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
	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 clayey, thick, light gray-meadow								
30	0-23	0.53	31.91	20.20	17.86	16.00	13.50	47.36

	23-48	0.77	27.79	22.00	19.82	17.36	12.26	49.44
	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
63	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
	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

Table 6 II: The main components of light gray-meadow soils.(necessarily on dry land, in%)

Section №	With depth cm	Hiqros-kopik moisture	General		CO_2	To CO_2 according to Ca CO_3	pH su suspenzi-at the age of
			Humus	Nitrogen			
1	2	3	4	5	6	7	8
2. Light clay, thick, light gray-meadow							
6	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
	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
16	0-21	5.5	1.76	0.15	5.45	12.39	8.22
	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
42	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
	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
56	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
	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-meadow							
30	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
	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
63	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
	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

Table 7: **II**. The amount of bases absorbed in light gray-meadow soils (absolute% in dry land)

Cut, №	Depth in cm	Winning bases, in mg.ekv			Swallowed of the basics in total mg.ekv	From the sum of the won bases, %-with		
		Ca	Mg	Na		Ca	Mg	Na
1	2	3	4	5	6	7	8	9
2.Light clay, thick, light gray-meadow								
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 clayey, thick, light gray meadow								
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 gradation %-with	Types of salinity, salinity, in%						
	Soda		*Chlorinated*	*Sulfate - chlorinated*	*Chlorinated - sulfated*	Sulphated	
	High Alkaline	Neutral,				Gypsum, 1-2%	Gypsum, >2%
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 salinity, salinity, in%						
	Soda		Chlorinated	Sulfated - chlorinated	Chlorinated - sulfated	Sulphated	
	High alkaline	Neutral				Gypsum, 1-2%	Gypsum, >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 Not salted

II. Weakly salted

I Non-saline soils

These lands are distributed in the north-eastern 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 chlorinated-sulphate soils. Types of salinization are sulfate-chlorine and chlorine-sulfate (Table 8).

Table 8: I Results of complete, brief water absorption and dry residue analysis of non-saline soils (necessarily on dry land, in% / eq)

Cut N_0	Depth in cm	Anions				Cations			Dry Residue %-with
		CO_3	HCO_3	CL	SO_4	Ca	Mg	Na + The difference according to	
1	2	3	4	5	6	7	8	9	10
1) Light clay light gray-meadow (chlorinated-sulfate)									
6	0-25		0.043 / 0.70	0.018 / 0.50	0.140 / 2.91	0.022 / 1.12	0.006 / 0.50	0.057 / 2.49	0.295
	25-51		0.046 / 0.75	0.031 / 0.87	0.170 / 3.54	0.027 / 0.50	0.006 / 0.50	0.076 / 3.29	0.368
	51-93		0.040 / 0.65	0.027 / 0.75	0.155 / 3.23	0.022 / 1.12	0.008 / 0.63	0.066 / 2.88	0.330

