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PECULIARITIES OF HUMUS FORMATION OF MINING - BROWN CARBONATE SOILS OF WEST TYANSHAN.

N.B. Raupova, Z.S.Gulamova, B.G. Xalimov

Abstract: The main problems of ecology and fertility of soils in the aspect peculiarities of the nature of the mountain brown-carbonate soils of the Western Tien Shan. An analysis of own and available in the literature data of comprehensive studies that allow to determine the causes of erosion and loss of soil fertility, depending on the relief and exposure of the slope. The results of an assessment of the humus state of eroded soils formed in mountain conditions are considered.

Introduction: A feature of mountain brown soils is the carbonate content of the mineral part. The degree of carbonation and the depth of occurrence of carbonates depend on the stage of development of soils. In carbonate soils, they are noted from the surface, in typical and leached beds, their occurrence is determined by the depth and intensity of soaking of soils by atmospheric precipitation.

The criterion for separating the subtypes was the thickness of the part of the profile leached from the carbonates. This is reflected by the elevation of the soil, i.e. a difference of general climatic character, and particular features - the effect of exposure and moisture

Brown carbonate soils are common in the initial and middle belt of brown soils, they gradually change into brown typical soils.

Objects and methods of research

The objects of our study were the main types of soils of the foothill and mountain provinces, common in various natural areas. In order to study the humus state of soils, depending on the relief and exposure of the slopes, soil sections were plotted on various relief elements, including agrocenoses on

different types of soils, taking into account the various conditions for their formation. The selected samples were analyzed after laboratory treatment. In order to study the reserves of humus, the bulk density of the soil and the granulometric composition were determined by the method Kaczynski.

The reserves of humus were calculated by the formula: x = d h a, where d is the volumetric weight, g / cm3, h is the height of the soil layer cm, a is the percentage of humus, and x is the humus content in tons / ha. Humus was determined by the method of IV Tyurin in modification of NP Belchikova (1981), total nitrogen - according to Kjeldahl (GOST-26107-84).

Research results

Humus of soil is the most complex organic compound in its composition, its origin, its formation with its long-term, extremely complex biochemical processes. At the same time, the soil is a product that is significantly different from the mother's mother and its chemical composition. Humus is a source of energy and nutrient elements of the soil and is the main genetic and morphological character. Under the influence of natural and anthropogenic factors, very little attention has been paid to the formation of organic matter, the increase in the amount of humus and the rate of change. Of particular importance is the study of the humus condition of mountain soil. Because the country has a unique relief, climate, flora and fauna. Its water-air layout differs from plain land, the impact on the soil is small and the influence of the anthropogenic factor on the management of regulated processes, especially for certain purposes.

Group and fractional composition of humus of mountain-brown carbonate soils. As can be seen from the table, the levels of carbon dioxide in the upper layers of brown carbonate soils (0-8, 8-16, 16-27 cm) have the highest total carbon dioxide content, while in low solids it decreases to 0.55%).

According to the group composition of soil humus, humic acid is a significant fraction of fulvic acid (ratio SGK: SFC-1.18). In the remaining layers the fulvic acid predominates over humic acid (the ratio of SGK: SFK-0.62-0.70), which is lower than the content of humic acid. The hydrolysed amount of humic substances (soluble residue) is 8-16 cm in the soil layer, and the highest is 1.06% (or 51.6%). In the turf (0-8 cm) and in the lower layers (16-27, 27-75, 75-120 cm) a relatively small (43.7-45.8%) is observed. The same law is observed in other types of soil sections of this type. It can be concluded that the amount of fulvic acid increases in the lower horizons of the soil. Therefore, the amount of degradation material (humus) decreases.

As a result of the analysis of the fractional composition of mountain carbonate soils, it is part of humic acid, which is bound to a maximum of 2 fractions, that is, with calcium. The content of this fraction increases

horizontally from top to bottom. The reason for this phenomenon is associated with high levels of CaCO3. As a result of the analysis of the fractional composition of mountain carbonate soils, it is part of humic acid, which is bound to a maximum of 2 fractions, that is, with calcium. The content of this fraction increases horizontally from top to bottom. The reason for this phenomenon is associated with high levels of CaCO3.

