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BIOLOGICAL AND SANITARY EFFECTS OF THE EXPOSURES TO NON IONIZING ELECTROMAGNETIC FIELDS (EMF) AND THE MUOS CASE

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ABSTRACT

Recent and very recent scientific literature shows that both biological and sanitary effects of EMF radiations – from the extremely low frequency magnetic fields (ELF/EMF) to the high and very high radiofrequencies (RF/EMF) – are clearly established and occur even at very low exposure levels. Overall, there are now almost 4.000 experimental studies that report a variety of short and medium-term effects of EMF, which support the biological plausibility of the increased risks of their long-term genotoxic, carcinogenic and neurodegenerative consequences on exposed human populations. For instance, EMF exposures of cultured mammaliant cells, experimental animals and human subjects may induce genetic and epigenetic effects, such as single and double strand DNA damages, chromosomal aberrations, micronuclei, sister-chromatid exchanges, alteration or loss of the DNA damage repair processes, abnormal DNA transcription and protein functions, etc.; stimulation of heat-shock protein synthesis; inhibition of apoptosis (programmed cell death); damages to cellular macromolecules due to the impairment of the inactivation of free radicals and the consequent oxidative stress on account of the inhibition of melatonin syntesis and the stimulation of the Fenton's reaction; modification of the cell membrane permeability and the consequent alteration of the flow of biologically important ions such as Calcium; alteration of the function of the immune system; serious impacts on sperm morphology and functional with consequent effects on the offspring; alterations of the brain functions as a consequence of the interference of a EMF on cerebral frequencies, etc. Many of these bioeffects can reasonably be presumed to result in adverse health effects if the exposures are prolonged or chronic. This is because they interfere with normal body processes (disrupt homeostasis), prevent the body from healing damaged DNA, produce immune system imbalances, metabolic disruption and lower resilience to disease across multiple pathways.

Keywords: biological and sanitary effects, exposures, ionizing electromagnetic fields (emf), MUOS

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CHALLENGES AND DEVELOPMENT OPPORTUNITIES OF ECOTOURISM AND ECOFOOD IN SUSTAINABLE DEVELOPMENT OF MONTENEGRO

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ABSTRACT

One basic concept of Economics of Natural Resources and Environment is the concept of sustainability or sustainable development. Ecotourism as a selective type of tourism involves environmentally clean and well-preserved nature. It does not include the conservation of protected natural and cultural areas, but their full activation and valorisation. This type of tourism is a prime example of how to make full use of the area for tourism purposes, but also to reduce the negative impact of tourism on the environment. Therefore, Montenegro must make considerable efforts to promote ecotourism, etc. The aim of this paper is to indicate the possibilities for the development of ecotourism in Montenegro; it provides an overview of the situation and the potential for ecotourism, also a brief analysis of the advantages and weaknesses for the ecotourism development, as well as a survey on ecofood consumption culture is given. The research results can be used for better promotion of this tourist destination.

Keywords: ecotourism, sustainable tourism, ecofood

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METHODOLOGY FOR TERRITORIAL VULNERABILITY ASSESSMENT IN AGRICULTURE IN PANEVĖŽYS DISTRICT, LITHUANIA

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ABSTRACT

"BalticClimate – Baltic Challenges and Chances for regional and development generated by Climate Change" project is one of The Baltic Sea Region programme 2007–2013projects It helps region municipalities to deal with the climate change issue in a cooperative, integrated and sustainable way. Within the project the complex methodology of adaptation to climate change was created. One of the most important steps of methodology was development of the brand new attitude to territorial vulnerability assessment. Methodological approach based on GIS layers intersections and simple classification of vulnerability categories. The methodology was prepared Panevėžys district, one of the most agrarian areas in Lithuania. 4 general layers sensitive to climate change (typical to all municipalities) were identified: landscape elements, soil typologies, relief slopes and hydrological network; and subject to the municipal peculiarities, specific layers were identified (in this case soil fertility). The following 30-year time periods were identified to assess the municipal territorial vulnerability to climate change: 2011–2040, 2041–2070 and 2071–2100. It was found that Panevėžys district municipality is expected to be the most vulnerable in the time period of 2070–2100.

Keywords: Territorial vulnerability, BalticClimate project, adaptation to climate change, spatial planning, GIS

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EFFECTS OF PLANT GROWTH-PROMOTING RHIZOBACTERIA (PGPR) ON YIELD, YIELD COMPONENTS AND MINERAL CONTENTS OF PEPPER UNDER GREENHOUSE CONDITIONS

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ABSTRACT

Research was carried out in research greenhouse of Department of Horticulture, Faculty of Agriculture, University of Selcuk. Delta-07 pepper was used as trial material and, a total of 6 different which consisted from N 52/1, N17/3, Fe 43, F 21/3, 637 Ca bacteria races and control were used as application.

According to the results of study, while yield per da and number of fruit per plant were found important, fruit length, fruit size, plant length, root neck diameter were found unimportant as statistically. Root, fruit and leaf nutrient analysis of N, P, K, Ca, Mg, S, Fe, Cu, Zn and Mn contents were significant in statistical terms. The highest yield per da was obtained from the application N 52/1 with 3872 $kg.da^{-1}$. At least yield was obtained from N 17/3 bacteria application with 2354 $kg.da^{-1}$. Number of fruits per plant, while the most fruit was taken from N 52/1bacteria application with 89.53 per plant, while N 17/3 bacteria application reached 56.8 per plant. As a result of mineral content analysis, while N 17/3 and F-21/3 bacteria applications increased macro nutrient uptake, F 21/3 bacteria application showed positive results in micro-nutrient uptake. The results of study implicated that, N 52/1 bacteria gave positive response in practice; in addition to N 17/3, F 21/3 and 637 Ca bacteria applications had positive effects on mineral content of pepper.

Key words: Bacteria, *Capsicum annum*, nutrient, pepper, yield.

