A STUDY OF THE SOIL COVER WITHIN THE FORESTRY STATION AT BOLNOVAT-SEMENIC (COUNTY OF CARAS-SEVERIN)

STUDIUL ÎNVELIŞULUI DE SOL DIN CADRUL STAŢIUNILOR FORESTIERE DIN ZONA BOLNOVĂŢ- SEMENIC, JUDEŢUL CARAŞ-SEVERIN

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***Abstract**: The parental substratum of the production unit II Bolnovat is made up of mica shale that disaggregate relatively quickly during the geological time; sericitous shales; intrusions of magma rock whose disaggregating and alteration takes place rapidly resulting in a coarse material in plates or blocks, then small pebbles with sand and, finally, loamy sand or sandy loam with small pebbles and lots of quartz sand with fragments of white mica. The geological substratum is considered to have medium to weak resistance to erosion and it has a direct effect on the geo-morphology of the territory.*

***Rezumat:** Substratul parental al unităţii de producţie II Bolnovăţ este format din: micaşisturi, care se dezagragă relative repede în timpul geologic; şisturi sericioase; intruziuni de roci magmatice, a căror dezagregare şi alterare se produce repede, rezultând iniţial un material grosolan în plăci sau blocuri, apoi pietriş mărunt cu nisip şi în final nisip lutos sau lut nisipos cu pietriş mărunt şi mult nisip cuarţos cu fragmente de mică albă. Substratul geologic este considerat de rezistenţă mijlocie-slabă la eroziune şi are efect asupra geomorfologie teritoriului*

***Key words**: forestry station, soil cover, profile*
***Cuvinte cheie**: staţiune forestieră, înveliş de sol, profil*

INTODUCTION

The arboreta in this production unit are located on the right slope of the Barzava River, making up a compact body in the north of the Semenic Mountains.

The geo-morphological unit is characterised by a long, linear, slightly waved slope. Valleys are similarly well represented.

MATERIALS AND METHOD

In each manageable unit we carried out control soil profiles and main soil profiles.

From the profiles we sampled in order to carry out laboratory analyses to measure the physical and chemical features of the soils.

RESULTS AND DISCUSSION

Table 1

Analysis bulletin

Soil type	Horizon	Depth (cm)	Humidity %	pH	Humus %	SB me%	SH me%	T %	V %	Total nitrogen g%
Districamb osoil	Ao	5	2.75	3.8	5.90	5.33	12.22	17.5	30.3	0.30
	Ao/Bv	30	2.93	4.6	3.82	5.44	8.840	14.2	38.0	0.19
	Bv	35	2.94	4.7	1.40	5.54	6.240	11.7	47.0	0.07
Eutricamb osoil	Ao	5	7.54	4.1	4.94	7.62	13.00	20.6	36.9	0.25
	Ao/Bv	10	4.60	4.6	3.41	4.76	8.840	13.6	35.0	0.17
	Bv	40	3.90	4.9	1.55	4.18	7.800	11.9	34.8	0.08

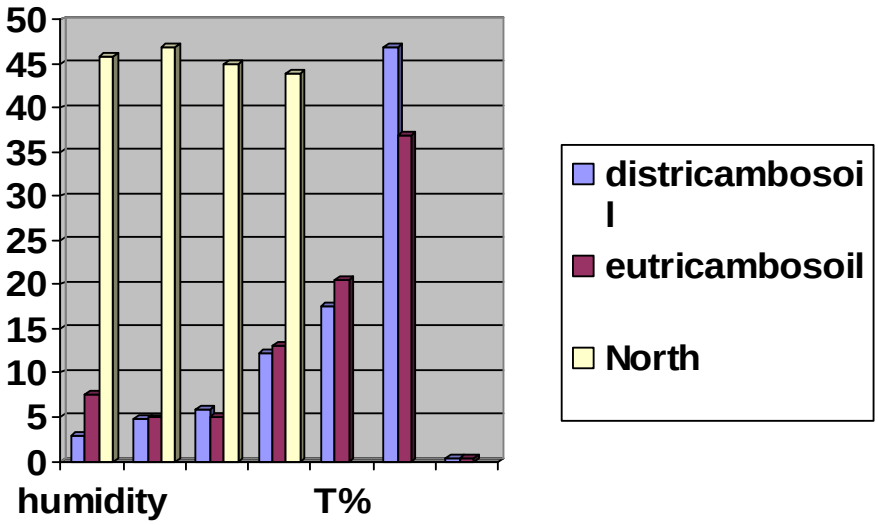

Fig. 1 Analysis bulletin

Typical districambosoil covers an area of 145.7 ha and 24 manageable units, being identified on slopes differently inclined and with variable expositions.