The highest levels of soil horizons A and A1, the number of fractions of humic acid fractions 1 and 3, is higher than in the lower horizons (Table). The number of fractions of 2-fulvic acid in them predominates in comparison with other fractions 1a, 1 and 3. This is particularly noticeable in layer B2.

It should be noted that the amount of fulvous acid 2 fraction increases by analogy with others. Here it also increases from top to bottom, in comparison with the first fraction of fulvic acid. This may be due to an increase in the number of feldspars and the mechanical composition of the soil.

It is also important to note that high levels of humic and fulvic acids are in the upper layers. These soils are formed on carbonate rocks on the northern slopes. On the one hand, the influence of the microbiological process leads to the formation of large quantities of fulvus and humic acids, on the other hand, their mineralization and their connection with additional Ca ++ ions. In determining the carbonate mountain brown soils, the scale was used by LA Grishin and DS Orlova (1978). According to the words, the amount of humus in layer A is the average first, and the stock is at a low level.

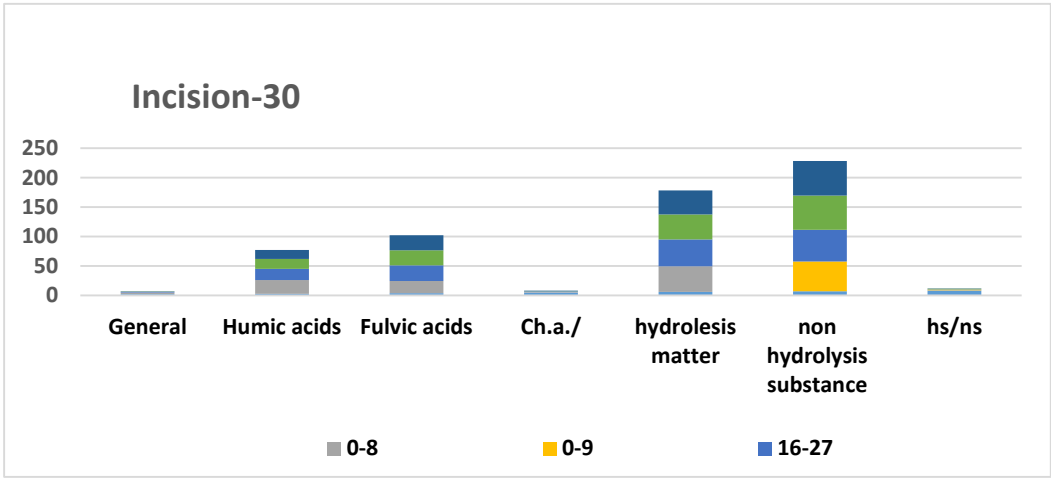
In the above soil, the degree of humification is high. This indicates the biological activity of the communities. In so-called soils, the content of labile substances of humic acid is low at level 2. The amount of humic acid associated with Ca ++ is also low. According to the type of humus, the upper layers of the mountain-brown carbonate soils are fulvate, and the lower horizons to the humutous-fulvous soil.

