

AGROCHEMICAL AND PEDOLOGICAL STUDY AND SET ASIDE LAND MONITORING IN MOLDOVA NOUA COUNTY CARAȘ – SEVERIN

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Abstract

The work aimed at developing the economic set aside land register. For this is necessary to present the natural conditions of the environment and the ground. It is also required an analysis of the limitative factors plant production, but also solutions for improving them.

The work is as their objective the fixing, demarcation and the counting units of ground-to-ground, agricultural land for crops favorability, the classes of quality in relation to the evaluation grades for agricultural uses, the determination of supply status, the insurance of the soil, the identification, delimitation and stocktaking degradation types and determining appropriate agro-pedo-ameliorative works and antierosion measurements.

The territory of Moldova Noua is situated within Western Carpați and Banat mountains with Locvei Mountains subdivision.

Studying in detail the relief of the territory, it is noted that a large surface area is characteristic of the mountains last branches Locvei, rest of the surface having a relief with all specific.

This relief to be able to be characterised more easily was divided into two areas: Moldova New eastern and Moldavia old the west side, north-west.

Key words: limitative factors, evaluation grades, land favorability, stocktaking degradation, humus reserve.

INTRODUCTION

Continued development of intensive agriculture in our country has necessitated and requires among other things, various works of improvements to land on surfaces reached out and use, improvement and management of more efficient of the land, based on a good knowledge of the resources from the ground.

These requirements led to an appreciable increase in the last few years the volume of soil studies for different purposes, a fact which has led to a diversification of the studies and also to an improvement in their content to be able to respond to tasks and demands increased crop production,

In close correlation with the introduction in production of technical progress made in mechanization, irrigation and fertilizing.

MATERIAL AND METHOD

Analyzes have been harvested in the field of profile to the ground in accordance with present methodology, the samples analyzed in OSPA Timiș laboratories and USAMVB Agricultural Faculty in Timișoara.

RESULTS AND DISCUSSIONS

In the context of conservation and increase agricultural land fertility should be imposed on urgently a detailed over the limitative factors of agricultural productions. Analysis is to identify such degradation or limitations in the territory having investigated, their degree of intensity and the establishment habitats that are situated within the manifestation, created on which it may be necessary by measures of prevention or through work ameliorative.

Nature and damage intensity synthetic presented by the evaluation grades has been analyzed in part for each limitative factor in relation to the behavior from different points in the studied area and the ameliorative particularities requirements and measures of the areas concerned.

Depending on the multitude factors analyzed in the boundary investigated meet following groups of restrictions, and limitations:

A. Limitations due to chemical characteristics of soils:

-Acidity

On the studied perimeter limitative factor to the cca. 1635,39 Ha, 37,03 % of the area being researched. In this way are present:

- limitations due to reduced acidity on a surface of 484,14 ha, 10.96 % of the perimeter was investigated, moderate limitations on a surface of 1151,25 ha, 26,07 % of the area investigated.

-Humus reserve

In this way within the territory we have encountered:

- land with limits reduced in area of 330,34 ha about 7,48 %;
- land with moderate limitations in the surface of 2661,89 ha, that is 60,29 %;

- land with severe limitations on a surface of 490,11 ha, 11.10 %;

- land with very severe limitations on a surface of 25,62 ha, 0.59 content of CaCO_3

It meets in the following situations:

- land with limits reduced in area of 150,32 ha, 3.40 %;

- land with severe limitations on an area of 3.58 ha, 0.08 %.

B. limitations due to physical characteristics of soils

- coarse and fine texture of the soil

Due to coarse texture we have encountered limitations reduced on a surface of 116,41 ha, 2.64 %, we have encountered limitations reduced fine texture on a surface of 1020,54 ha, 23,11 %.

-Compactness

- moderate compactness limitations due to meet on a surface of 778,82 ha, 17.64 %.

Severe limitations due to compactității we have encountered on a surface of 324,46 ha, 7,35 %.

- The Volume edafic useful

- limitations reduced in area of 531,75 ha, 12,04 %;

- moderate limitations on a surface of 521,76 ha, 11,82 %;

- severe limitations in the surface of 47,51 ha, 1.07 %;

- very severe limitations in the surface of 1263,50 ha, 28,61 %,

- limitations extremely severe on a surface of 159,03 ha, 3.60 %.

C. Limitations due to excess moisture

- that any discharges

- land with limits reduced as in the case of use arable land in suprafață 60,19 ha, 1,36 %;

- land with moderate limitations on a surface of 793,69 ha, 17,98 %.

- Pluvial stagnant

- land with limits reduced as in the case of use arable land on a surface of 24,26 ha, 0.55 %.

- humidity through overflowing

- land with very severe limitations in the case of use as arable land on a surface of 941,14 ha, 21,31 %.

D. Limitations due to erosion processes to the surface, depth, and the slippage of the land:

Slope of terrain

- land with limits reduced as in the case of use arable land on a surface of 786,28 ha, 19,52 %;

- land with very severe limitations in the case of use as arable land on a surface of 225,11 ha, 5.10 %.

- land with extremely severe limitations in the case of use as arable land on a surface of 656,26 ha, 14.86 percent held by %.

