

STUDY DISTRICAMBOSOIL TYPICAL AVRAM IANCU VILLAGE, ALBA COUNTY TO IMPROVE CHEMICAL PROPERTIES

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Abstract

The village is located in the depression formed by the upper course of Aries Small 46°22' north latitude and 22°49' east longitude with an altitude of 750 m is surrounded by mountains Biharia in NV, Mount Gaina part of V, and Mount higher in the U.S.

Soil studies and research synthesis that large areas of land are affected by one or more limiting factors and/or restrictive agricultural production.

Physical soil has a loamy texture and bulk density increased with control conditions aerohidric regime.

Agrochemical soil is moderately debazificated acid, following the limits concerned in correcting soil and protection of the reaction (pH). Has an average supply of humus, probably due to the application in the area exclusively manure. Soil fertility and productivity is low.

Keywords: rock-mothers heterogeneous, limiting factors, physico-chemical soil acidity

INTRODUCTION

The village is located in the depression formed by the upper 46°, low to Aries, 22°22' north latitude, 49' east longitude, altitude is 750 m. It is surrounded by mountains Bihor in NV, Mountain Gaina in V part, and Big Mountain in the NV. The village is crossed by the river Aries Small, which had the origin in the village. S of Bihor and is near the top axis of symmetry of the village, just beyond the area to the north, on the south. Accordingly village altitude between 750 and 1848m (Peak Curcubăta Mare), the mountainous varied conditions in different climatic, topographic and microclimates under natural forest vegetation, interrupted by meadows and arable land, the rock Mothers processes or pedogenesis heterogeneous in space and time triggered differently creating a great diversity of soils. The soil was formed and evolved just substances and influence the flow of energy in a very long time, and always has been held in the soil inputs, outputs or losses, transformation and translocation, organization and reorganization of the compounds etc. under the action of various physical, chemical and biochemical heavily influenced by environmental factors. Synthesis of large studies and soil surveys shows that affected areas of land by one or more limiting factors and/or restrictive of agricultural soil is loamy texture production.

Physically and high bulk density with aerohidric conditions regime. Agrochemical control, soil is moderately acid debazificat, enrolling land concerned within the state to redress and protection reaction (pH). Has average year supply of humus, probably due to the application in the area exclusively manure. Soil fertility and productivity is low.

MATERIAL AND METHOD

Samples were processed following analyzes were performed, and used the following methods:

Determination of physical characteristics:

Soil texture was determined by the method Cernikova (principle underlying the method is sedimentation speed pipetting different particles in a liquid, depending on their size, according to Stokes's law).

Determination of chemical characteristics:

Determination of soil humus was performed by methods tritimetrice respectively Tiurin method.

Principle oxidation is a humus carbonate solution or chromic anhydride poitasiu dichromate in sulfuric acid present.

Determination of soil reaction (pH) was performed by the method of potentiometric pH-sensitive glass electrode, at a ratio soil: water 1:2.5;

Degree of base saturation (V) - defines the rate at which colloidal complex is saturated with basic cations.

Low values of V% reflecting strong leaching, respectively debazificare horizons acid reaction and properties of soil less favorable for the growth and development of crop plants.

RESULTS AND DISCUSSION

Districambosoil typical (SRTS-2012)

Pedogenetic conditions:

Terrain: low corrugated terraced slope

Slope/Exhibition: 15 - 20°northwest

Altitude: 800 m

Parental Material: green sericite schists, micaceous schists, conglomerates, clays

Natural vegetation: Oxalis acetosella, Luzula luzuloides, Vaccinium myrtillus

Use: arable crop potato

Sequence of horizons: A₀-AB-Bv₁-Bv₂-R

Districambosoil typical soil taxonomic unit, the conglomerates, clays, clay environment/clay dusty environment.



- A₀ horizon: 0-23 cm, dark gray (10YR 4/1) when moist and brown gray (10YR 5/1) when dry, clay-medium grain structure small-medium, slightly stable on drying, loose, moderately compact, common roots, neoformation - galleries earthworms, coprolite rare, do not ferment;
- Horizon AB: 24-41 cm grayish brown (10YR 4/1), gradual transition;
- Bv₁ horizon: 41-87 cm, dark yellowish brown (10YR 5/4) when moist and brown yellow (10YR 6/3) when dry, large grain structure, thin polyhedral subangular, medium dusty clay, moderately compact, rare roots;
- Bv₂ horizon: 87-120 cm, dark yellowish brown with reddish rust spots (10YR 5/6), polyhedral structure looking rough, dusty clay, moderately weak compact roots rare, frequent bone fragments;

Table 1

Physical and chemical properties of typical districambosol

HORIZONS	A ₀	A/B	Bv ₁	Bv ₂
Depth (cm)	0-20	20-40	40-60	60-100
Coarse sand (2.0 to 0.2 mm)%	24,3	22,6	21,0	20,1
Fine sand (0.02-0.02 mm)%	42,48	41,95	42,19	44,55
Dust (0.02 to 0.002 mm)%	15,27	18,36	17,27	15,22
Natural clay (less than 0.01 mm)%	16,95	17,09	19,54	20,13
TEXTURE	LN	LN	LN	LN
Bulk density (g/cm ³ YES)	1,53	1,49	1,48	1,46
Humus (%)	3,10	2,12	1,56	1,26
pH in H ₂ O	5,17	5,23	5,37	5,27
Degree of base saturation (V%)	30,2	34,7	59,8	55,1

Of physical soil has a loamy texture and bulk density increased with control conditions aerohidric regime.

The soil is moderately debazificat, following the limits concerned in correcting soil and protection of the reaction (pH). Has an average supply of humus, probably due to the application in the area exclusively manure. Soil fertility and productivity is low.

CONCLUSIONS

In this type of soil are needed agro-pedo-ameliorative real work leading to improved characteristics of chemical, physical and biological. These works influence soil profile depths exceeding frequently processed

layer and their effect remains, on average, 3-7 years or even more.

Thus districambosoil typically require an amendment to optimize acid reaction and base saturation status. Necessity and urgency of work is determined by the intensity of expression of the two chemical characteristics, plus the presence of exchangeable aluminum in the soil solution.

In order to improve amendment is required in addition to calcium and organic fertilizer application.

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