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ANALYSIS OF ECOTOURISM DEVELOPMENT IN SANT'ANTIOCO ISLAND, SOUTHERN SARDINIA, ITALY

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ABSTRACT

Recently, ecotourism has flourished and attracts eco-tourists who visit the ecological and cultural resources of the rural landscape, country parks and marine parks. This study was conducted in Sant'antioco Island, southern Sardinia, Italy. The study aimed at analysis suitability of the Island for ecotourism and formulate recommendation for sustainable development of ecotourism This research integrates three characteristics of ecotourism criteria that are environmental factors, recreation factors and sub- structure factors to identify and prioritize the suitable ecotourism sites in the Sant'antioco Island using a Geographic Information System (GIS) and followed FAO (1976) land suitability evaluation framework. The variables used for generating various indices were temperature, slope (%), elevation, land use/land cover, vegetation diversity, mountain sides (prevailing exposure) , rock out crop and the infrastructure accessibility by either road and/or trekking routes in the island such distance from sea and city. The mentioned variables were used for both hard and soft tourists i.e. in this context, hard tourist are those who enjoy tough recreation way for example, rock climbing, and mountaineering and soft tourists are those who relatively like smooth environment for visiting. The suitability result endorsed that 37.28 %(41km2), 58.78 %(65 km2) and 3.94 %(4 km2) of the study area were highly suitable, moderately suitable and marginally suitable respectively for the soft tourist. Here the non-existence of none-suitable class exhibited due to the study area being small in size as well as the major part of the area is moderate slopes. Besides the suitability for hard tourists were 25.49 %(28km2), 55.60 %(61 km2), 17.45% (19 km2) and1.46% (1km2) highly suitable, moderately suitable, marginally suitable and non-suitable, respectively. In conclusion the result indicated that the high suitable and moderately suitable area accounted for 96.60% and 81.09%of the total area for soft and hard tourist respectively, which suggested that the eco-tourism resource in the study area is relatively abundant. The study area is suitable for ecotourism development. Therefore sustainable ecotourism is an advocate-able investment area in the study Island. The ecotourism development of the study area should be community based. This strategy will have positive social implication; hence this is a form of ecotourism where the local community has substantial control over and involvement in, its development and management, and a major proportion of the benefits remain within the community.

Keywords: ecotourism, development, ecological and cultural resources, Geographic Information System (GIS).

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PRELIMINARY DATA REGARDING ECOLOGİCAL AGRICULTURE IN TURKEY – CASE STUDY TEZEREN VILLAGE, AĞRI REGION

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ABSTRACT

Turkey is certainly a country following the adequate path towards the adhesion to the European Union; what makes it special is the harmonious and well-balanced merge between traditionalism and modernity in all fields of activity, including agriculture. Engaged in the South-eastern Anatolia Regional Project, national programs for combating desertification and soil erosion, Turkey still maintains ecological agriculture in some remote areas of its territory. The present paper (which certainly emphasizes originality) presents the results of field investigations performed in Tezeren village, Ağrı Region. The main crops covering a total surface of 8,551.842 ha (the plots of the inhabitants varying between 0.5 and 1,391 ha) are barley, wheat, fescue, vetch, celery, sugar beet and clover. Crop rotation as well as the ratio between pasture lands and arable plots is made according to the agricultural experience accumulated during time; manure is used as a natural fertilizer. The region frequently confronts itself with drought, but, recently, a modern irrigation system became functional.

Key words: agriculture, traditional, modernity.

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MARINE PROTECTED AREAS STRATEGY IN LEBANO FOR BIODIVERSITY CONSERVATION

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ABSTRACT

Marine protected areas (MPAs) have gained world recognition as effective tools to protect the marine environment, and are much in favor in the Mediterranean, where about a hundred of them have been declared during recent decades to grant special protection to sites perceived to contain the most valuable marine habitats and species. Embattled by the complexities of saving their sea as a whole, the Mediterranean nations have resolved to carve out their remaining crown jewels from the sea, and struggle to conserve them through MPA designations. In Lebanon, there are two legally declared marine protected areas: the Palm Islands Nature Reserve in North Lebanon and the Tyre Coast Nature Reserve in South Lebanon. By this strategy, the Ministry of Environment in Lebanon can achieve a healthy, productive, and biologically diverse marine environment. To achieve this aim, it is important to enhance the consistency between marine and land-based policies and to create a well-managed, ecologically coherent network of marine protected areas (MPAs) in Lebanese waters. The Strategy sets out how the policy related to the marine environment fits within the Government's wider policy framework and what can be achieved by creating the network, how the available tools can be used and how collaboration with various organizations must be achieved to create this network. The benefits of a network of marine protected areas are numerous, diverse and include ecological, social, economic and cultural elements. The drive for a National Marine Protected Areas Strategy is derived from the need for a cooperative and collaborative approach to the development of a network of national marine protected areas in Lebanon as a means to help address the declining health of our sea. The intent of this Strategy is to set the national priority actions needed for the establishment of new marine protected areas in Lebanon and for the proper management of existing and new MPAs, and to define the type of interventions needed at technical, research, regulatory, policy, institutional, financial, educational, capacity building, communication and promotion levels. This Strategy defines the following goal: The establishment of a network of marine protected areas, established and managed within an integrated marine management framework, that contributes to the health of Lebanon's sea and marine environment. To achieve this goal, this Strategy aims to fulfil the following objectives: To establish a more systematic approach to marine protected areas planning and establishment; To enhance collaboration for management and monitoring of marine protected areas; To increase awareness, understanding and participation of the local community in the marine protected areas network; and To link Lebanon's network of marine protected areas to Mediterranean networks.

Keywords: biodiversity, marine conservation, MPA strategy, marine protected areas, Lebanon

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WATER MITE (*HYDRACHNIDIA: ACARI*) FAUNA OF THE LAKES REGION (TURKEY)

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ABSTRACT

According to the results of the field survey on the water mite fauna (Hydrachnidia) of the Lakes Region (southwestern Turkey), 137 species from 22 families were determined. Endemic species determined from the study area are *Shivatonia ispartaensis*, Boyacı & Özkan, 2004, *Arrenurus dileri* Boyacı & Özkan 2004, *Shivatonia turcicus* Boyacı, 2010, *Acherontacarus anatolicus* Boyacı & Özkan, 2010, *Sperchon serapae* Boyacı, Gülle & Özkan, 2012, *Barbaxonella taurusensis* Boyacı, Gülle & Didinen, 2012, *Lebertia martini* Gülle & Boyacı 2012.

