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Pollution and Effects on Community Health
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ISSN: 2836-3590 RESEARCH ARTICLE

The South-Eastern Slope of The Greater Caucasus the Impact of Micromobiements to The Micromiological Process and Fermentative Activity on Territorial Lands

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Received: 4 November 2022; **Accepted:** 21 November 2022; **Published:** 18 December 2022.

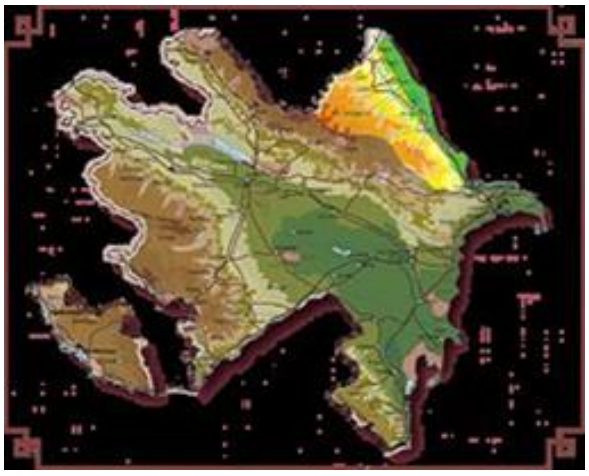
Citation: V.T.Mammadzade, (2022). The south-eastern slope of the Greater Caucasus the impact of micromobiements to the micromiological process and fermentative activity on territorial lands. Journal of Pollution and Effects on Community Health. 1(1). DOI: 10.58489/2836-3590/003

Abstract

n 2012-2017, the activity of bacteria, ray fungi and microscopic fungi from microorganisms was studied in field experiments with the aim of studying the effect of micronutrients on the productivity of winter wheat in moderately eroded gray mountain-brown soils. The regularity of the activity of the microorganisms that play a major role during the vegetation period of wheat was studied. It was found that the micronutrients given to the soil increased the activity of groups of microorganisms in all variants of the experiment. Thus, the effect of micronutrients on the activity of bacteria was greater. Likewise, micronutrients also increased the activity of fungi and fungi. has increased. The activity of bacteria and fungi has increased. Also, does this group of microorganisms develop better, especially in conditions without humidity? From these 5-6 years of research carried out by us, we can draw the conclusion that microelements significantly revive the microbiological process in eroded soils, as a result of which decomposition and synthesis of decay in the soil is significantly improved, and the process of humus formation is accelerated.

Keywords: *hydrothermic conditions, fertilizers, complex fertilizers (NAFK-90), bacteria, radical mushrooms and fungi, microorganisms, light, heat, food, cobalt, zinc and manganese*

Introduction



As it is known, the problem of industrial production in the country is a matter of anger as an important issue, the problem of efficient use of land and food production. The lands of the mountainous area are considered a large source of source in the increase in agricultural products in Azerbaijan.

In general, you need to take complex zonal combat measures against erosion to use soil lands in the mountainous areas. This explains that the erosion process is widespread in connection with the proper conduct of economic work in a complex geomorphological environment.

For many years, the soil has been washed as a result of the erosion process, productivity deteriorates and the volume of nutrients is reduced sharply and their motivation is very limited.

The first turn of the bruises in the falling soils, the total number of microorganisms is a significant amount of 1G.

In the variant of the ink fertilizer (NAFK-90) (NAFK-90) (NAFK-90), this increase was 750-4071 thousand.

The maximum increase in the number of microorganisms was in the options provided by cobalt, zinc and manganese.

Development of microorganisms (bacteria, radical

and fungi) is accelerating when hydrotmite conditions are improved in June-July and expand the volume of fertilizers.

The total number of microorganisms in the variants in the variants in June increased by 229-4861 thousand.

In the variant of the complex fertilizer, the total number of microorganisms in June was 631 to 185 thousand in June. The rapid development is to provide the population with enough food.

Due to the demand of the day, as a demand for the development of grain production for the purpose of the current economic crisis, state support is in the center of this area.

Reduced, its fraction composition deteriorates and decreases the moving part of agronomically valuable humin acids. Thus, the erosion process has a negative impact on the basic parameters of the humus process in the lands.

The erosion process also weakens the intensity of all biochemical, fermentative processes and lands from carbon dioxide (CO2).

The erosion process is also very weak in the microbiological process.

The soil microfa was a solution to biochemical processes, especially in the regulating human synthesis and mineralization, which regulates these processes.

Research has been found in the result of erosion process, water-physical, agrochemical characteristics and nutrients. As a result, the productivity of agricultural crops decreases. This has a negative impact on the biological productivity of our planet.

Taking into account the damage caused by erosion into the blessing of the soil, the application of agro-technical measures increasing ink alarm in the fight against it is a great need.

The application of a fertilizer system is very important in these events.

In the last 30 years, the republic's fertilizer employees surrendered in the background of simple, complex mineral fertilizers and the republic in the erosion lands of the republic.

Previous savings in this issue

In other parts of the Tong Union, sufficient materials were collected.

