

EVALUATION OF TOXIC AND GENOTOXIC EFFECTS OF ROUNDUP AFTER DIRECT AND INDIRECT TREATMENT

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ABSTRACT

Roundup (glyphosate) is one of the most widely used systemic, non-selective herbicide in the world. Numerous studies exist about its genotoxic effect both in “*in vivo*” and in “*in vitro*” using various concentrations and endpoints. Based on the contradictory results we decided to investigate the toxic effect of roundup in concentrations, used in agriculture after direct treatment on *Hordeum vulgare* and in human lymphocytes as well as indirect applying S10 fraction from barley seedlings affected by the herbicide. ICP analysis of soil (granulometry and pH also) was performed in order to confirm the lack of harmful substances for plants and for demonstration of equal initial chemical condition of both treated and untreated fields, so manifested effects on test-system could be a result from roundup treatment. Morphometric method was used in barley grown from M1 seedlings treated with the herbicide. Cytogenetic methods were used to test cytotoxic/genotoxic effect of roundup on lymphocytes, where the cells were directly treated with the herbicide and indirectly, using S10 of barley pretreated with roundup. Morphometric data showed high inhibitory effect in barley leaves and roots after roundup application. The herbicide also induced high cytotoxic/ genotoxic activities after direct treatment of lymphocytes. S10 fraction of barley grown from seedlings affected with the herbicide induced yield of injuries that are close to that detected after direct treatment with roundup, but with lower concentration (0.9 µg/ml). Clearly harmful effect of roundup not only after direct but also after indirect treatment was observed, and its use need to be rethought.

Keywords: Roundup, cytotoxic and genotoxic activities, *H. vulgare*, human lymphocytes *in vitro*

IN VIVO USE OF WATERMELON SEEDS

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ABSTRACT

It is possible to evaluate agricultural products from seed to shell. Watermelon (*Citrullus lanatus*) is an important vegetable species made in the world farming watermelon, Cucurbitaceae is a plant belonging to the family. It is aimed to determine the effect of watermelon seed which is natural waste on nutrition (directly and indirectly by consumption). For this purpose, the nutrients of the model organism (*Drosophila melanogaster*) were fed by mixing the watermelon seed (0.1-10%). Survival rate and development time of the insect is determined. Besides the use of watermelon seeds as an alternative by-product, the impact on living beings as a waste is discussed.

Keywords: *Drosophila melanogaster*, *Citrullus lanatus*, survival rate, development time

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MOLDOVA'S CODRY – PRIORITY REGION FOR BIODIVERSITY CONSERVATION

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ABSTRACT

One of the priority regions of biodiversity conservation in the Republic of Moldova is the Central Region of Codry, where unlike other regions, the share of natural ecosystems is satisfactory and their functionality is relatively optimal. In this context, ten protected natural areas, which are part of the Codry Forest District from Moldovan Central Plateau, were included in the researches. These areas belong to the following categories of protection: Monuments of Nature, Forest Natural Reservations and Landscape Reservations. The study is based on field and laboratory researches. The ecosystems were evaluated in the main phenological development phases of vegetation and animal life. The diversity of flora and fauna has been established. The emphasis is placed on assessing the valuable species of flora and fauna protected in this area and their abundance. As a result of the researches it was found that each of the evaluated areas has its role in preserving certain valuable species. As a component part of the same forest massif, similarly for the researched areas is the protection of the precious sectors with forest vegetation and the conservation the flora and fauna specific for the Codry area. The presence of certain rare species only in some reservations and their absence in others makes the difference between the valuable biological potential of the researched areas. A greater diversity of rare flora and fauna species has been recorded in Landscape Reservations.

Key words: Moldova's forests Codry, biodiversity conservation, natural protected areas, rare species, abundance.

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STUDY ON MANURE FROM SILKWORM AND ARBUSCULAR MYCORRHIZAL FUNGI TO PROMOTE GROWTH AND YIELD OF MARIGOLD (*TAGETES ERECTA*) IN ALKALINE SOILS UNDER FIELD CONDITION

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ABSTRACT

Manure from silkworm, an organic fertilizer, and arbuscular mycorrhizal fungi (AMF), a biofertilizer, was studied to promote growth and yield of marigold in alkaline soils under field condition. The experimental designed was done into randomized complete block design (RCB) consists of four treatments three replications namely 1) no fertilizer applied 2) manure from silkworm applied 3) AMF applied 4) combination of manure from silkworm with AMF applied. The experiment was conducted between August 9th to December 9th, 2017 at the Nong-Kwang Higher Education Academic Training Centre, Buriram Rajabhat University, Muang Buriram, Thailand. ANOVA and mean comparison were analyzed for plant height, number of pinnate leaves, number of shoot tip, number of flowers, days to first flower, flower diameter and percentage survival of marigold. The result showed that using of combination of manure from silkworms with AMF had significant increase plant height ($p < 0.05$) number of pinnate leaves ($p < 0.05$), number of shoot tip ($p < 0.05$), flower diameter ($p < 0.01$) and percentage survival of marigold ($p < 0.01$). The result indicated that combination of manure from silkworms with AMF could be used to improve marigold growth and marigold flower yield under alkaline soil condition.