Key words: Water mite, Acari, Hydrachnidia, Lakes Region, Fauna

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OVERVIEW OF FUNGI SPECIES IN PRESPA NATIONAL PARK (ALBANIA)

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ABSTRACT

This paper includes a list – a preliminary inventory of macromycete species in NP Prespa. The source of these data is exclusively based on our own field studies performed in October 2012. Fungi play a critical role in National Park. They are key in recycling dead vegetation and making the nutrients available for the next generation of plant life. They act also as plant pathogens and they form symbioses with the vast majority of herbaceous and woody plants, allowing them to colonize poor soils and pull otherwise unavailable nutrients from the soil. There are very few published data on fungi in Albania. Area of National Park Prespa was never studied from the mycological standpoint and there are no previously published data on fungi from this area. Our field studies have included sites with representative vegetation, represented by meadows and pastures, forests of oak belt, forests of beech belt and specific forest stands with three species of junipers. Valuable results were obtained within a short period of time, a large number of specimens were collected and it was possible to assess habitat quality with high level of precision. The 174 listed species-level taxa of fungi were recorded. Although it is still not possible to determine with precision the final number of species recorded for the first time at territory of Albania, it seems that it is the case with most species recorded at the territory of National Park during our research.

Key words: Fungi inventory, Prespa NP, Albania

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CHEMICAL PROPERTIES OF COAL IN KOSOVA BASIN AND ENVIRONMENTAL ASPECTS OF MINING

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ABSTRACT

Kosovo is rich in coal resources/reserves.. Geological coal reserves and resources in Kosovo are estimated in 12.5 billion tons (INKOS 2008).The coal in Kosovo is used mainly in power (electricity) generation and less amount for heating. The extensive basic sampling on the Kosovo coal basin resource in the 1970´s comprised only the general analysis of the heat value, volatiles, moisture, ash and sulphur contents. Institut INKOS sh.a. in the 2007 conducted the samples from the field. The samples were transferred to Swedish laboratory Analycen in Lindköping that is accredited laboratory according to ISO/IEC 17025. From the assay data have been determined chemical composition of coal. The first was given a criterion. Are used assay data from sample on "as received basis". Kosovo's basin coal belongs to typical lignite types with dark grey color. Chemical properties of lignite are given from ultimate and proximate analysis. The heating value of lignite is 9.28 MJ/kg. Ash of this lignite has a typical composition for lignite coal ashes. The impacts of opencast mining are considerable. Main impacts on the environment by coal mining and production of significant quantities of ash is reflected in following main aspects: huge overburden dumps; influences on surrounding terrain by excavation; total loss of naturally grown environmental contents and relations; change of hydro-geological regime in wider area; soil pollution and ground-/surface water pollution (wider area in the water shed) owing to soil alterations and coal processing (ash deposits, processing water release); air pollution due to dust expositions while excavating and conveying; influences on terrain stability within mine (working slopes) and surface deformation (subsidence of the soil); noise due to working conveyor belts.

Key words: lignite, ultimate analysis, proximate analysis, opencast mining, environment.

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BRINGING THE CULTIVAR "GOLDEN DELICIOUS" ON SOME VEGETATIVE GRAFTS IN TERMS OF DIBRA REGION

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ABSTRACT

In this work are shown informations about the behavior of the cultivar "GoldenDelicious" over five vegetative grafts in terms of Dibra region. The data obtained showed that Golden, grafted onto Pi supporter 80 graft provides a harmonious development between vegetation elements and fructification elements, while ensuring early entry into production. Over the MM111 and MM106 rootstocks is provided sensational growth but delayed entry into production. M9 rootstock has a more emphasized effect on the conditions of the region.

Keywords: apple, Giolden cultivar, rootstock, environmental conditions, tree twigs.

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PROBLEMS RELATED TO CURRENT SITUATION OF SOLID WASTE MANAGEMENT IN ALBANIA

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ABSTRACT

The quantity of solid waste (SW) is increasing rapidly in Albania during this transition period from 2000 up to now and especially municipality solid waste (MSW). While the problem related to industrial solid waste is result of the past, because nowadays the industrial production represents a low weight in gross domestic production. MSW generation in 2010 has been nearly twice more compared with 2000. In this total amount of MSW, the ones of capital city represent a high weight and consequently more problems to solve facing small economic opportunities. SW management currently is being supported by a full legal basis, with priority is being given to recycling of SW different factions, but the economic and social conditions are not yet in that level for a SW integrated management system. This paper introduces the actual situation of SW in our country and some suggestions to improve their management.

Key words: Municipal solid waste, Management, Environmental pollution, Albania.

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ALBANIA BIODIVERSITY AND PROTECTED AREAS, STATE OF PLAY

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ABSTRACT

Albania is distinguished for its rich biological and landscape diversity. This diversity is attributable to the country's geographic position as well as geological, hydrological, climatic, soil and relief characteristics. The mountainous terrain combined with steep cliffs creates ideal conditions for maintaining and protecting a large number of ancient species, some of which are endemic or sub-endemic. The high diversity of ecosystems and habitats offers rich habitats for a variety of plants and animals. There are around 3,200 species of vascular plants and 756 vertebrate species as well as 27 endemic and 160 sub-endemic species of vascular plants present in the country. Approximately 30% of all European floras occur in Albania. The high Albanian forests maintain communities of large mammals such as wolf, bear, lynx, and wild goat, and also characteristic bird communities. In spite of the fact that a low number of species has become extinct during the past century in Albania, the rate of loss of country's biodiversity during the last 50-60 years is believed to be increasingly high. Two species of plants and four species of mammals have become extinct. Meanwhile 17 bird species no longer nest in the country's territory. During the last 25 years, approximately 122 species of vertebrates and four species of plants are expected to have lost more than 50 % of their population. The number of rare and endangered species of plants and animals is high and expected to increase if appropriate conservation measures are not taken.