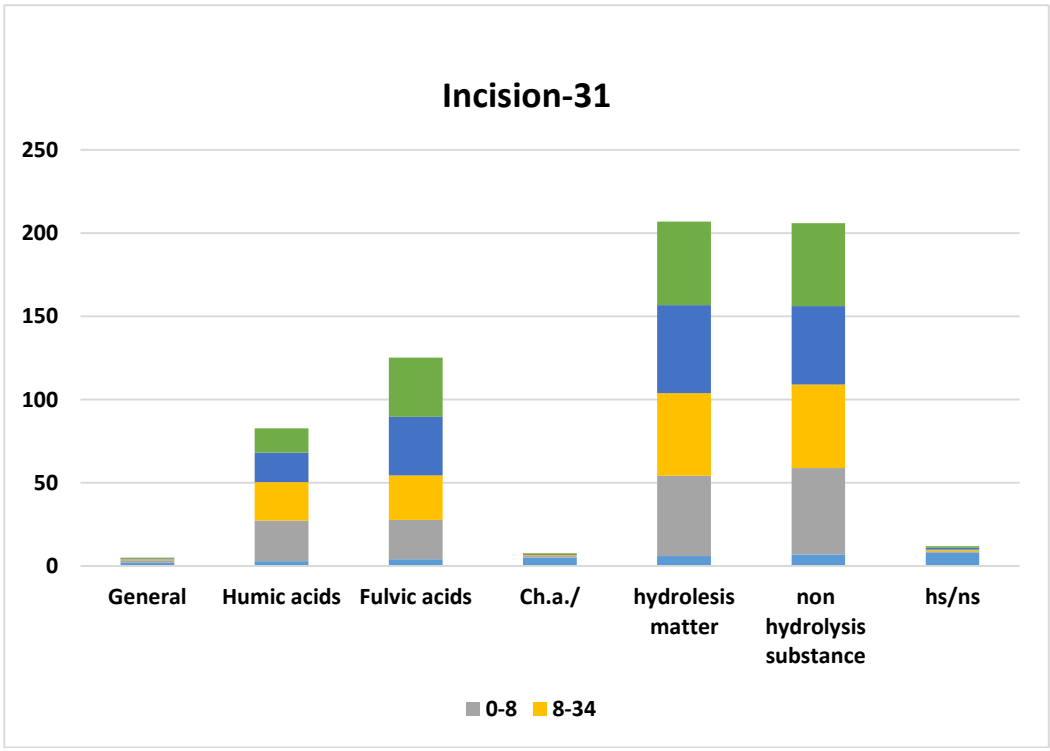
GROUP STRUCTURE OF HUMUS OF MINING-BROWN CARBONATE SOILS.

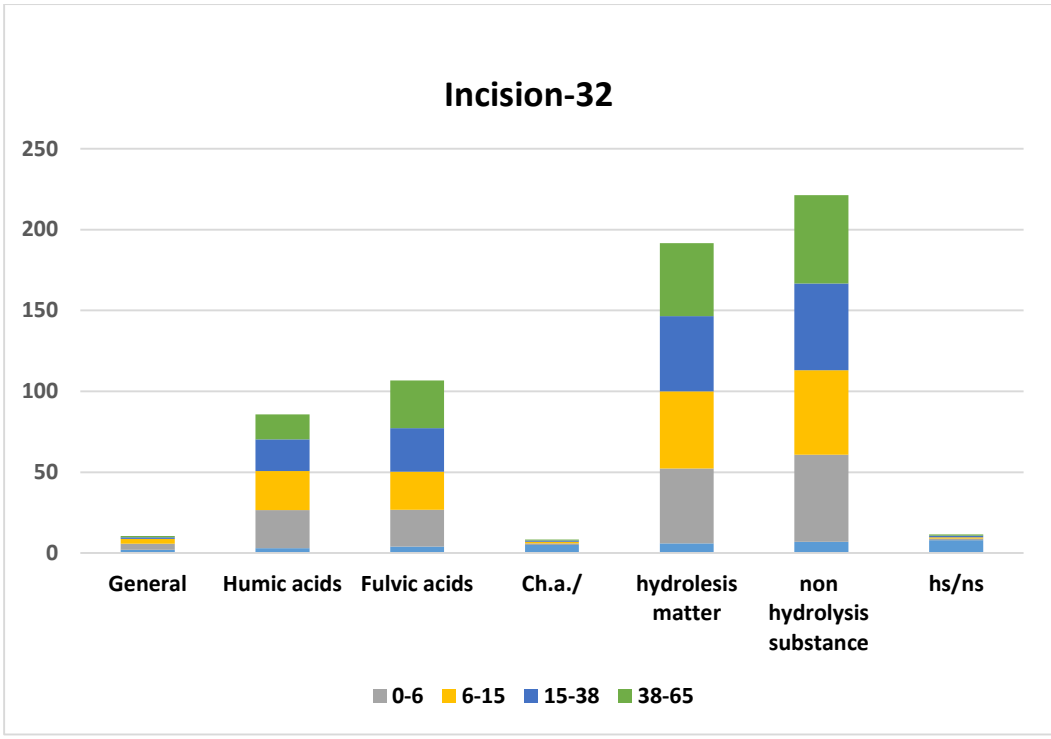
Depth, cm	General information C, %	Humic acids	Fulvo acids	C.h.a./ C.f.a.	Hydrolyzable substance	Non-hydrolysable substance	hs/ns	Type of humus
1	2	3	4	5	6	7	8	9
Incision-30								