The erosion surface, including danger erosion

- limitations reduced in the case of use as arable land on a surface of 99,73 ha, 2.26 percent in %.

Slipping and uninterrupted fall

-severe limitations in the case of use in the surface of 1115,94 ha, 25,27 %.

E. Limitations due to coverage or to rough land

- non-uniformity land

- limitations reduced over the entire surface of 4343,52 ha, 98,37 %.

On the basis direction natural production of the soil, the prognosis of ameliorative effect works, of the existing limitations of the various modes of use reference is made to measures necessary to be applied in ameliorative to bring up current parameters on agricultural land within the optimal limits.

Through ameliorative work should mean all technical interventions of different profiles (hydro-ameliorative, pedo-ameliorative and agro-ameliorative), performed on the ground whose fertility is low, in order to raise production potential.

As is normal, the works are dependent on factors ameliorative. In this consideration in tables pretability in which they are established and ameliorative measures using formulas accompanied by decoding aimed at silencing or cancellation negative accomplishments.

Establishment of work agro-pedo-ameliorative needs, of the drain to the surface, for agrotechnics antierosion, facilities improvements to land after criteria specific soil indicator 272 and 271.

A limiting factor with a constant intensity adversely affect the various different modes of use.

As a result of the work are necessary agro-pedo-ameliorative amend with scale, the urgency 3, and it is recommended that on a surface of 139,10 ha, 3.15%.

On a surface of 20,53 ha, 0,46% it is recommended that work deep moldboard, the urgency 2, and the 859,44 ha, 19,46% deep moldboard is recommended, the urgency 3.

In urgency 1 deep aeration work it is recommended that on a surface of 201,98 ha, 4.57% and in 2 it is recommended that urgency on a surface of 1310,46 ha, 29,67%. Work of the drain, ditch the spout soft, systematic, the urgency 1, it is recommended that on a surface of 1269,23 ha, 28.75%.

Mole drainage, the urgency 1 is recommended on a surface of 20,53 ha, 0,46%. Modeling is recommended in strips on a surface of 1341,18 ha, 30,38% of the surface.

It is recommended that it must be the work of agricultural machinery in the direction water leaks on a surface of 1574,08 ha, 35.65% in urgency 1.

As a result of the work of agrotehnică antierosion is recommended on the curve in level, the urgency 1, on a surface of 786,28 ha, 17,80%.

Crops in strips, the urgency 1 it is recommended to be carried out on a surface of 311,84 ha, 7.06%.

It is recommended that grass tapes of urgency 1 on a surface of 861,82 ha, 19,52%; crop rotation of protection urgency 1 on a surface of 225,11 ha, 5.10% and crops of perennial herbs urgency 1 on a surface of 656,19 ha, 14.86%.

In the territory that facilities improvements to land be taken following jobs: adjustments of courses of the waters to the 941,14 ha, 21,31% in urgency 1; indiguri on 941,14 ha, 21,31% urgency 1. Irrigation in urgency 1 on a surface of 1098,08 ha, 24,87%.

The draining of marshes of depth which is aimed at eliminating excess moisture it is recommended that any discharges over an area of 873,78 ha, 19,79 % of the area investigated. And draining of marshes of surface drainage is necessary on a surface of 1341,18 ha, 30,38%.

Outfitting antierosion, facilities of land with slippage in urgency 1 on a surface of 1115,94 ha, 25,27%.

To ensure that the inventory of works ameliorative to be effective it is absolutely necessary for work to be carried out in an order well established: to fight excess humidity, of the processes of the depth erozionale - surface, the outsoles of the field, fining with calcium carbonate,

Moldboard and end cultural work in which they enter and shape easy of the land.

Liming depending on the fertilisation plans from agrochemical evaluation helps to measures complementing the link required for high output.

CONCLUSIONS

Economically, agricultural evaluation grade take into account in determining soil evaluation grades traits (physical, physico-mechanical, hydrophysics, chemical), abilities natural frame (geomorphological characteristics, hydrological, climatic) attributes that lead finally to the state of fertility of the soil and which is located in close correlation with human activity.

All of these qualities have led to a variety big enough at the level of the soil subtype, diversity reflection and in the value of the evaluation, value what has it meant great eco-front by the interaction between bodies and the environment of life,

In this case between plants, soil, and other conditions edaphic data should be recorded, for each crop, for the purposes of a differentiated favorability and the possibility of obtaining the agricultural production.

For the purpose, in order to obtain expected production, on the measures taken related to the ground are closely related to the ameliorative and cultural requirements current.

To ground, or other edaphically factors status from the most favorable growth plants, in job bonitare operation, the chapter on bonitarea agricultural land is accompanied by analysis of factors limitativi and restrictivi of agricultural production and synthesis ameliorative requirements and measures on the basis of which may be determined measures to be applied.

This work was highlighted in a series of limitative factors remembered only the most representative and easier extent that outputs such as the following: soil reaction, the volume edafic, slope of terrain, the reserve of humus, etc.

The work in front is trying to submit requirements and measures to

be taken to soil in the state that is most favorable for growth and ignites a gleaming terrified new plants and to emphasize the importance of addressing complex of measures hidroameliorative with those agro-pedo-ameliorative in conjunction with the implementation of relevant technologies and choosing the most suitable grade of plants.

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