Key words: Albania, biodiversity, protected areas

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INFLUENCE OF DIFFERENT SUBSTRATES AND CONTAINER CELL CAPACITY ON THE DEVELOPMENT OF PEPPER SEEDLINGS (CAPSICUM ANNUUM L.)

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ABSTRACT

The objective of this study was to assess the growth and development of seedlings of a hybrid pepper as affected by ten growing media formulas developed from commercially available peat, inorganic media and from on-farm organic media (1st experiment: peat 100% + vermiculite 0%; peat 75% + vermiculite 25%; peat 50% + vermiculite 50%; peat 25% + vermiculite 75% and peat 25% + vermiculite 25% + organic media 50% and 2nd experiment by using perlit instead of vermiculite). The quality of seedlings is impacted by different substrates used during the seedling production. The major effect on growth parameters of pepper seedlings was obtained on substrate with on-farm organic media. This research presents data on height of stalk, height of root, leaf number per plant, and leaf surface. Containers are being used largely in the production of seedlings. There are different types of containers. During this research styrofoam containers were used with volume: $30cm^3$, $50\ cm^3$, 60cm3 and $80cm^3$.

Key words: commercially peat, organic media, vermiculite, perlit, container

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ASSESSMENT OF AIR QUALITY IN THE MAIN CITIES IN ALBANIA: CASE STUDY

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ABSTRACT

All activities are part of the release of gases in the atmosphere that affect the quality of air we breathe (air environment) and also the upper layer of the atmosphere, which can influence in the global climate, or in the ozone layer which protects us from some of the harmful effects of sun rays. Activities that cause most pollution are transport, industry, energy sector (production and processing of oil and gas and thermal energy production) and urban development. Releases in the atmosphere also come from agricultural activities, dumping of wastes and other human activities. Currently the main sources of air pollution are oil extraction, mobile sources, heating of houses, production of cement. The main source of urban air pollution is transport. The number of vehicles continues to grow from year to year. Emission of gases from vehicles (PM10) contribute to a large extent in air pollution causing problems in breathing, especially to minors and the elderly. Systematic measuring of emissions of basic polluting substances in the air of Albania includes continuous 24 hour measuring of: sulfur dioxides (SO_2), total nitrogen oxides (NO_x), troposphere ozone (O_3), the overall content of suspended particles(PM10) and in it the content of lead (Pb) in 8 stations of 5 cities of Albania.

Key words: Albania, quality of air, pollution, transport, industry, energy, houses

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STUDY OF VARIOUS ENVIRONMENTAL CHANGES IMPACT ON PACKAGED FOOD SAFETY

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ABSTRACT

This research examines the current knowledge on food safety risks from packaging materials during their storage. Food-packaging system and human health are interrelated. It is known that the migration of chemicals from packaging into food and bad influence to the consumer. The study of this migration has become an integral part of food security. Special attention is given to the most promising scientific achievements exposure assessment, technical barriers, etc.. which should be addressed. It is EU and FDA legislation that determine the limits to some chemicals, polymers, monomers and additives containing packaging materials for food contact.

Key words: food security, packaging materials, human health

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THE EFFECTS OF FISH DISEASE AND PARTICULARLY SPRING VIREMIA OF CARP ON COMMERCIAL FRESHWATER AQUACULTURE IN ALBANIA

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ABSTRACT

It has been recognized that the Spring viremia of carp (SVC) is an acute systemic viral infection caused by *Rhabdovirus carpio* (RVC) virus. The disease was known as infections dropsy of carp till the isolation of the virus from common carp. There is no studies relation the damages that caused fish disease in general Spring viremia of carp. The principal purpose of this paper is to highlight the effects of the disease on the freshwater aquaculture and quantify the damage to the local producer's economy. Following various data the commercial freshwater aquaculture in Albania started at the end of sixties. Warm water freshwater species (originally based on common carp, to which Chinese carps were introduced at the beginning of seventies) represent the major aquaculture production in our country. Cold water salmonides, principally *Oncorhynchus mykiss* and *Salmo letnica* are another important group for aquaculture production in Albania. In the last period of two decades, because of economical and political changes the production in general declined, while in the last years there is a revitalization trend. Until 1990 the fish farming areas has reached to a total surface area of 215 ha, the production of fingerlings for restocking purpose arrived at more than 32 millions fingerlings of about 8 - 10 g, each. On the other hand, part of these fingerlings was used as stocking material in the fattening ponds of the semi-intensive fish farming. There were about 200 ha in, all fattening ponds and the average yield was 2 - 2.5 ton/ ha with a maximum of 5 ton/ha. In 2001, the carp production was 15 t fish and 5 million fingerlings. Following our analyses in several fish ponds in Elbasan, Korca, Fier and Shkodra, there is also in between 10-20% of the production that affects local incomes and threaten the health security of fish systems itself and human population as well.

Key words: Spring Carp Viremia, common carp, fish farming, stocking, disease

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THE CHURCH OF SAINT KOLLI IN SHELCAN, ELBASAN: A SIGNIFICANT EXAMPLE OF THE POST BYZANTINE ARCHITECTURE

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ABSTRACT

In this paper we are presenting the detailed description of the architecture, state and conservation demands of the Church Saint Kolli in village Shelcan of Elbasan. The church itself represents a spectacular example of the Post-Byzantine architecture. Following the specific typology, particularly longitudinal basilica the church is reflecting some similarities with other constructions in different parts of the south east Albania. The long time existence and influence of the weathering conditions. We are highlighting the demands for undertaking the conservation actions in order to prevent the destruction of valuable cultural elements for the wider area of Elbasan District.