0-8	2,68	23,3	20,3	1,14	43,6	56.4	0,77	Fulvatno-humitous
8-16	1,48	25,6	24,0	1,06	49,6	50,4	0,98	Fulvatno-humitous
16-27	1,35	19,1	26,6	0,71	45,7	54,3	0,84	Humate-fulvate
27-75	0,59	16,5	25,8	0,63	42,3	57,7	0,73	Humate-fulvate
75-120	0,43	15,2	25,6	0,61	40,8	59,2	0,68	Humate-fulvate
Incision -31								
0-8	1,49	24,4	23,8	1,02	48,2	51,8	0,93	Fulvatno-humitous
8-34	0,68	23,1	26,6	0,84	49,7	50,3	0,98	Humate-fulvate
34-52	0,45	17,6	35,3	0,49	52,9	47,1	1,12	Fulvate
52-75	0,33	14,6	35,6	0,42	50,2	49,8	1,00	Fulvate
Incision -32								
0-6	3,67	23,5	22,7	1,03	46,2	53,8	0,85	Fulvatno-humitous
6-15	3,12	24,2	23,6	1,02	47,8	52,2	0,91	Fulvatno-humitous
15-38	0,92	19,5	26,9	0,72	46,4	53,6	0,86	Humate-fulvate
38-65	0,79	15,6	29,6	0,52	45,2	54,8	0,82	Humate-fulvate

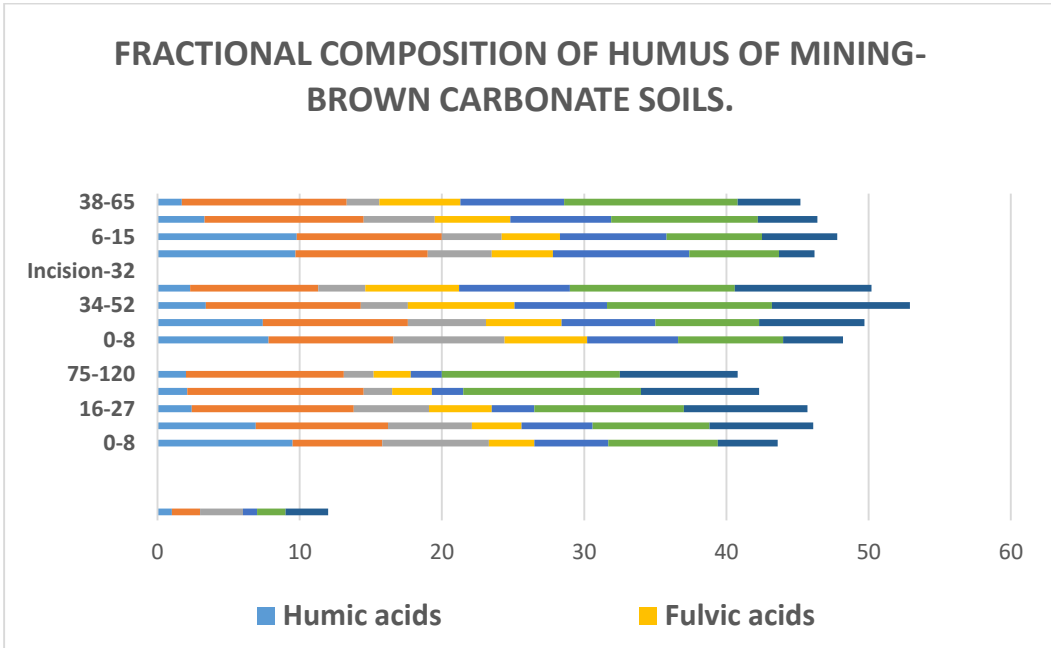
GROUP STRUCTURE OF HUMUS OF MINING-BROWN CARBONATE SOILS.