	93-124		0.043 / 0.70	0.022 / 0.62	0.131 / 2.73	0.020 / 1.00	0.006 / 0.50	0.059 / 2.55	0.299
	124-163		0.037 / 0.60	0.022 / 0.62	0.124 / 2.58	0.020 / 1.00	0.004 / 0.37	0.056 / 2.43	0.276
42	0-24		0.046 / 0.75	0.018 / 0.50	0.118 / 2.46	0.020 / 1.00	0.004 / 0.37	0.054 / 2.34	0.275
	24-55		0.046 / 0.75	0.013 / 0.37	0.112 / 2.33	0.015 / 0.75	0.003 / 0.25	0.056 / 2.45	0.259
	55-94		0.043 / 0.70	0.018 / 0.50	0.118 / 2.46	0.017 / 0.87	0.004 / 0.38	0.055 / 2.41	0.263
	94-123		0.043 / 0.70	0.022 / 0.62	0.102 / 2.27	0.017 / 0.87	0.004 / 0.38	0.054 / 2.34	0.260
	123-159		0.043 / 0.70	0.018 / 0.50	0.115 / 2.39	0.017 / 0.87	0.003 / 0.25	0.057 / 2.47	0.266
56	0-21		0.040 / 0.65	0.027 / 0.75	0.128 / 2.66	0.015 / 0.75	0.004 / 0.37	0.057 / 2.47	0.259
	21-50		0.043 / 0.70	0.022 / 0.62	0.135 / 2.81	0.020 / 1.00	0.006 / 0.50	0.063 / 2.76	0.312
	50-92		0.046 / 0.75	0.018 / 0.50	0.120 / 2.50	0.020 / 1.00	0.004 / 0.37	0.055 / 2.38	0.274
	92-119		0.043 / 0.70	0.013 / 0.37	0.132 / 2.75	0.022 / 1.12	0.004 / 0.38	0.059 / 2.57	0.298
	119-157		0.046 / 0.75	0.018 / 0.50	0.130 / 2.71	0.017 / 0.87	0.008 / 0.63	0.057 / 2.46	0.288
3	0-25		0.046 / 0.75	0.009 / 0.25	0.048 / 1.01				0.145
	25-50		0.049 / 0.80	0.013 / 0.37	0.075 / 1.56				0.225
	50-100		0.043 / 0.70	0.013 / 0.37	0.111 / 2.30				0.332
	100-150		0.046 / 0.75	0.013 / 0.37	0.117 / 2.43				0.350
10	0-25		0.043 / 0.70	0.018 / 0.50	0.140 / 2.91				0.420
	25-50		0.043 / 0.70	0.018 / 0.50	0.108 / 2.25				0.324
	50-100		0.046 / 0.75	0.027 / 0.75	0.060 / 1.25				0.180
	100-150		0.046 / 0.75	0.022 / 0.62	0.052 / 1.08				0.155
13	0-25		0.043 / 0.70	0.027 / 0.75	0.050 / 1.04				0.150
	25-50		0.040 / 0.65	0.022 / 0.62	0.080 / 1.67				0.240
	50-100		0.046 / 0.75	0.018 / 0.50	0.106 / 2.20				0.317
	100-150		0.046 / 0.75	0.018 / 0.50	0.110 / 2.29				0.330
15	0-25		0.043 / 0.70	0.022 / 0.62	0.129 / 2.69				0.387
	25-50		0.046 / 0.75	0.018 / 0.50	0.109 / 2.28				0.328
	50-100		0.049 / 0.80	0.018 / 0.50	0.117 / 2.43				0.350
	100-150		0.046 / 0.75	0.013 / 0.37	0.097 / 2.01				0.290

21	0-25		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.110}{2.29}$				0.330
	25-50		$\frac{0.046}{0.75}$	$\frac{0.022}{0.62}$	$\frac{0.123}{2.57}$				0.370
	50-100		$\frac{0.049}{0.80}$	$\frac{0.027}{0.75}$	$\frac{0.134}{2.79}$				0.402
	100-150		$\frac{0.046}{0.75}$	$\frac{0.022}{0.62}$	$\frac{0.139}{2.90}$				0.418
54	0-25		$\frac{0.046}{0.75}$	$\frac{0.022}{0.62}$	$\frac{0.128}{2.67}$				0.385
	25-50		$\frac{0.043}{0.70}$	$\frac{0.013}{0.37}$	$\frac{0.133}{2.78}$				0.400
	50-100		$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.103}{2.15}$				0.310
	100-150		$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.072}{1.49}$				0.215
58	0-25		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.105}{2.19}$				0.315
	25-50		$\frac{0.040}{0.65}$	$\frac{0.018}{0.50}$	$\frac{0.101}{2.10}$				0.302
	50-100		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.088}{1.84}$				0.265
	100-150		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.080}{1.67}$				0.240
1	0-25								0.332
	25-50								0.290
	50-100								0.345
2	0-25								0.497
	25-50								0.348
	50-100								0.245
4	0-25								0.297
	25-50								0.228
	50-100								0.240
5	0-25								0.447
	25-50								0.395
	50-100								0.328
7	0-25								0.440
	25-50								0.350
	50-100								0.280
11	0-25								0.593
	25-50								0.635
	50-100								0.480
18	0-25								0.485
	25-50								0.405
	50-100								0.335
19	0-25								0.570
	25-50								0.385
	50-100								0.260
20	0-25								0.367
	25-50								0.318
	50-100								0.265
24	0-25								0.415
	25-50								0.315
	50-100								0.240
43	0-25								0.542
	25-50								0.480
	50-100								0.245
47	0-25								0.237
	25-50								0.200
	50-100								0.195
50	0-25								0.150
	25-50								0.190
	50-100								0.244