Keywords: Post-Byzantine, Saint Kolli, Elbasan, conservation, architecture

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NATIONAL PARK "BJESHKËT E NEMUNA" THE BIGGEST DEVELOPMENT IN NATURE CONSERVATION IN KOSOVO

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ABSTRACT

This paper presents process, benefits and challenges of the biggest undertaking so far for the protection of biodiversity in the Republic of Kosovo. In December 2012, Assembly of Kosovo, after nearly 43 years long process, passed the law on designation of the second national park "Bjeshket e Nemuna". This is the first park declared in the independent Kosovo and the largest one with an area of 62,488 ha. With the new park, the total of protected areas at the country level is increased significantly, more exactly in about 109.794 ha or 10.03% of the territory of Kosovo. This park is one of the floristic centers of Europe and designation as national park aims to ensure better conservation of over 1,500 plant taxa, 8 species of fish, 13 species of amphibians, 10 species of reptiles, 148 species of birds, 37 species of mammals and 129 types of butterflies. Legal protection after adoption of the law provides protection only in paper. Now the real challenge starts for the protection of biodiversity in the area that has been under long, wild and intense degradation during these years that procedure of designation lasted. There are many accumulated problems that represent difficult challenges for the administration that will manage the national park: loss of rare and threatened plant and animal species, unplanned and non-legal interventions and constructions, low level of economic development and investments in the area etc.

Key words: National Park, endemic, biodiversity, law.

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OXYGEN IN THE BOTTLE NECK

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ABSTRACT

Oxidation or other exposure to air beer is one of the defects met at beer to be stored for a relatively long time. Beer various types break down at different speeds and emit unpleasant odors. Oxidation causes changes in taste, flavor and color also. It should be noted that the most critical points in the production process is packaging beer because beer goes in a container full of air. The less oxygen is absorbed especially during the process of filling and maintaining more stable beer would be the smell. Reducing contact with oxygen during the transfer and packaging of beer leads to reduction of oxidation but actually oxidation is inevitable. In the early stages of oxidation beer gets a bad smell and a further oxidation as it has flavor of honey and finally flavor as wine and dried fruit as mature too many.

Keywords: beer, oxygen, measure, bottle.

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COMPARISON OF DECOCTION AND INFUSION METHODS IN BEER PRODUCTION

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ABSTRACT

The most important process in beer production is the fermentation of the sugars contained in the wort to form alcohol and carbon diokside.To provide the necessary conditions for this, the initially insoluble components in malt must be converted into soluble products, and in particular soluble fermentable sugars must be produced. The formation and dissolving of these compounds is the purpose of wort production. It provides the starting point for fermentation of the wort in the fermentation and storage cellars. In this work I have studied different metods of mashing: single mash process, two mash process and infusion method of mashing. According to the results achieved I can conclude that the single mash process has shown the best results in apparent degree of attenuation, 82,33%, at the two mash process the apparent degree of attenuation is 80.96% and at the infusion method of mashing the apparent degree of attenuation is 80.61%. Other results of fermentation are presented in the work. The work has been carried in the Brewery of Birra Peja. All chemical analyses have been carried in the laboratory of Peja Brewery, Birra Peja, according to the EBC methods (European Brewing Convention).

Key words: mashing, infusion, fermentation, beer, attenuation.

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CREDIT PROBLEMS IN ALBANIA'S AGRICULTURE SECTOR

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ABSTRACT

Agriculture is an important sector of the Albanian economy not only because of its contribution to the Gross Domestic Product, but more for the fact that half of the population provides the revenue base through this sector. In this context, agricultural development is particular importance for the future of the Albanian economy, and to the welfare of the population in rural areas. In recent years efforts have been made to support the agricultural sector. This happened as indirectly through investments in rural infrastructure, as well as directly through initiatives and regulatory initiatives. Such is the law for the establishment of agricultural holdings and various subsidies given by the government to farmers who planted certain agricultural crops. According to INSTAT, for the period 2005-2012, the Gross Domestic Product has grown on average by 4.4%, while the agriculture sector by 4.1%. From these data, although the agricultural sector has increased over the years, is not where it needs to be. Most efficient solution would be to strengthen the sector through private funding in significant monetary amount for raising medium and large farm. Individual farmers not only seek to have the opportunity to meet the needs for inputs, agricultural machinery or equipment, but intend to make investments in greenhouses, vineyards and orchards. One problem is the lack of credit or low level of lending to the agricultural sector in our country related to the low reliability of financial lending institutions have to loan applicants. Farmers in many cases do not have the title in relation to land or are in litigation, which in this case would serve as collateral for lending financial institutions. A successful farm requires not only abundant land but requires a technological infrastructure of production, which is accompanied by a financial bill. This solution should be provided by the funding mechanisms of the market which would lower production costs.

Key words: Private investment, agricultural credit processes, financing mechanisms, production costs, rural infrastructure.

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PROBLEMS AND ACCOUNTING ASPECTS OF AGRICULTURAL COMPANIES IN TERMS OF GLOBAL FINANCIAL CRISIS

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ABSTRACT

Agriculture is one of the most important sectors of our country, with a significant impact on the economy of Albania. A significant part of the population is employed in this sector, bringing a significant added value for all domestic economic and financial indicators. Agricultural companies large and small throughout the territory of Albania realize diversified products which are sold on local markets today and in foreign markets. However, agricultural companies in the country today face many difficulties and problems which arise naturally in terms of the global financial crisis and significant changes in terms of legislation and standards in the context of integration into the European Union. Accounting problems affecting agricultural companies make financial management and financial reporting even more difficult. Another problem associated with financial management and accounting practices of agriculture companies today relates to the implementation of modern software in order to create appropriate facilities recording and reporting of information in appropriate ways and in accordance with relevant standards. This paper aims to bring attention to certain specific aspects and some problems of agriculture companies accounting practices today in Albania. Also, this paper aims to achieve some useful approaches to relieve the problems created in terms of global financial crisis in the context of the implementation of standards of practice for contemporary accounting Albanian on agricultural companies. Finally this paper aims to achieve a comparison of the problems faced today from local agricultural companies and foreign agricultural companies of the region.

