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RECOVERY OF SOIL RESOURCES IN ROMANA UNDER IRRIGATION CONDITIONS

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Abstract

Addressing the role and place of irrigation agriculture in Romania is one of the most debated issues. Irrigation is one of the most important technological sequences with a strong impact on soil physical features, through the process of moistening and because the issues they raise as a result of land degradation physical and chemical state of degradation of aggregates by moistening being influenced at the macroscopic stability of their mechanical and fluid specify.

Also through irrigation, soil work is affected too, whose significance is related aggregates and structural ability to resist to the destructive action of the impact of irrigation, or mechanical means of the soil processing.

Thus, the work put in question some aspects of the impact of irrigation on soil and agriculture, in the south area of the Romanian Plain.

INTRODUCTION

The rational development of the soil should be realized by combining the agricultural technologies in such a way that it will be realized concomitant: bio productivity, alimentary security, the soil quality protection, the economical viability and social acceptance.

In order to increase the efficiency of the entire complex of hydro ameliorative, agro soil ameliorative and tillage soil is important to know the types of soil specific to every area and the physical, chemical and biological properties of them, and also the different problems which are appearing as a result of the agricultural technological works, to increase fertility.

MATERIAL AND METHOD

For the study undertaken were conducted data analysis and interpretation, as a result of its having been undertaken at SCDA – Teleorman Country. The type of soil taken in the study clay is mold subtype, type of soil that occupies the largest area in Teleorman Country.

Documentation remains a basic element by which are updated processes and phenomena that make problems in agriculture, due to the impact of the irrigation during a long period of time.

Methods used in determining the humus and biological characteristics of soil were made after taking samples of soil amended with the settlement determinations in laboratory studies under preparation Methodology Soil (ICPA).

RESULTS AND DISCUSSION

The culture of plants in the scale irrigation has taken towards the end of the years'60 and early 70s, when some of the major systems, Calafat - Bailesti, Terrace Braila, Constanta country, totaled more than 700 000 ha arranged. **Situation arrangements for land improvements**. Surface arranged with various agricultural works in the background level of 2007 total 7,926,702 hectares, with 483 hectares less than in 2005. Surface irrigation has arranged for a share of theoretically 37.85% of all arrangements, reducing to 598 ha in 2008 compared to 2005. According statistical directories, between 2000-2006 were reduced irrigation areas, between 85,000 ha and 569,100 ha, and in 2007, 96,224 ha (table 1).

Table 1

Area actually irrigated (at least watered) during 2000-2007

Area	Years					
	2000	**2003**	**2004**	**2005**	**2006**	**2007**
ha	85,000	216,100	327,900	569,100	45,719	96,224
%	100	254	286	670	54	113

Regarding the losses caused by risk factors, according to the data MAPDR in 2007, each county in the country has suffered from risk factors, where the floods and drought, there is damage caused by an area of 622,380.7 ha.

In 2000, the governments of Romania, Bulgaria, Ukraine and Moldova sign agreement for ***Green Corridor of the Lower Danube***, the largest international initiative for the protection and restoration of nature in Europe, with the purpose of rational use of renewable natural resources, where we are and the greening continues some areas of the premises Meadow Danube Delta.

Thus, it is necessary to examine current land use, particularly in units where they were partially or completely drain the great lakes, and areas are included in the Teleorman Country: Nedeia, Suhaia and Greaka.

Chemical and biological changes in soil type mold clay Alexandria area under the influence of irrigation.

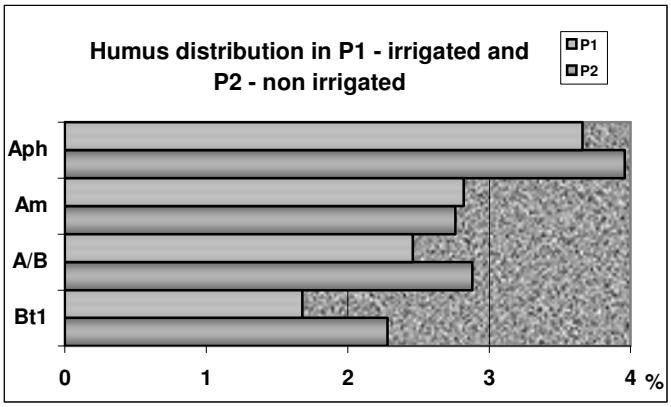

Fig. 1. Graphic distribution in the two humus profiles of Alexandria area (P1 and P2)

Humus content decreased on irrigated land in 2007, reaching a content of 3.60% versus 3.94% in non-irrigated variant from 2001 (figure 1).

Organic matter is present to the horizon and BT_1 are different in the two sections, being represented by humon soil particles strong matrix that ingrain horizons soil oftness and rare plant fragments and in advanced stages of decomposition and grind.

Biological activity. In P1 area Alexandria biological activity, is more intense than in the second profile (non-irrigated), which showed an abundance of structural elements of small size (figure 2). In P2, activity fauna is dominated by worms, structural elements are larger (figure 3).

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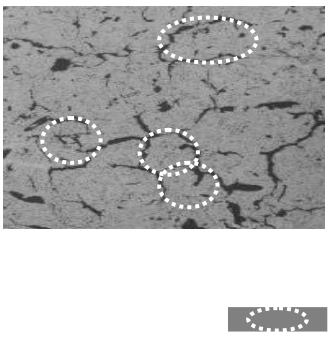

Fig. 2. P1-irrigated. Am horizon - structural elements

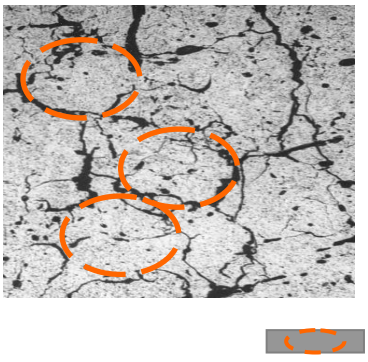

Fig. 3. P2-non-irrigated. Am horizon - structural elements

Wildlife movement from surface to depth is much greater in irrigated profile (P1), which revealed the presence pedo tubes oriented vertically.

This is because the application of irrigation extended period of time that is active fauna, and emphasizing the formations round of A horizon material specific Bt horizon.

CONCLUSIONS

1. Highlighting the crucial role of irrigation in the environment protection, which is fundamental to correct the deficiency or moisture.
2. Possible use of alternate sources of local water, such as groundwater.
3. In the irrigated, humus has a tendency to decrease during the first 30 cm, values reaching 3.6%.
4. Applying irrigation extend period of time that the fauna is active, resulting in a greater movement of worms in soil.

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