51	0-25								0.457
	25-50								0.396
	50-100								0.312
52	0-25								0.350
	25-50								0.425
	50-100								0.310
53	0-25								0.395
	25-50								0.420
	50-100								0.375
55	0-25								0.392
	25-50								0.408
	50-100								0.320
57	0-25								0.160
	25-50								0.200
	50-100								0.175
59	0-25								0.432
	25-50								0.350
	50-100								0.400
2) Light clay light gray-meadow (sulfated)									
16	0-21		0.040 / 0.65	0.013 / 0.37	0.112 / 2.33	0.020 / 1.00	0.003 / 0.25	0.048 / 2.10	0.246
	21-49		0.037 / 0.60	0.018 / 0.50	0.118 / 2.46	0.020 / 1.00	0.003 / 0.25	0.053 / 2.31	0.257
	49-88		0.046 / 0.75	0.013 / 0.37	0.130 / 2.71	0.020 / 1.00	0.006 / 0.50	0.054 / 2.33	0.284
	88-120		0.037 / 0.60	0.022 / 0.62	0.145 / 3.02	0.022 / 1.12	0.006 / 0.50	0.060 / 2.62	0.308
	120-161		0.037 / 0.60	0.013 / 0.37	0.122 / 2.54	0.020 / 1.00	0.006 / 0.50	0.049 / 2.14	0.256
49	0-25		0.040 / 0.65	0.022 / 0.62	0.174 / 3.62				0.522
	25-50		0.043 / 0.70	0.018 / 0.50	0.183 / 3.82				0.550
	50-100		0.043 / 0.70	0.027 / 0.75	0.102 / 2.13				0.307
	100-150		0.043 / 0.70	0.018 / 0.50	0.092 / 1.91				0.275
12	0-25								0.352
	25-50								0.400
	50-100								0.210
17	0-25								0.362
	25-50								0.272
	50-100								0.375
36	0-25								0.477
	25-50								0.328
	50-100								0.280
37	0-25								0.300
	25-50								0.270
	50-100								0.186
38	0-25								0.485
	25-50								0.365
	50-100								0.290
39	0-25								0.620
	25-50								0.550
	50-100								0.425
40	0-25								0.547
	25-50								0.448
	50-100								0.325
41	0-25								0.500
	25-50								0.420
	50-100								0.380
48	0-25								0.522
	25-50								0.475