Keywords: Agriculture Sector, Global Financial Crisis, International Accounting Standards, Agricultural Companies; European Union.

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NUTRIENT BALANCE AN IMPORTANT TOOL TO BETTER PERFORMANCE FOR ALBANIAN DAIRY FARMS

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ABSTRACT

The big dairy in farms in Albania are getting more complex than before. They have started to be more concentrated in last years with breeds that produce higher yields of milk and very depended on purchase feed outside the farm. The economic factor and environmental impact are very much related with nutrient balance of whole farm. Therefore strategies and software to manage and calculate these balance are important tools in controlling the impact to the environment and the overall performance of dairy farms in Albania. Relation between the nutrient balance and utilization of nutrient in dairy farms are not fully understood from dairy farm operators in Albania and it seems that is new concept. The dairy farms are not requested management plan to control the manure and wastewater as well as a yearly plan of nutrient management. These two plans should be an important objectives in coming years according to the request of a effective management plan of discharges for every dairy farms in Albania. The research on whole farm dairy nutrient balance in central part of Albania is in its initial stages and it aim to provide an overview of whole farm nutrient balance situation and used its findings as an indicator to overall performance and environment impact of Albanian dairy farms. This article provides information of the present situation of dairy farms in relation with nutrient balance and compare it with other international findings. All the calculation of nitrogen ustilization express the balance as proportion. So the information of nutrient balances of diferent farms target evaluated in the study (only based on the information collected direct from target farms in central part of Albania) result on inbalances and direct losses of nitrogen ranging from 62% -89%.

Key words: Nitrogen Balance, Nutrient, Whole farm, Management, Feeding,

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WOOD-BASED BOARDS AS ECOLOGICAL PRODUCTS, THEIR QUALITY CONTROL

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ABSTRACT

Mechanic Processing of timber is inevitably associated with technological waste, a fact that brings forth the concern about increasing the coefficient of beneficial use of wood. This problem is resolved, in a somehow satisfactory matter, through the production of goods using such wastes as raw materials, such as the tiles (slabs) chosen for this study. This is a factor that significantly affects their marketing. Albanian industry of furniture manufacturing uses massively particleboards (Pb) and medium density fibreboards (MDF) as raw materials. A study was carried out to analyze the properties that determine the use of these panels in joinery. Tests included the most important physical and mechanical-technological properties. The study focused on 18 mm thickness particleboard and 19 mm MDF. The whole process of panels sampling, test pieces preparation and their testing was performed according to EN standards. Results showed that panels fulfilled quality requirements specified by European standards. Bending strength of particleboards resulted 87% higher than EN reference value, whereas MDF about 50%. Tensile strength perpendicular to board's plane resulted 23% higher than the minimum limit for particleboard and 26% for MDF. Unlike veneer which increased somewhat mechanical properties of the board, melamine didn't present any positive impact on its properties. MDF presented higher capability in screw holding than particleboard. Screw holding resistance in edge wasn't satisfactory for particleboard, but in plane presented values which must be taken into consideration. Quality of melamine lamination in particleboard resulted higher than veneer overlaying in MDF.

Key words: particleboard, MDF, properties, furniture.

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FORMALDEHYDES RELEASE FROM UREA-FORMALDEHYDE ADHESIVES PROBLEM (CONCERN)

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ABSTRACT

The study shows that there are two types of exposure to formaldehyde release: In working environments at factories producing glued wooden constructions, where the major release occurs at the stages (processes) of pressing, acclimatization and storage. For these environments should be performed the so called "environment Check-up"; In residential and social objects fully or partially build by wood tiles. Formaldehyde is recognized as a substance relatively hazardous to health and life. Its potential hazard is associated with its extreme instability, which makes the presence of formaldehydes in residential facilities a matter of concern, even in very small quantities. Exposure for a relatively long time can have effects of carcinogen nature. Its irritating effect appears in different individual limits.

Key words: environment, formaldehyde, stages, acclimatization

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POTENTIAL USE OF LOW-NOISE ROAD PAVEMENT IN URBAN ROADS OF TIRANA MUNICIPALITY

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ABSTRACT

Acoustic pollution and vibration is one of the major environmental problems in Albania related to roads and one of the less analyzed during the environmental studies until now. The main responsible of this phenomenon are without reservation industrialization and motorization after the 90', together with the lack of inadequate protection regulation in our country.The Environmental Protection Act defines limiting noise emissions at source as a basic principle. The following paper presents and proposes the appropriate strategies for the realization of the control and mitigations measures for acoustic pollution in urban roads. Following the actual roads conditions in Albania and monitoring process until now in this paper we propose the following appropriate passive measurement, that's to say the different manners to limit noise distribution in a given environment. One of the most appropriate traffic noise reduction measures, especially for urban roads, is the use of different low macro-texture bituminous mix road surfaces, such as asphaltic concrete, slurry seal, open graded asphalt and stone mastic asphalt. These pavements are of particular interest for areas with a high population density, as Tirana municipality, which continues to have the greatest shortcomings in terms of noise abatement. Moreover, these are often the only measures which can be taken on roads in urban areas.It was recognized at a very early stage that the quality of a road pavement has a considerable effect on the level of noise emissions due to road traffic. Laying a low-noise road pavement may represent a measure which is both effective and economical for reducing road noise pollution. Indeed, it has no negative impact on the landscape or on constructed sites, or on road safety.