Incision-30
250
200
150
100
50
0
General
Humic acids
Fulvic acids
Ch.a./
hydrolesis matter
non hydrolysis substance
hs/ns
0-8
0-9
16-27

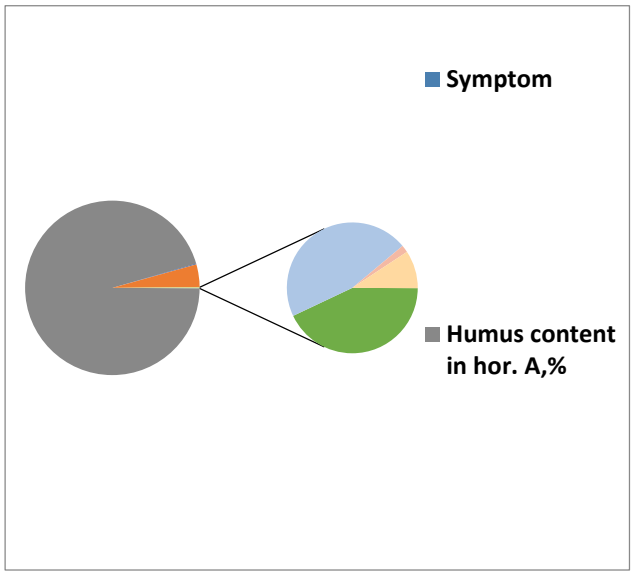

Incision-31
250
200
150
100
50
0
General
Humic acids
Fulvic acids
Ch.a./
hydrolesis matter
non hydrolysis substance
hs/ns
0-8
8-34



FRACTIONAL COMPOSITION OF HUMUS OF MINING-BROWN CARBONATE SOILS.



Condition of mining-brown carbonate soils humus state of mining and brown carbonate soils table 4.



Fractional composition of humus, fractional composition of humus of mining-brown carbonate soils.

Table 3

Depth, cm	Humic acids			Fulvic acids			
	Fractions						
	1	2	3	1a	1	2	3
	Free and associated with mobile sesquioxides	Associated with calcium (Ca++)	Associated with clay minerals and resistant forms of sesquioxides	Free and associated with mobile sesquioxides	Associated with humic acids fraction 1.	Associated with humic acids fraction 2.	Associated with humic acids fraction 3.
Incision-30							
0-8	9,5	6,3	7,5	3,2	5,2	7,7	4,2
8-16	6,9	9,3	5,9	3,5	5,0	8,2	7,3
16-27	2,4	11,4	5,3	4,4	3,0	10,5	8,7
27-75	2,1	12,4	2,0	2,8	2,2	12,5	8,3
75-120	2,0	11,1	2,1	2,6	2,2	12,5	8,3

Incision-31							
0-8	7,8	8,8	7,8	5,8	6,4	7,4	4,2
8-34	7,4	10,2	5,5	5,3	6,6	7,3	7,4
34-52	3,4	10,9	3,3	7,5	6,5	11,6	9,7
52-75	2,3	9,0	3,3	6,6	7,8	11,6	9,6
Incision--32							
0-6	9,7	9,3	4,5	4,3	9,6	6,3	2,5
6-15	9,8	10,2	4,2	4,1	7,5	6,7	5,3
15-38	3,3	11,2	5,0	5,3	7,1	10,3	4,2
38-65	1,7	11,6	2,3	5,7	7,3	12,2	4,4

Humus state of mining and brown carbonate soils
Table 4.