	50-100								0.340
3) Heavy clayey, gray-meadow (chlorinated-sulfate)									
22	0-23		0.043 / 0.70	0.018 / 0.50	0.115 / 2.60	0.020 / 1.00	0.004 / 0.37	0.056 / 2.43	0.284
	23-52		0.043 / 0.70	0.018 / 0.50	0.128 / 2.54	0.020 / 1.00	0.004 / 0.37	0.057 / 2.49	0.282
	52-94		0.046 / 0.75	0.022 / 0.62	0.112 / 2.33	0.017 / 0.87	0.003 / 0.25	0.057 / 2.46	0.268
	94-123		0.040 / 0.65	0.018 / 0.50	0.118 / 2.46	0.017 / 0.87	0.004 / 0.38	0.054 / 2.36	0.265
	123-165		0.043 / 0.70	0.013 / 0.37	0.117 / 2.44	0.020 / 1.00	0.003 / 0.25	0.052 / 2.26	0.259
4) Heavy clayey, gray-meadow (sulphate)									
75	0-23		0.043 / 0.70	0.022 / 0.62	0.228 / 4.75	0.035 / 1.75	0.009 / 0.75	0.082 / 3.57	0.431
	23-50		0.043 / 0.70	0.018 / 0.50	0.199 / 0.408	0.030 / 1.50	0.009 / 0.75	0.070 / 3.03	0.379
	50-97		0.040 / 0.65	0.013 / 0.37	0.186 / 3.87	0.032 / 1.62	0.004 / 0.38	0.067 / 2.89	0.356
	97-125		0.046 / 0.75	0.018 / 0.50	0.170 / 3.54	0.027 / 1.37	0.004 / 0.38	0.070 / 3.04	0.349
	125-168		0.043 / 0.70	0.013 / 0.37	0.155 / 3.23	0.020 / 1.00	0.006 / 0.50	0.064 / 2.80	0.318
29	0-25		0.049 / 0.80	0.018 / 0.50	0.166 / 3.45				0.497
	25-50		0.046 / 0.75	0.013 / 0.37	0.150 / 3.12				0.450
	50-100		0.049 / 0.80	0.022 / 0.62	0.133 / 2.78				0.400
	100-150		0.046 / 0.75	0.018 / 0.50	0.123 / 2.57				0.370
74	0-25		0.043 / 0.70	0.018 / 0.50	0.175 / 3.64				0.525
	25-50		0.046 / 0.75	0.018 / 0.50	0.140 / 2.91				0.418
	50-100		0.046 / 0.75	0.013 / 0.37	0.112 / 2.32				0.335
	100-150		0.049 / 0.80	0.013 / 0.37	0.101 / 2.10				0.302
76	0-25		0.043 / 0.70	0.022 / 0.62	0.172 / 3.57				0.515
	25-50		0.046 / 0.75	0.018 / 0.50	0.157 / 3.26				0.470
	50-100		0.040 / 0.65	0.020 / 0.75	0.163 / 3.40				0.490
	100-150		0.046 / 0.75	0.018 / 0.50	0.129 / 2.68				0.386
26	0-25								0.602
	25-50								0.550
	50-100								0.490
27	0-25								0.435
	25-50								0.310
	50-100								0.390
28	0-25								0.647
	25-50								0.588
	50-100								0.520
65	0-25								0.495
	25-50								0.530

	50-100								0.380
68	0-25								0.460
	25-50								0.360
	50-100								0.272
69	0-25								0.392
	25-50								0.315
	50-100								0.270
70	0-25								0.365
	25-50								0.320
	50-100								0.275
71	0-25								0.590
	25-50								0.450
	50-100								0.270
72	0-25								0.437
	25-50								0.505
	50-100								0.335
73	0-25								0.352
	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
79	0-25								0.285
	25-50								0.325
	50-100								0.250
5) Heavy clayey, light gray-meadow (chlorinated-sulfate)									
30	0-23		$\frac{0.046}{0.75}$	$\frac{0.036}{1.00}$	$\frac{0.120}{2.50}$	$\frac{0.017}{0.87}$	$\frac{0.004}{0.38}$	$\frac{0.069}{3.00}$	0.310
	23-48		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.103}{2.21}$	$\frac{0.017}{0.87}$	$\frac{0.003}{0.25}$	$\frac{0.055}{2.41}$	0.263
	48-89		$\frac{0.040}{0.65}$	$\frac{0.022}{0.62}$	$\frac{0.099}{2.06}$	$\frac{0.015}{0.75}$	$\frac{0.003}{0.25}$	$\frac{0.054}{2.33}$	0.245
	89-122		$\frac{0.043}{0.70}$	$\frac{0.027}{0.75}$	$\frac{0.112}{2.33}$	$\frac{0.017}{0.87}$	$\frac{0.003}{0.25}$	$\frac{0.062}{2.66}$	0.278
	122-166		$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.120}{2.50}$	$\frac{0.015}{0.75}$	$\frac{0.003}{0.25}$	$\frac{0.061}{2.70}$	0.280
63	0-25		$\frac{0.043}{0.70}$	$\frac{0.027}{0.75}$	$\frac{0.128}{2.66}$	$\frac{0.020}{1.00}$	$\frac{0.004}{0.37}$	$\frac{0.063}{2.74}$	0.302
	25-54		$\frac{0.046}{0.75}$	$\frac{0.022}{0.62}$	$\frac{0.135}{2.81}$	$\frac{0.020}{1.00}$	$\frac{0.006}{0.50}$	$\frac{0.062}{2.68}$	0.311
	54-91		$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.146}{3.04}$	$\frac{0.025}{1.25}$	$\frac{0.004}{0.37}$	$\frac{0.061}{2.67}$	0.314
	91-122		$\frac{0.043}{0.70}$	$\frac{0.013}{0.37}$	$\frac{0.125}{2.60}$	$\frac{0.022}{1.12}$	$\frac{0.003}{0.25}$	$\frac{0.053}{2.30}$	0.275
	122-164		$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.118}{2.40}$	$\frac{0.020}{1.00}$	$\frac{0.003}{0.25}$	$\frac{0.055}{2.41}$	0.269
35	0-25		$\frac{0.049}{0.80}$	$\frac{0.018}{0.50}$	$\frac{0.094}{1.96}$				0.282
	25-50		$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.101}{2.11}$				0.304
	50-100		$\frac{0.043}{0.80}$	$\frac{0.018}{0.50}$	$\frac{0.087}{1.82}$				0.262
	100-150		$\frac{0.043}{0.80}$	$\frac{0.013}{0.37}$	$\frac{0.078}{1.63}$				0.235