However, the physiological and biochemical bases of mineral fertilizers under the country's erosion lands were not well studied.

This article, presented to the discussion of the readers, was dedicated to the "influence of micronutinals" and its settlement. Here, in the south-eastern part of research facilities, fall wheat, complex mineral fertilizers and complex fertilizers and complex fertilizers in the south-eastern part of autumn wheat are dedicated to the results of physiological research and biochemical grounds

I. The impact of micromelements in the micromology

Progress and analysis of materials:

As can be seen from the desktop figures, in April, the microbiological process (in early April) is not intensively. However, despite this, the microbiological process has increased a variable variant of a certain amount of fertilizer.

The use of microelements was more than the activities of microorganisms with the choices of cobalt, manganese and zinc.

In this case, this study, the impact of fertilizers in this study, it was possible to see this table. In general, the complex zone management measures should be re-performed and important T erosion in order to effective use Land, Especially Land in Mountainous Areas.

This is Explained by The Fact That The Process of Erosion is Widespread Due To The Proper Management of Economic Activities in A Complex Geomorphological Environment Rosion

Enough Materials Were Also Collected in Other Regions of the Tong Union. However, The Physiological And Biochemical Bases Of Individual Species of Mineral Fertilizers Under Cereals in The Country Were Not Well-Studied.

This article, which is presented to the readers' discussion, is Dedicated to the notxue of "The Impact of Micronutinals in the Micromemiological Process" and ITS Solution. Here, in the Southern-Eastern Part of the Arearch Facilities, in the South-Eastern part of the Back of WHEAT, Complex Mineral Fertilizers and Complex Fertilizers and Complex Fertilizers Are Dedicated To The Study of Physiological and biochemical bases

I. Micromelements of The impact to the Microbiological Process

Progress and Analysis of Materials:

As Can Be Seen From The Figures of The Table, in April, The Microbiological Process (in Early April) is not fully intensively. However, in Spite Of This, The Microbiological Process Increased to A Certain Amount Of Fertilizer Versefully Verangers.

The Total Number of Microeliuts in The Field of Practice has increased by 337-4861 Thousand in 1G

of the Total Number of Microorganisms.

In The Variant Of The Complex Fertilizer (NAFK-90) in The Fertless Variante (NAFK-90), This Inrease WAS 750-4071 Thousand.

The maximum increase in the number of microorganisms Was in the Options Provided by Cobalt, Zinc and Manganese.

The Development Of Microorganisms (Bacteria, Radical and Fungi) is accelerated When Hydrothermic Conditions Are Improved in June-July And Expanding The Scope of Ferilizers.

The Total Number Of Microelganisms in The Veritts Relative to The Research is Determined in June, increased by 229-4861 Thousand in the Soil.

In The Variant of The Complex Fertilizer, The Inrease in The Number of Microorganisms Relative to A Fertile Variant Has Changed Between 631 and 185 Thousand in June.

The Use of Microelements Was More Than The Activity Of Microorganisms With Options Applied to Cobalt, Manganese and Zinc.

In This Study, This Study, The impact of Fertilizers in This Study in July, IT WAS Possible To See The Following Table.

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Table.1: The impact of microelements to the microbiological process on the ground (0-30 cm, 1g in the soil

	2012											
	April				***June***				***July***			
Variantsof practice	***Bacteria***	***Shui Mushrooms***	***Mushrooms***	***Microong. total number***	***Bacteria***	***Shui Mushrooms***	***Mushrooms***	***Microong. total number***	***Bacteria***	***Shui Mushrooms***	***Mushrooms***	***Microong. total number***
Control (no fertilizer)	*9782*	*998*	*24*	*10804*	*9883*	*1020*	*24*	*10927*	*9309*	*1030*	*8*	*10347*
NAFK-90 (background)	*13801*	*1046*	*28*	*14875*	*11229*	*1057*	*27*	*12303*	*10819*	*1067*	*11*	*11897*
Fon+3kq/ha Ni	*14346*	*1167*	*33*	*15546*	*13694*	*1178*	*29*	*14801*	*11649*	*1188*	*12*	*12749*
Fon+3kq/ha Zn	*15125*	*1202*	*36*	*16360*	*14124*	*1223*	*34*	*15381*	*12088*	*1234*	*20*	*13342*
Fon+3kq/ha Cu	*14536*	*1002*	*34*	*15569*	*11687*	*1023*	*27*	*12737*	*8565*	*1044*	*6*	*9615*
Fon+3kq/ha B	*14484*	*1055*	*30*	*15569*	*14264*	*1066*	*32*	*15362*	*11727*	*1140*	*13*	*12880*
Fon+3kq/ha Co	*15451*	*1362*	*39*	*16852*	*16437*	*1384*	*51*	*17879*	*14613*	*1427*	*41*	*16081*
Fon+3kq/ha Mn	*14500*	*1205*	*37*	*15742*	*15037*	*1227*	*42*	*16306*	*12806*	*1259*	*17*	*14082*

