

EFFECTS OF CADMIUM EXCESS ON FREE AMINOACIDS AND SOLUBLE SUGARS CONTENT IN WHEAT LEAVES

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KEY WORDS: heavy metals, cadmium, free aminoacids

ABSTRACT

The objective of the study was to investigate the variation of reduced sugars and free aminoacid content during wheat' development time in presence of different amounts of cadmium excess. Two varieties of wheat were studied (Triticum aestivum L.cv. Boema and cv Exotic) in order to select plants which are tolerant to cadmium stress. Obtained results show cadmium induced changes in investigated biochemical indices and illustrate that cadmium uptake was positively correlated with aminoacids content and negatively correlated with reduced sugars content. Measurement of investigated biochemical indices, especially aminoacids content, might be used as biomarkers to asses the phytotoxicity for wheat grown on cadmium contaminated media.

IDENTIFICATION AND THE DETERMINATION OF LAWN SURFACE USING MODERN TOPOGRAPHY APPROACHES

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KEY WORDS: GPS, total station, cadastral work orthophotoplan, area calculation

ABSTRACT

After the EU integration, the necessity of rural development appears, along with a new functional frame for agricultural and lawn terrain. The paper studies the influence and the topographic methods used in agriculture, for lawn implicitly, as a field for terrain inventory, necessary for rural development and not only. The paper has at its basis the knowing of topographic equipment and topographic survey methods for parcels. In addition, a description of methods used in data processing is present along with the field measuring data.

STUDIES CONCERNING SWARDS IDENTIFICATION IN CRICIOVA VILLAGE, TIMIȘ COUNTRY

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KEY WORDS: ProMark 3 GPS, cadastral work, orthophotoplan

ABSTRACT

The purpose of the paper is to realize a single survey work of swards from Criciova Timiș County, in order to identify the properties and register them into the land record.

In order to identify the parcel limits, which is the object of this paper, we proceed in using the GPS ProMark 3 station static module in the station point from the Class II national geodesic network "La Cuciuba" and the "stop and go" module of the station for every parcel corner, later one after downloading activate the possibility of making plans on the whole swards territory of the locality.

OIL SLURRY – POTENTIAL SOURCE OF SOIL POLLUTION

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KEY WORDS: soil pollution, oil residues, hydrocarbons, environmental impact

SUMMARY

The development of oil industry, especially the extractive, is sometimes accompanied by the emergence of phenomena, the unforeseen, with effects more or less harmful to the environment and human life. One of these phenomena is the pollution of soil with oil residues.

Such residues amended the physicochemical and biological characteristics of the soil by waterproofing, preventing the movement of air in the atmosphere in soil and conversely, what stops the activity of micro aerobe, take birth reduction processes, radicular system asphyxiation, which leads ultimately lower soil productivity.

In this respect, have been conducted chemical analyses (chlorides, sulfates, dissolved organic carbon, total dissolved solids, indicating phenol, polycyclic aromatic hydrocarbons and volatile aromatic) in the oil Ghercești store up to the impact of the oil residues soil inside the enterprise and the bordering areas.

**SOME ASPECTS CONCERNING LANDSLIDES ON AGRICULTURAL LANDS
IN CORRELATION WITH THE ENVIRONMENTAL PROTECTION**

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KEY WORDS: natural hazards, landslides, risk, environment, mudflows

ABSTRACT

As degradation processes of the complex and natural soil-land ecosystem, associated or independent of the water erosion, landslides have a relatively wide spread in the hilly areas of Romania, especially on agricultural steepness lands. As natural hazards or catastrophes, such as floods, earthquakes as well as landslides, these phenomena may produce important material damages or, even more, injured or deaths. But, in comparison with floods and earthquakes, the landslides may be, in some cases, easier to be predicted and/or efficiently controlled.

The paper presents some aspects concerning the causes, modalities of producing as well as the effects on environment of the landslides from the hilly areas. In the meantime, there are presented in the paper some general solutions for preventing and mitigating of the landslides effects.

RESEARCHES REGARDING SEWAGE SLUDGE DOSES INFLUENCE OVER MAIZE PLANTS IN THE FLOWERING STAGE

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KEY WORDS: habitus, macro-elements, heavy metals , podzolic soil

ABSTRACT

The residual organic sludge obtained in the current phase is subject to anaerobic digesting and dewatering. Its experimentation in the field led to new positive tendencies which recommend it as being needed for a sustainable agriculture and for a sustainable development of the urban systems for wastewater treatment. Thus, maize plants had direct benefits of using this sludge, which amended its features due to the following qualities: increases and maintains the soil's pH, has an important contribution of valuable organic matter with fast opportunity for mineralization, has an increased level of macro-elements (Nt, Pt, Kt, CaO) and a relatively very low content of heavy metals: Pb, Cd, Zn, Cu, Ni. At flowering maize plants grew and developed in a significantly better manner and had an ever increasing content of macro-elements in the maize leaves by means of using progressive doses of sewage sludge between 10 and 50 tones per hectare.