61	0-25		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.150}{3.12}$				0.450
	25-50		$\frac{0.046}{0.75}$	$\frac{0.018}{0.50}$	$\frac{0.107}{2.22}$				0.320
	50-100		$\frac{0.040}{0.65}$	$\frac{0.018}{0.50}$	$\frac{0.090}{1.87}$				0.270
	100-150		$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.077}{1.60}$				0.230
31	0-25								
	25-50								0.410
	50-100								0.320
67	0-25								0.260
	25-50								0.250
	50-100								0.245
6) Heavy clayey, light gray-meadow (sulphate)									
45	0-25		$\frac{0.040}{0.65}$	$\frac{0.027}{0.75}$	$\frac{0.138}{2.88}$				0.415
	25-50		$\frac{0.043}{0.70}$	$\frac{0.022}{0.62}$	$\frac{0.158}{3.30}$				0.475
	50-100		$\frac{0.046}{0.75}$	$\frac{0.022}{0.62}$	$\frac{0.184}{3.83}$				0.552
	100-150		$\frac{0.046}{0.75}$	$\frac{0.013}{0.37}$	$\frac{0.176}{3.66}$				0.528
66	0-25		$\frac{0.043}{0.70}$	$\frac{0.018}{0.50}$	$\frac{0.177}{3.68}$				0.530
	25-50		$\frac{0.046}{0.75}$	$\frac{0.013}{0.37}$	$\frac{0.143}{2.98}$				0.425
	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
32	0-25								0.425
	25-50								0.375
	50-100								0.402
33	0-25								0.165
	25-50								0.186
	50-100								0.175
34	0-25								0.612
	25-50								0.528
	50-100								0.425
44	0-25								0.365
	25-50								0.320
	50-100								0.440
46	0-25								0.475
	25-50								0.386
	50-100								0.245
60	0-25								0.582
	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 0-100 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.

0-100 sm-lik qatda mədəni bitkilər üçün quru qalığın orta rəqəmi, şorlaşma tipi xlorlu-sulfatlı olan torpaqlarda 0.40-0.80%, yabanı bitkilər üçün isə quru qalığın orta rəqəmi şorlaşma tipi xlorlu- sulfatlı olan torpaqlarda 0.40-0.80%, olduğu üçün bu torpaqlar zəif şorlaşmış hesab olunur.

Şorlaşma tipi xlorlu-sulfatlıdır (Cədvəl 9).

Table 9: II. Full, brief water absorption and dry residue of weakly saline soils analysis results (absolute dry soil, in% eq)

Cut N_0	Depth in cm	Anions				Cations			Dry Residue %-with,
		CO_3	HCO_3	CL	SO_4	Ca	Mg	Na + The difference according to	
1	2	3	4	5	6	7	8	9	10
7) Light clay, light gray-meadow (chlorinated-sulfate)									
8	0-25								0.707
	25-50								0.650
	50-100								0.685
9	0-25								0.557
	25-50								0.500
	50-100								0.390
11	0-25								0.593
	25-50								0.635
	50-100								0.480
23	0-25								0.550
	25-50								0.490
	50-100								0.386
8) Heavy clayey, light gray-grass (chlorinated-sulfate)									
62	0-25								0.570
	25-50								0.440
	50-100								0.410
64	0-25								0.620
	25-50								0.510
	50-100								0.325

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