AGROCHEMICAL CARACTERIZATION OF SOILS IN THE TOWN OF DETA, TIMIS

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Abstract. *The Deta city is the largest urban settlement in Southwestern county of Timis, while being an important administrative center. Is located in Southwestern Romania at the intersection of parallel 45*23` North latitude with the meridian of 21*12` Eastern longitude and has an average elevation of 90 meters. The city polarizes both in terms of economic and socio cultural the life of the town: Denta, Moravita, Voiteg, Banloc, Jamu Mare, Giera, Giulvaz. The city landscape is identical to a part of the relief Timis County; is the result of a long process of evolution , which the Pannonian basin was formed and continued until the removal of the plain beneath the lake(Pannonian lake) and covered with a blanket of loss or alluvial deposits.*

Keywords: *soils, agrochemical, reaction, lands*

INTRODUCTION

The local color of Deta is given by a temperate-continental climate. In area of Deta, feels strongly the influence of the cyclonenesand warm air masses, from the adriatic and mediterranean sea, which in winter causes thaw completely, and in summer we feel the strong heat.

The water is one of the important natural resources for development in good condition to economic activities and social of any territory. The hydrographic network is the area of the Deta city is relatively low, only river Birda passes through the village and Denta overflow Barzava.

MATERIAL AND METHOD

We present in the following the interpretation of laboratory test results, resulth contained in the text agrochemical as arithmetic mean values, weighted average values and surfaces dividing the limits of interpretation.

The laboratory test results, in detail ,on harvest plots ,are passed both on agrochemical plan and analysis bulletins.

In order to understand the fuller analysis results agrochemical and a proper appreciation of fertility surfaces, render the interpretation of results with a brief presentation of the main groups of soils and the area they are engage**.**

RESULTS AND DISCUSSIONS

So, the soils of the city`s area of Deta are represented mostly(61%) eutricambosoil soils, gley et chernozem cambic (30%).The remaining surfaces, in a smaller proportion are also found alluvisols (4%), gleysoil (2%), clay-alluvial (2%) and chernozem (1%).

Soil reaction listed above limits vary between large limits in moderately acid to weak alkaline being predominantly moderate to slightly acid. The average pH value is 5,85.

Between uses there are not essential differences about reaction, both in terms of average weighted to pH and the distribution levels of interpretation.

Of arable land division of the content limits, finds that about 64% of lands are moderately acidic reaction and 28% are weak acide (plots agrochemical 3, 8-11 ,13, 14, 19, 21, 28, 31, 40 and 43).The remaining arable land found reaction slightly alkaline soils (plots agrochemical 2 and 6) or neutral (plots agrochemical 1,22-24).

Is noted that the moderately acidic soil reaction, is accompanied in a high base saturation (V%) relatively high only isolated falls below 80%.

In these reaction conditions, the measures that are expected be taken to refer, in first line, the right choice assortment of fertilizers (especially nitrogen).

Soil phosphorus supply is middle, the average content being 79,4 ppm.

Between the two uses, there are not essential differences both from arable land of the pastures and hayfields meeting a high degree of unevenness, a phosphorus content.

The distribution of arable land on content levels is seen as nearly half are medium supplied with phosphorus and 25% are weak supplied. The remaining arable land meet soils with very good supply (15%), good (10%) or very weak (1%) in phosphor.

In pastures and hayfields the phosphorus content in soils varies from slow supply to the well-stocked.

So, manifest a high unevenness of phosphorus content, unvenness date values and the extreme values which ranging between 6,5 ppm (plots agrochemical 48) and to 85,6 ppm (plots agrochemical 24). Besides, the weighted average high in phosphorus content was determinated by the plots agrochemical 8, 11, 21-24.The unevenness content in phosphorus is the result of applying irrational phosphorus with fertilizers along time.

As a result, to application fertilizer with phosphorus will have priority the surfaces with low and very low supply which holding approximate 26% of arable land following that on soils with good supply and very good does not apply only low, maintenance dose which does not exceed 40 kg/ha.

Potassium supply is good to very good, the average content of 213,6 ppm.

Between uses, are differences, in that the pastures and meadows almost the entire surface is well and very well stocked with potassium while arable land, approximate 28% the surfaces are medium supplied with potassium(plots agrochemical 9, 29, 31-33, 36, 39-42, 45, 46 and 48).

So, the distribution of arable land on the levels of content, it follows that the remaining lands meet soils with good potassium supply (49%) or good (23%).The average value relatively high in potassium content, is the consequence of excessive supply in some plots agrochemical which exceeding 400 ppm (plots agrochemical 6,10,23 and 24).

Besides this situation, priority to the application of potassium fertilizers will middle surfaces supplied, the remaining arable land is only applying small doses, maintenance. The fertilizer with potassium will apply to surfaces that are applied in high doses of nitrogen, in order to balance plant nutrition.

Humus content show supply medium to good, the average being 2,86%.

Between uses, about content in humus are differences the pastures and hayfields are better supplied, compared to arable land.

The distribution of arable land on content limits results that most of the arable land (82%) are medium supplied with humus, the remainig surfaces are smooth supply(plots agrochemical 1-3, 11, 13, 14, 22, 24).

Providing nitrogen calculated after the content in humus and base level is medium, nitrogen is the value of the indes of 2,42.

Pastures and hayfields are better ensured with nitrogen to arable land.

The distribution of arable land containing levels of results that most of the use (73%) middle nitrogen is ensured. The rest of the arable surface soils meet with poor insurance (contents 1,0-2,0) or good (nitrogen indes 3,1-4,0).

CONCLUSIONS

In conclusion, the soils of Deta, represented in most of eumobazice brown soils gleyed, are moderate to weak acid middle supplied with phosphor and nitrogen, middle for well supplied with humus and good to very good with potassium.

Special attention will be given dosages indicated compliance and more uniform scattering. Otherwise, an improper application, can cause adverse effects. The best known of these is the occurrence of deficiensies in micronutrients and potassium arriving to be blocked or made poorly soluble forms thanks over amendments. The effect of amending lasts 6-8 year and even 10 year followed by a new cycle of amendment.

For spring crops, if the phosphorus fertilizers have not been applied to fall, can be applied in spring, with land preparation works, before or with seeding. If there is a proper system of cars, recommend applying localized phosphorus fertilizers, by turn, while seeding, as effective and economical expecially for a low fertilizer available by scattering and incorporated into a larger mass of soil.

For scattering to be made more easily and uniformly it is necessary that the material used does not contain water in amounts greather than 10%.In this line, the amendments will avoid storage, outdoors because in this situation the fine particles agglomerate become sticky and spreading them becomes cumbersome.

BIBLIOGRAPHY

1. BLAGA GH., RUSU I., VASILE D., UDRESCU S., Fizica solurilor agricole, Editura Ceres, Bucureşti, 1990.
2. DUMA COPCEA ANIŞOARA, Pedologie, Editura Agroprint, Timişoara, 2012.
3. FLOREA D., BĂLĂCEANU V., RĂUŢĂ GH., CANARACHE A., Metodologia elaborării studiilor pedologice, metode rapoarte îndrumări, 1986.
4. RUSU I., Pedologie, partea I, Editura Solness, Timişoara, 2001.
5. Arhiva Primăriei Deta.