ON THE SUITABILITY OF SOME SOILS IN THE DISTRICT OF MEHEDINȚI FOR DIFFERENT CROPS

PRETABILITATEA UNOR SOLURI DIN JUDEȚUL MEHEDINȚI PENTRU DIFERITE CULTURI AGRICOLE

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Abstract: *The study, carried shows the suitability of some soils for different use categories and crops in the District of Mehedinți. For calculating the note class and finding out the fertility classes, 10 soils (types and subtypes), which extend on larger surfaces in Mehedinti County have been studied.*

Rezumat*: Prezentarea principalelor tipuri de sol din sudul Mehedinţiului, străbătând teritoriile administrative Şimian şi Hinova, ajungând la forma geomorfologică a avut un rol important în decursul timpului în conturarea actualului curs al Dunării şi al spaţiului geografic în partea de sud-vest a ţării.*

Key words*: favourability, culture, fertility class*
Cuvinte cheie*: favorabilitate, culturi, clase de fertilitate*

INTRODUCTION

The present work wants to establish the best soils for cultures and plantations, which have been taken in consideration.

MATERIAL AND METHOD

To make the assessment calculus we have chosen from the multitude of environmental conditions that characterise each land unit within the District of Mehedinți only those considered most important, easier and more accurate to measure, that can usually be found in soil study works, called assessment indices.

In assessing lands for natural conditions each of the indices mentioned except for index number 69 that intervenes directly participate in the establishing of assessment grade for an assessment coefficient that oscillates between 0 and 1, depending on the total unfavourableness or favourableness of the grade for the requirements of the use to take into account.

For each index depending on its scale and on its use or crop, we made up tables containing the values of the coefficients.

RESULTS AND DISCUSSION

From the analysis of the note class for cereal crops (autumn wheat and autumn barley), it results a big difference of the soil units all from the viewpoint of the conditions they create for the raised plants. The highest marks (from 100 to 82 points) are obtained by the typical chernozem and cambic chernozem, which fit in the 1st and 2nd fertility classes.

The poorest conditions are offered by the rhenzen, where the values are: sun flower-12 points, rice -10 points, wheat-14 points, and maize-15 points.

Table 1

The favourability of the soils of the Mehedinți County for wheat, barley, corn, sun-flower

No	The soil type	Wheat		barley		com		sun-flower	
		Note evaluatio	Fertility class	Note evaluatio	Fertility class	Note evaluatio	Fertility class	Note evaluatio	Fertility class
1.	Preluvosoil	54	VI	54	VI	54	VI	55	IV
2.	Psamosoil	39	VII	39	VII	45	VI	40	VII
3.	The typical chernoziom	100	I	100	I	100	I	100	I
4.	The cambic chernoziom	82	III	73	IV	72	IV	72	IV
5.	The cambic gleisoil	45	VI	39	VII	45	VI	51	V
6.	Rendzine	14	X	10	X	15	X	12	X
7.	The reddish	51	V	43	VI	44	VI	40	VII
8.	Eutricambosoil	63	IV	51	V	41	VI	41	VI
9.	The entic gleizat	37	VIII	40	VII	41	VI	41	VI
10.	The entic aluviosoil	58	V	50	VI	45	VI	52	V

There have been obtained more reduced values for most of the soil-units in potato and sugar beet cultures whit the exception of the typical chernozem and of cambic chernozem (where the values are 90 points). Next, with much lower values (32 points) is the rhenzin, followed by the psamosoil with 31 points for potato and 51 points for sugar beet.

The values of the soil units are low due to the increased exigency that this cultures show to the environment conditions and the physical and chemical properties of the horizons in which the hard-liner system is developing, where the principal production is obtained (the roots and the tubers).

Table 2

The favourability of the soils in the Mehedinți County for potato and beet

No	The soil type	Potato		Beet	
		Note evaluation	Fertility class	Note evaluation	Fertility class
1.	Preluvosoil	70	IV	72	IV
2.	Psamosoil	31	VII	51	V
3.	The typical chernoziom	90	II	90	II
4.	The cambic chernoziom	90	II	90	II
5.	The cambic gleisoil	47	VII	50	VI
6.	Rendzine	32	VIII	32	VIII
7.	The reddish, vertical poor luvic	40	VII	50	VI
8.	Eutricambosoil	34	VIII	36	VII
9.	The entic gleizated aluviosoil	46	VII	46	VII
10.	The entic aluviosoil	57	V	50	VI