Key words: decibel, noise reduction, mitigation measure, low-noise road pavement

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CHARACTERISTICS OF THE SLUDGE FROM WASTEWATER TREATMENT PLANTS IN THE TERRITORY OF AGRICULTURAL UNIVERSITY OF TIRANA, ALBANIA

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ABSTRACT

Sludge production is an avoidable problem arising from the treatment of wastewater. The sludge remained after municipal wastewater treatment contains considerable amounts of various contaminants and if is not properly handled and disposed, it may produce extensive health hazards. On the other hand, this sludge has benefits for plants and soils. Sludge characteristics are very important for determining the right treatment, and so the wastewater characteristics. The aim of this study is to present the characteristics of the sludge, generated in inlet and in biological wastewater of pilot plant. The sludge was analyzed for physical-chemical and heavy metal indicators, contents of organic pollution, according to Council of the European Communities 1986 on the use of sludge in agricultural practices. Parameters subject to the provisions of the directive include organic matter (% dry solids), total carbon (%), pH, electrical conductivity (μS/cm), total nitrogen (% dry solids), total phosphorus (% dry solids) and heavy metal (copper, nickel, zinc, cadmium, lead, chromium (expressed in mg/kg dry solids). The results show that the sludge is biomass, rich in macro and microelements and can be used to maintain and enhance soil fertility, for recultivation of disturbed areas and others, provided that they meet the requirements of the regulations.

Keyword: sewage sludge, chemical composition, physical properties, heavy metals, admissible limit etc.

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TRACE ELEMENTS IN LIGNITE OF THE KOSOVA BASIN AND ENVIRONMENTAL SIGNIFICANCE

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ABSTRACT

Coals contain diverse amounts of trace elements their overall compositions. Certain trace elements such as lead, arsenic, cadmium, chromium and mercury, if present in high amounts, could preclude the coal from being used in environmentally sensitive situations. Others have detrimental effects on the metallurgical industry: these include boron-titanium-vanadium and zinc. Coal is an important component in enabling energy demands in Kosovo. Kosovo coal is lignite type. Production of electricity in Kosovo, until now, is mainly realized in power plant with lignite (Kosova A and B), 98% and the small part (approximately 2%), in hydroelectric power plant.As a result of the high tonnages of coal used in industry, significant amounts of trace elements may be concentrated in residues after combustion. This paper focuses on the selected trace elements (Sb, As, Pb, Ba, Be, B, Cd, Co, Cu, Hg, Cr, Mo, Ni, V, Sn and Zn) released by the combustion of coal. There are four trace elements which occur in concentrations greater than 100 mg/kg d.m in lignite. These are barium (550.42 mg/kg d.m), boron (263.54 mg/kg d.m), chromium (142.21 mg/kg d.m) and nickel (219.88 mg/kg d.m). The environmental impact of trace elements is related, in the first instance, to their modes of occurrence in the coal. The presence of trace elements in fly ash can lead to serious environmental impacts and consequently have an impact on the inhabitants of the environment if the disposal of the fly ash is not performed correctly.

Key words: lignite, trace elements, lignite combustion, environmental concern

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CLASSIFICATION OF THE RADIOACTIVE WASTE IN KOSOVO

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ABSTRACT

Radioactive waste is any radioactive source or any object contaminated with radionuclide's, which is not foreseen for further use. This waste arises from a number of activities involving the use of radioactive material. The classification of the radioactive waste as general rule is based in their long term safe management. From the other part classification of the radioactive waste is necessary to provide a common base for development of the different aspects related with its conceptual and operational level, technical management, communication and other issues. The classification scheme is mainly based on safety considerations for the lifetime of the waste and can be applied for all waste management practices such as segregation, treatment, conditioning, interim storage and final disposal. A conceptual illustration of the waste classification scheme we presented in figure, and shows the waste classes into which different types of sealed radioactive sources described in Table, the criteria for exempted radioactive materials are defined in IAEA Basic Safety Standards. The radioactive waste that is generated into mentioned practices varied in form, activity concentration and type of contamination as it is in type of generating action.

Key words: radioactive waste, treatment, radionuclide's, management etc.

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ENVIRONMENTAL RISK ASSESSMENT OF FERIZAJ REGION

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ABSTRACT

Water is the most common substance in the composition of all living beings. It's required to meet our basic needs in daily life, cooking, drinking, bathing, disposal of sewage, irrigation, generating electricity in power plants, cooling etc. Municipal wastewater is the outflow that comes from households, offices, laundries, hospitals, and small industrial plants. This wastewater typically contains human and other organic waste, nutrients, pathogens, microorganisms, suspended solids, household and industrial chemicals not removed. The water pollution in Kosovo is an important problem because of the wastewaters from inhabited areas is discharged in the nearest rivers without previous treatment. The Kosovo Rivers in a daily basis are becoming more polluted by endangering the existence of the vegetal and animals in the same time while affecting pollution of the fertile land of direct or indirect manner. Same fate has the Nerodime River, which derives into the village Nerodime of Ferizaj city. The main purpose of this work was the qualitative and quantitative study of organic, inorganic and trace heavy metals and to evaluate the ecological state of water at the Nerodime river. Standard procedure for examination of wastewater was used to mark organic and inorganic compounds. The experimental results show that wastewater discharged from the municipality of Ferizaj to the Nerodime River, contains small value of OD, high value of: COD, BOD5, fats and oils, proteins, carbohydrates, trace amounts, of priority pollutants and surfactants. To adequately protect public health, the safety of wastewater discharged to a receiving stream must be ensured.

Keywords: Ferizaj region, Nerodime River, OD, COD, BOD5.

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FORESTS IN ALBANIA, PROBLEMS AND CHALLENGES FOR THE FUTURE

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ABSTRACT

Albania has about one million hectares of forest and 0.4 million hectares of pastures, with three forms of ownership, state, communal and private. Its importance and value is not only economic usefulness, but above all ecological functions, recreation and protection (restraining erosion, climate change mitigation, etc.). Our country, like many other countries in transition, facing serious degradation of natural resources including forestry land degradation, reducing the carrying capacity of pastures and increased soil erosion, due to the action of a number of factors, in addition to those natural even one human (uncontrolled cutting of forests, wood, overgrazing or unjust policies of forest management). After 90 years, along with the formulation and implementation of new forest legislation attention was focused on one of the main strategic directions of forest policy, decentralization of forest and pasture property and their transfer in use of the local government units. In this framework under the support of the World Bank, Swedish International Development Agency (SIDA) and Global Environment Fund (GEF) was implemented in our country: "Natural Resources Development Project". One of the main pillars of this project was supporting of the management of forests and pastures transferred to Local Government Units (LGU), as result of it, finally were designed and implemented the management plans of forest and pastures and micro-catchments in 251 LGU. The forest management was based on the community participatory approach, where community participation is a concept that includes users in the management process through a participatory process aiming to balance their needs with the overall objectives. The main idea of management based on the community is to transfer the management of natural resources closer to users of these resources, often to the local community.