Keywords: Silkworm, AMF, Marigold, Fertilizer, Field condition

VARIATION OF PHYSICAL AND CHEMICAL PARAMETERS IN GROUNDWATER IN THE NORTHWESTERN PART OF THE DRINI I BARDHË RIVER BASIN, KOSOVO

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ABSTRACT

Groundwater resources represent one of the safest sources of drinking water supply. In many parts of the world over 70% of drinking water is made up of groundwater. In the Republic of Kosovo, the supply of potable water from groundwater sources is represented by about 40%. However, in the last few decades there is a growing concern about the quality of groundwater. Therefore, this paper through the scientific research, laboratory analysis and the obtained and interpreted results aims at highlighting the quality of groundwater in the northwestern area of the watershed of Drini i Bardhë (Kosova), through physicochemical indicators. On this occasion, 50 points for the physicochemical analysis of samples in groundwater were determined. Some of the physicochemical parameters are directly measured in the field, such as: temperature, pH, electrical conductivity, dissolved oxygen in the water, etc., while other parameters are analyzed in the laboratory. Based on the results obtained through laboratory analysis, groundwater in this area shows results which are on the accepted limits in terms of quality properties. Those samples are within the allowed permissible values as defined by AI No. 16/2012 and WHO norms for drinking water. In some sample stations, there are some registered exceeded values for some chemical parameters which are above the accepted WHO limits for drinking water. The CO₂ content shows that in this area the groundwaters are with atmospheric origin and the high value of kalium, calcium and nitrate content, which were registered on two sample points could be explained from the overuse of of the agriculture fertilizers.

Keywords: Groundwater, Drini i Bardhë basin, physico-chemical, watershed area, variation.

ANALYSIS OF THE EFFECTS OF CERTAIN EXOTIC ORNAMENTAL PLANTS ON SOIL PROPERTIES: THE KARADENIZ TECHNICAL UNIVERSITY CAMPUS CASE

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ABSTRACT

The use of increasingly diverse exotic ornamental plants in urban open green spaces has led to more heterogeneous urban landscapes. The studies on ecological effects of these plants on the existing soil properties and on long-term impact on urban ecosystems are insufficient. Thus, the present study aimed to investigate the impact of certain exotic plants on the properties of the soil properties where they were planted in a case of a public area. In the study, Karadeniz Technical University campus (Trabzon, Turkey), where exotic ornamental plants were used extensively, was selected as the sample. Three-replicate soil samples were obtained from the areas where 20 exotic woody plant species which were planted in the sample area more than 20 years ago and were the most prevalent species in the area and unplanted control areas. Certain physical and chemical properties of the soil samples such as texture (sand, clay, dust), soil reaction (pH), organic matter, total nitrogen, salinity, total lime content and potassium intake were analyzed in the laboratory. The study findings demonstrated that there were significant differences between the properties of the soil where exotic plant species were planted and the soil properties in unplanted control areas ($p < 0.05$ and $p > 0.01$). In particular, it was observed that exotic plants induced a significant increase in total nitrogen, potassium intake and organic matter content. Therefore, consideration of the effects of exotic species on certain physical and chemical soil properties in landscape planting may be beneficial for more successful plant selection and sustainable designs. The present study findings are expected to contribute to expanding the present knowledge on the interactions between exotic species and soil properties planted in urban areas.

Keywords: Exotic plants, plant-soil interaction, landscape planting, Trabzon.