CORRELATION BETWEEN THE AIR QUALITY AND THE HUMAN HEALTH AT INDUSTRIAL CITY AREA

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KEY WORDS: air pollution, human health, industrial city area, Targoviste

ABSTRACT

The air pollution caused by urban environment will not only affect ecosystems but also do harm to people's health. There is an increase interest to create tools for the investigation, monitoring and evaluation of air pollution assessment. In this paper there were analysed the most important air pollutants in the Targoviste city area and their implication on human health in order to formulate a strategic plan for providing a better perspective for the community. The most important irritating pollutants of the analysed area are the powders in suspension. They case respiratory diseases mostly to children and the young population. The distribution of the green area has a decontaminating influence on the general air pollution of the city. There was suggested a strategic plan for providing a better perspective for the community.

ESTIMATION METHOD OF ECOLOGICAL SYSTEMS

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KEY WORDS: estimation method, sustainability, principles, indicators

ABSTRACT

This method is use for estimating the biologically productive area necessary to support current consumption patterns, given prevailing technical and economic processes. By comparing human impact with the planet's limited bio productive area, this method tests a basic ecological condition for sustainability. This method has gained popularity for its pedagogical strength as is expresses the results of its analysis in spatial units can easily be communicated. In this paper, I review the method and the method and critically assess it from a sustainability perspective.

SOIL POLLUTION WITH HARD METALS IN THE AREA OF THE TURCENI STEAM POWER PLANT

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KEY WORDS: hard metals, soil, pollution

ABSTRACT

This paper presents aspects regarding the steam power plant Turceni and polluting agents resulted from the activity. The pollutants are CO₂, CO, SO₂, NO_x and suspension particles (ash). The noxas caused by the burning process are: sulphur oxides, nitrogen oxides, ash, chlorine and fluorine. The variations of the hard metals Cd, Cu, Zn and Pb concentrations in the soil in the area of the Turceni Steam Power Plant are presented in figures.

THE MANAGEMENT OF NATURAL AREA PROTECTED IN ROMANIA

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KEY WORDS: protected area, conservation, protection, management

ABSTRACT

A natural protected area is a terrestrial, aquatic or underground area, with a legally established perimeter with a special protection and conservation status, with species of plants and savage animals, biogeographic, landscape, geologic, paleontological, speleological elements and forms, with a special ecologic, scientific or cultural value. Protected areas are among the most efficient means for conserving biodiversity.

CONSIDERATIONS CONCERNING A NEW ECONOMICAL AND ECOLOGICAL METHOD FOR ZEOLITE MOLECULAR SIEVES RECOVERY

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KEY WORDS: equipment, recovery, vacuum, molecular sieves

ABSTRACT

The paper presents experimental equipment special designed and made for interdisciplinary research concerning a new economical and ecological recovery method for used zeolite molecular sieves. Due to the physical and chemical properties of the gases coming into contact with the adsorber synthetic zeolite surface, ZMS are usually used for selective adsorption of air components, for selective filtration of dangerous gases in air, for air drying used in food industry and environmental engineering. To reduce the air humidity and to reduce the concentration of hazard gaseous components in ZMS pores, the actual methods for ZMS recovery recommend the molecular sieves intensive heating at high temperature.

The paper presents experimental results concerning the possibility of used ZMS recovery using an economical and ecological method based on vacuum process and usual lower temperature.

THE COLLECTING AND TREATMENT OF THE LANDFILL LEACHATE

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KEY WORDS: leachate, collecting, treatment, reevaluation, osmosis

ABSTRACT

The achievement of the controlled landfill of domestic waste implies taking some safety and gathering measures of biogas and leachate, with the purpose of the protection of the atmosphere, of underground water and surrounding vegetation. The gathering of the leachate is done through draining network and through guarded kennels on the periphery of the landfill. The cleansing of the leachate resulted in the Mofleni landfill is achieved by means of the method regarding the reverse osmosis in two steps.

The quality features of the leachate suffers in time certain variations that represent the result of the evolution of biological processes that take place inside the landfill (waste). From the polluted loading point of view, the leachate reaches rather high values during the first 2-3 years of control of each cell, while later, a progressive diminution is recorded.