Key words: Forest, transfer, community management, forest policy

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THE EFFECT OF HEAVY METAL CONTAMINATION TO THE BIOLOGICAL AND CHEMICAL SOIL PROPERTIES IN MINING REGION OF MIDDLE SPIŠ (SLOVAKIA)

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ABSTRACT

Despite the importance of mineral resources for the progress of humans, extraction of minerals has caused serious environmental problems. Contamination of soils by heavy metals in mining areas leads to the deterioration of soil quality and other environmental components. Removing of heavy metals from the soils is not easy, because they are non-biodegradable, and persistent in soils for tens or hundreds years. The aim of the study was to determine level of soil pollution by heavy metals in the surrounding of processing plant and find out the effect of heavy metals on enzyme activity and some chemical soil parameters. Total content of heavy metals (Cu, As, Cd, Pb, Zn), activity of soil urease, acid phosphatase, alkaline phosphatase, catalase, soil reaction, organic carbon and nutrients were determined. Heavy metals exhibit toxic effect on enzyme activities, what resulted as increasing soil enzyme activity with the decreasing heavy metal content. Significant positive correlation was found between heavy metals and some enzymes themselves. We found no statistically confirmed influence of heavy metals to the organic carbon, soil reaction and nutrients.

Keywords: heavy metals, enzyme activity, mining area, soil properties, pollution

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HYDROCARBON IMPACT AND ITS CONSEQUENCES ON ENVIRONMENT IN ALBANIAN OILFIELDS AREA

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ABSTRACT

Ecosystems in Fieri district provide resources and opportunities for the economic development offering natural resources such as sea and land, biodiversity such as forests, wetlands, etc. Flora is characterized by a long vegetation period, which may even exceed 10 months. This study shows the presence of high levels of hydrocarbon in soil, flora and fauna in Fieri oilfields area. Flora and fauna is continuously pressed by the presence of high concentrations of toxic substances in the soil. This is confirmed by the reduction of plants photosynthetic activity after 3-4 month of their exposure in contaminated environment.

Key words: Hydrocarbon, Environment, natural resources, flora, fauna.

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ALUMINUM (AL) AND IRON (FE) - KEY ELEMENTS IN WETLAND SUSTENANCE: A REVIEW

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ABSTRACT

Even though, Aluminum (Al) is recognized as a micronutrient, its metabolism interferes with cell divisions in root tips and lateral roots, increases cell wall rigidity, maintaining proper cellular redox state and various other biochemical, physiological and growth responses. Al is one of the most abundant elements in the earth's crust, and toxic to many plants when the concentration is greater than 2-3 ppm with the soil pH<5.5. Iron (Fe), is equally an important element, whose toxicity poses constraint primarily on wetland plants grown on acidic soils that are rich in reducible iron. This review encompasses aspects of both Al and Fe in the anoxic biochemical processes that are common to wetland ecosystems. The impact of metal toxicity (Al and Fe) requires an understanding of the aspects related to Al, and Fe uptake, transport and distribution in wetland ecosystem. This paper provides an overview of the fact that the environmental risk associated with remobilization of metal contaminants and the recycling to the food chain, particularly by the infiltration into ground water. The main aim of this review is to document the challenges, barriers and constraints facing wetlands due to population growth. As found in today's world, technological advancement is at fast rate, it has been necessary to reduce the global loss of wetland area to maximize the accrue benefits. While, the objective is to highlight the management tools to achieve maximum use, that is sustainable and ecological wetland ecosystem.

Key words: Aluminium (Al), Cyperus species, Iron (Fe), micronutrients, toxicity, wetland ecosystems, and wetland plants.

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THE IMPACT OF THE TYPE OF COVERAGESCALE ON SEVERAL INDICATORS OF GROWTH AND SURVIVAL OF CARP (CYPRINUS CARPIO L.1758) WAS CULTIVATED IN PLANT KLOS (ELBASAN-ALBANIA)

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ABSTRACT

Nowadays functional freshwater, semi-intensive aquatic culture are essential elements of human activity in many aspects which needs to be more recognized. The paper presents the growth of some different phenotypes of species of carp fish, *Cyprinus carpio L.1758*) cultivated in breeding place Klos, Elbasan (Albania). In this study are estimated some grown aspect and survival feature of four phenotypic forms of this specie that change depending on distribution of its scales.During our study we note that: the phenotypic form known as "*scaled"* was represent with higher value of average weight (621.33 ± 38.295 g), while the phenotypic form known as "*mirror leather"* was represent with lower value of average weight. Are obvious significant differences (P<0.05) , during a comparison beetwen couples, "*scaled"* with*"linear mirror",* "*scaled"*with "*mirror leather*", and the couple "*scattered scaled*" and *"mirror leather*", For the wild phenotypic form of carp was estimated the higher average value of Specific Growth Rate (SGR) (0.571 ± 0.010%), while the lower value was encountered for "*mirror leather*" phenotypic form (0.564 ± 0.0073%). We conclude also for "SGR" the same difference beetwen phenotypic form as the difference of average weight. Based on Allometric Coefficent *"b"* on relation weight-length, both phenotypic forms, "*Linear mirror*", and "*mirror leather*" were represent with negative value. While the "*scaled*" had the higher value of "b" (b=3.1056; r=0.984), the higher value of index of survival (96.11±9.42 %) , and the higher rendiment (yield) (43.0 kv/ha). As the result the wild carp ("scaled phenotypes") under semi-intensiv condition has a good performance of growth and productivity.

Keywords: Common Carp, Scales Growth Rate, Scattered Type, Mirror Type.