The lithological substratum is represented by mica shales and sericitous shales.

The humid and cool climate and the presence of evergreens have favoured soil acidification.

In these conditions, micro organism activity is lower, the changing of organic debris is slower, and newly formed organic acids undergo a process of mineralization as intense as in eutricambosoils.

Table 2

Types of stations per assessment categories

No	Type of station		Area		Assessment categories		
	Code	Diagnose	ha	%	High	Medium	Low
1.	4.3.3.1	Beech mountain pre-mountain Bi	5.6	1	-	-	5.6
2.	4.4.2.0	Beech mountain pre-mountain Bm, with Asperula-Dentaria	537.5	49	-	537.5	-
3.	4.4.3.0	Beech mountain pre-mountain Bs, with Asperula-Dentaria	549.4	50	549.4	-	-
4.	4.5.3.0	Beech mountain pre-mountain Bm	0.4	-	-	0.4	-
Total		ha	1092.9	100	549.4	537.0	5.6
		%	100	-	50	49	1

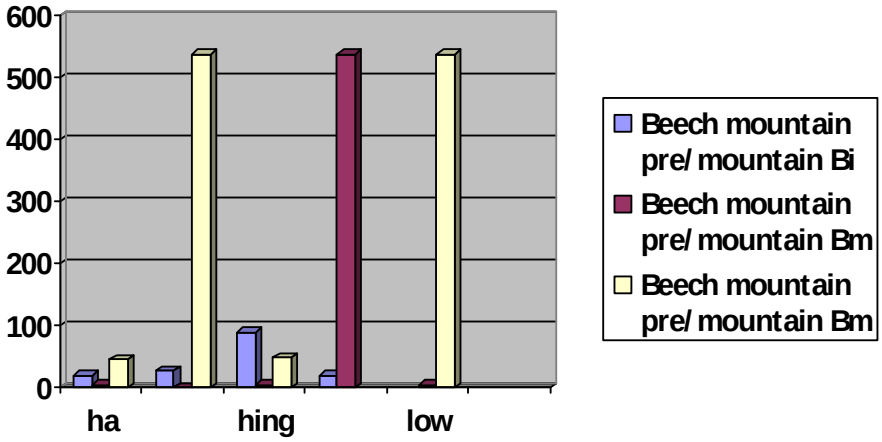

Fig.2 Types of stations per assessment categories

Typical eutricambosoil covers an area of 608.9 ha and 79 manageable units, while the pseudo-rendzinic sub-type covers an area of 332.3 ha and 37 manageable units.

Humus values are high since it is a raw humus of low quality.

Depending on productivity, arboreta can be grouped into:

- high productivity arboreta – 556.9 ha – 50%;
- medium productivity arboreta – 527.4 ha – 49%;
- low productivity arboreta – 5.6 ha – 1%;

Total 1089.9 ha – 100%

Arboreta productivity is well correlated with station assessment, which is 50% superior, 49% medium, and 1% low.

It is worth noting the difference of 3.0 ha between the total area of the station types and arboreta area, due to the existence of deserted lands that are to be reforested.

CONCLUSIONS

As far as the altitudinal distribution is concerned, forest vegetation can be found at a single phyto-climate level: mountain – pre-mountain beech level (FM1+FD4).

The production unit territory is characterised by a moderate continental climate with Mediterranean influences, with influences of general NE exposition, favourable to the optimal development of the forest vegetation in the high hill and sub-mountain areas (FA; BR; MO; PAM; FR).

Within the studied production unit, there is a rich network of waters whose main collector is the Bârzava river.

The main tributaries of the Bârzava river on the territory of the Bolnovat production unit II are the rivulets Bolnovat, Crumpi, Lula, Dignasu, Depatatu and Ogasu Bailor Mari.

The water flow is balanced and has a permanent character.

Forest vegetation influences positively the hydrological network by preventing soil erosion and, implicitly, the clogging of the rivulets (it favours water trickling through the soil).

The geo-morphological unit is characterised by a long, linear, slightly waved slope.

Valleys are similarly well represented.

Typical districambosoil covers an area of 145.7 ha and 24 manageable units, being identified on slopes differently inclined and with variable expositions.

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