Table. 1's name

Variantsof practice	2013											
	April				June				July			
	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number
Control (no fertilizer)	10750	878	18	11646	10845	900	20	11765	1045	882	41	11868
NAFK-90 (background)	11440	964	23	12277	11440	986	23	12449	11531	981	44	12556
Fon+3kq/ha Ni	11450	986	24	12460	11528	997	25	12550	18036	987	49	19072
Fon+3kq/ha Zn	12100	1025	27	13152	13018	1043	29	14090	17426	1073	50	18549
Fon+3kq/ha Cu	18940	963	23	11926	10971	963	24	11958	15052	949	36	16037
Fon+3kq/ha B	11560	1048	33	12654	11654	1059	38	12751	16780	1044	62	17886
Fon+3kq/ha Co	13720	1065	37	14822	14640	1065	40	15745	18412	1062	69	19543
Fon+3kq/ha Mn	10630	1015	30	11875	11071	1026	34	12131	17044	1019	55	18063

Table. 1's name

Variantsof practice	2014											
	April				June				July			
	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number	Bacteria	Shui Mushrooms	Mushrooms	Microng. total number
Control (no fertilizer)	6256	826	56	7138	7116	946	78	8140	6528	968	71	7567
NAFK-90 (background)	7581	882	70	8533	8061	991	116	0168	7843	1002	108	8845
Fon+3kq/ha Ni	7914	971	132	9017	8406	1001	168	9575	8034	1015	155	9204
Fon+3kq/ha Zn	8884	962	111	9957	9463	1028	140	10491	9190	1039	127	10356
Fon+3kq/ha Cu	6532	872	71	7475	7088	922	83	8163	6892	1003	81	7976
Fon+3kq/ha B	7785	829	96	8780	8223	1019	126	9363	8004	1030	115	9149
Fon+3kq/ha Co	9868	1019	142	11029	10032	1052	186	11270	9824	1063	164	11051
Fon+3kq/ha Mn	8759	944	109	9812	9429	1042	135	10588	9242	1053	128	10423

Table. 1's name

Variantsof practice	2015											
	April				June				July			
	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number
Control (no fertilizer)	4369	750	35	5154	4739	760	80	5579	4478	815	51	5344
NAFK-90 (background)	5059	803	42	5904	5439	825	116	6380	5081	870	62	6013
Fon+3kq/ha Ni	6134	890	46	7070	6199	912	121	7232	6156	923	64	7143
Fon+3kq/ha Zn	7331	870	50	8251	7917	921	212	9050	7483	954	87	8524
Fon+3kq/ha Cu	5162	790	37	5989	5802	813	200	6815	5206	878	51	6135
Fon+3kq/ha B	6721	860	62	7643	6971	871	135	7977	6753	904	84	7741
Fon+3kq/ha Co	9498	915	105	10508	9716	936	216	10868	9575	980	108	10663
Fon+3kq/ha Mn	9074	849	92	10015	9422	860	204	10486	9204	947	86	10237

Table. 1's name

Variants of practice	2016											
	April				June				July			
	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number	Bacteria	Shui Mushrooms	Mushrooms	Microong. total number
Control (No Fertilizer)	2457	865	68	3390	5517	752	81	6350	5056	572	35	5663
NAFK-90(background)	3190	923	125	4238	5585	816	101	6502	5513	818	69	6392
Fon+3kq/ha Ni	3620	958	144	4722	5612	927	106	6645	5152	1035	57	6244
Fon+3kq/ha Zn	3800	1006	147	4953	6457	784	140	7381	5806	871	68	6745
Fon+3kq/ha Cu	2653	891	73	3617	6291	869	128	7288	6057	798	102	9657
Fon+3kq/ha B	3412	944	129	4485	6431	957	186	7574	5981	866	86	6533
Fon+3kq/ha Co	4113	1025	160	5298	6539	985	174	7698	6053	981	75	7109
Fon+3kq/ha Mn	3304	970	142	4416	6609	920	197	7726	6355	1264	97	7716

Currently, as a result of the widespread use of nitrate- containing fertilizers in agriculture, nitrates

accumulate in the soil, which has a great role in environmental pollution.

Nitrates accumulated in the soil are also collected in agricultural plants and transferred to human and animal bodies and cause various pathological conditions. In such conditions, the nitrate reductase enzyme is of great importance. Nitrate reductase serves human health and nature protection by breaking down nitrates accumulated in the soil

As can be seen from the analysis of the figures in the table, in July, the total number of microorganisms in 1 g of soil increased by 1582-8675 thousand in the options with micronutrients compared to the option without fertilizer.

As can be seen from the figures in the table, the total number of microorganisms in 1 g of soil increased from 666 to 1550 thousand compared to the version without fertilizer.

Conclusion

1. Microelements increased the activity of groups of microorganisms in all variants. The effect of microelements on the activity of bacteria was greater.

2. Microelements also increased the activity of ray fungi and fungi. The activity of bacteria and fungi increased. This group of microorganisms develops especially well in conditions without humidity.

3. From the conducted 5-year research, it can be concluded that microelements significantly revive the microbiological process in eroded soils, as a result of which decomposition and synthesis of decay in the soil is significantly improved, and the process of humus formation is accelerated.

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