Symptom	Index	Character Level
Humus content in hor. A,%	2.4	Very low I st
Reserves of humus (t / ha) in the layer 0-20 cm	62	Low II degree
The enrichment of humus with nitrogen, C: N	9	Middle II steppe
The degree of humification of org. material. Сгк / Собщ. 100%	1890	High II degree
Content of mobile humic acids,% to the amount of HA.	42	Middle II steppe
The content of humic acids associated with calcium,% to the amount of HA.	28	Low II degree
Content of strongly-bound humic acids,% to the amount of HA	30	Low II degree
Type of humus	1,18	Fulvatno-gumanitnyj-
The optical density of humic acids	6,1	Very high

0, 001% of the GK E 465 nm, 1 cm		

Conclusion

1 According to the group composition of soil humus, humic acid is a significant fraction of fulvic acid (ratio SGK: SFK-1.18). In the remaining layers the fulvic acid predominates over humic acid (the ratio of SGK: SFK-0.62-0.70), which is lower than the content of humic acid.

2. Analysis of the fractional composition of mountain carbonate soils is part of humic acid, which is bound to a maximum of 2 fractions, that is, calcium. The content of this fraction increases horizontally from top to bottom. The reason for this phenomenon is associated with high levels of CaCO3. In the upper layers 3, the humic acid fraction is more common with active iron, aluminum oxide and even more in combination with calcium. This can be explained by a strong biological process in the same layer.

3. According to the group composition of soil humus, humic acid is a significant fraction of fulvic acid (ratio of SGK: SFC-1.18). In the remaining layers the fulvic acid predominates over humic acid (the ratio of SGK: SFK-0.62-0.70), which is lower than the content of humic acid.

4. It should be noted that the amount of fulvic acid 2 fraction increases by analogy with others. Here it also increases from top to bottom, in comparison with the first fraction of fulvic acid. This may be due to an increase in the number of feldspars and the mechanical composition of the soil.

5. The highest levels of soil horizons A and A1, the number of fractions of humic acid fractions 1 and 3, is higher than that of the lower horizons (Table). The number of fractions of 2-fulvic acid in them predominates in comparison with other fractions 1a, 1 and 3. This is particularly noticeable in layer B2.

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YOUTH ARE THE DECISIVE FORCE OF TODAY AND TOMORROW

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Abstract: this article explains the attention of the government to young generations to grow up them both mentally and physically healthy with examples.

Keywords: Youth, right, talent, ability, opportunity, obligation.

It is natural that a well-educated person will sacrifice himself for the country's worthy place in the world community. Every nation, first of all, is strong in its high culture and spirituality. In the first years of independence, the idea was put forward by First President Islam Karimov: "In the future, Uzbekistan should admire the world, not only with a highly developed economy, but also with educated, spiritually mature children." Indeed, today, our government and our government have the opportunity to be independent, self-centered and have a high intellectual and spiritual potential and to be the happiest and happiest people in the world, it works. This is evidenced by the fact that the relationship between youth and education has risen to the level of public policy.

Today, our first President Islam Karimov's ideas are appropriate for the intellectual potential of young people: "Today is no secret that the 21st century we live in is a century of intellectual wealth. Whoever does not understand this truth in time, if intellectually, the pursuit of intellectual wealth does not become a daily life for every nation and state, then such a state will be left out of the way of world development. A deeply well-informed state, for which the society, which has drawn such conclusions and strives for the promotion of the international community and developed countries, first of all, today is a harmonious generation, the greatest and, most important, the most sacred goal.

The adoption of the law "On the principles of the state youth policy" was adopted at the beginning of the sovereignty of our state, on November 20, 1991, the first order of the President of the Republic of Uzbekistan, For the good generation ratified by the Oliy Majlis of the Convention" On the rights