Table 3

The favourability of the soils in the Mehedinți County for oil flax, spin flax, hemp

No	The soil type	Oil flax		spin flax		Hemp	
		Note evaluation	Fertility class	Note evaluation	Fertility class	Note evaluation	Fertility class
1.	Preluvosoil	12	IX	19	IX	19	IX
2.	Psamosoil	32	VII	40	VII	35	VII
3.	The typical chernoziom	63	IV	46	VI	63	IV
4.	The cambic chernoziom	62	IV	63	IV	43	VI
5.	The cambic gleisoil	39	VII	33	VII	39	VII
6.	Rendzine	14	IX	12	IX	19	IX
7.	The reddish, vertical poor luvic	46	VI	39	VII	43	VI
8.	Eutricambosoil	32	VII	29	VIII	36	VII
9.	The entic gleizated aluviosoil	70	IV	57	V	70	IV
10.	The entic aluviosoil	39	VII	39	VII	45	VI

The oil flax, the spin flax and the hemp find themselves the best conditions on the typical chernozem, which has obtained 90 points, and the cambic chernozem – with 70 points. Less favourable conditions for these cultures are offered by the soils with the lowest values: preluvosoil and rhenzin.

Table 4

The favourability of the soils in the Mehedinți county for wine, table grapes

No	**The soil type**	**wine**		**table grapes**	
		Note evaluation	**Fertility class**	**Note evaluation**	**Fertility class**
1.	Preluvosoil	70	IV	70	IV
2.	Psamosoil	18	IX	21	VIII
3.	The typical chernoziom	90	II	90	II
4.	The cambic chernoziom	80	III	80	III
5.	The cambic gleisoil	35	VIII	35	VIII
6.	Rendzine	25	VIII	29	VIII
7.	The reddish, vertical poor luvic	37	VII	36	VII
8.	Eutricambosoil	16	IX	16	IX
9.	The entic gleizated aluviosoil	15	IX	15	IX
10.	The entic aluviosoil	37	VII	36	VII

The vineyard finds fine conditions on the typical chernozem with 90 points and the cambic chernozem – with 80 points. The poorest conditions are given by the aluviosoil gleyed and eutricambosoil.

Table 5

The favourability of the soils in the Mehedinți County for pastures and hay

No	The soil type	Pastures		Hay	
		Note evaluation	Fertility class	Note evaluation	Fertility class
1.	Preluvosoil	72	II	72	II
2.	Psamosoil	47	VI	41	VI
3.	The typical chernoziom	96	II	96	II
4.	The cambic chernoziom	90	II	90	II
5.	The cambic gleisoil	65	IV	56	VI
6.	Rendzine	66	IV	56	VI
7.	The reddish, vertical poor luvic	56	V	51	VI
8.	Eutricambosoil	65	IV	56	VI
9.	The entic gleizated aluviosoil	56	V	47	VII
10.	The entic aluviosoil	58	V	41	VI

The pasture finds the best conditions on the typical chernozem and the cambic chernozem where the obtained values are of 90 points for both of the soils.

The hays develop a rising exigency for the physical and chemical properties of the soils witch lead to the decrease of the note class for all the soil units. The highest values are being obtained on the typical cambic chernozems where the values are from 96 to 90 points, which present the best properties.

Table 6

The favourability of the soils in the Mehedinți County for vegetable

No	The soil type	Vegetable	
		Note evaluation	Fertility class
1.	Preluvosoil	72	II
2.	Psamosoil	39	VII
3.	The typical chernoziom for loess and loess deposit, clay	100	I
4.	The cambic chernoziom decarbonate in the sands	72	II
5.	The cambic gleisoil	50	VI
6.	Rendzine	44	VI
7.	The reddish, vertical poor luvic	72	II
8.	Eutricambosoil	50	VI
9.	The entic gleizated aluviosoil	70	IV
10.	The entic aluviosoil	56	V

The vegetables can easily be raised on typical chernozem, where they have ensured the water supplies for the irrigations needed as well as a number of favourable priorities. This fact is reflected trough the highest values of the note class that is 100 points. The preluvosoil, the cambic chernozem and the vertic red preluvosoil are of a good quality too obtaining 72 points, that is to say the 2nd fertility class.

CONCLUSIONS

After calculating the note class for all cultures and plantations taken in consideration, there has been observed that the most fertile soils are typical chernozem and cambic chernozem.

LITERATURE

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