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CLIMATE LIMITATIONS OF THE BEECH (*FAGUS SYLVATICA*) WITHIN THE REPUBLIC OF MOLDOVA TERRITORY

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ABSTRACT

Beech forests in the Republic of Moldova represent their East areal in the spatial distribution within Europe and occupy about 400 ha. In the trend of unfavorable changes in the climate conditions (summer mean temperature has increased, while the annual rainfall has shown a decreasing trend in Moldova) beech stands are face to climatic constraints in their distribution and development. Therefore, based on a set of climatic indices (Forest Aridity Index – FAI; DeMartonne Index – IM; Ellenberg Quotient – EQ; and Beech tolerance index - Q_{BTI}) was explain causes of beech surface decreasing in Moldova. The competitiveness of beech is limited by increasing water stress and it is replaced by forests consist of more drought-tolerant species. Per general, beech stands in Moldova, are growing in climatic conditions expressed by FAI values between 5.8-7.5; IM values greater than 32.0; EQ values - 27.0-30.0 and Q_{BTI} values - 15.0-17.0 units. Vitality of beech in "Plaiul Fagului" and "Codrii" Reservations (areas that include almost all beech stands from our country) is negatively affected by the impact of biotic and anthropic factors, and from abiotic factors - climate aridization leaves more and more fingerprints in the compositional structure of the forest ecosystems in the region.

Key words: climate indices, xeric limit, beech stands, distribution area.

THE IMPORTANCE OF CALCULATING GREEN GDP IN ECONOMIC GROWTH OF A COUNTRY – CASE STUDY ALBANIA

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ABSTRACT

Gross Domestic Product (GDP) or Gross National Product (GNP), are commonly used to determine the economic performance of a whole country or region, to make international comparisons and to measure the produced output but they ignore the ingredients needed to generate such output like water and air. So, there is a general consensus that these indicators, (especially) according to the concepts of sustainable development and green growth, appear to be poor measurements. Environmental sustainability of economic growth has come to be recognized as one of the most important pillars of sustainable growth and development. Green GDP is an Index, an alternative indicator of economic growth that incorporates environmental consequences of that growth by including the depletion of natural resources and degradation of the environment, so it takes into consideration the environmental impacts on the productivity of the country. Taking in consideration that the main purposes of Green GDP accounting are used to provide a more correct measure of welfare and to examine the sustainability of the economy, we used this indicator to give our opinion for the importance of calculating Green GDP in the economic growth of Albania. We use the general scheme of calculation where the first deduction in GDP presents the costs of CO₂ pollution (as CO₂ emissions times carbon market price), second the opportunity costs of one tone of waste that could be used in the production of electrical energy), and a third is the adjusted savings of natural resource depletion as a percentage of the gross national income per country. Hence, we try to build an alternative Green GDP indicator that can give a clearer perspective on the consequences of economic progress by offering a new approach in quantifying the cost of ecological and environmental degradation in Albania. Not only will it evaluate the real costs of environmental damage, but it will also process some opportunity costs in Albania Case.

Keywords: Green GDP, Economic Growth, Environmental Damage, Sustainable Development.

THE INTEGRATING ECOLOGICAL URBAN ENVIRONMENTAL PERFORMANCE CRITERIA IN URBAN DESIGN STUDIOUS OF UNIVERSITY STUDENTS

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ABSTRACT

The uncontrolled urbanization caused significant changes in urban environmental conditions due to increased build-up areas of cities, reduction the urban landscape, disruption of human-environment relations. The urban environments consist of two superimposed systems as being natural and human-made. Urban plans consist of both design and these urban environmental components. Especially planner's environmental perception is too important for setting of environmental quality. Therefore, urban environmental quality and human value became the two key concepts of visual environment assessment. Each of these components have differences to its own geological, morphological, climatic structure etc. physical characteristics and that coming from social, cultural and systematic properties. So urban and environmental planners are responsible for shaping the urban environment as well as human, urban and environmental health professionals. This paper will be analyzed the environmental perceptions of university students of urban planning about urban environment and nature related to human and nature relationships. It chose Konya as a sample area for being a central living space of many all of university students. NEP scale with sample 12 % applied to the student of University of Necmettin Erbakan's City and Regional Planning.

Key words: New Ecological Paradigm Scale (NEP), Environmental perception, Urban environment identity, Konya

ENVIRONMENTAL SUSTAINABILITY IN A CAMPUS: A COMPARISON EXAMPLE FOR SELCUK UNIVERSITY

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ABSTRACT

Sustainability and green life concepts have been confused. However, in recent decades, sustainability has been getting better understood and implemented among universities. Sustainability in universities is very similar to cities' which is based on economic, social and environmental foundations. However, implementing the environmental sustainability practices to university is respectively easier comparing to city. Moreover, managing the environment is easier due to the size. Also, similar structures and activities within the campus allows rating, ranking and comparing the universities. In this study, Selçuk University's (SU) sustainable practices have been compared with Michigan State University (MSU) and discussed in environmental aspects for the university. These practices are limited with climate, energy, waste, water and transportation since sustainability is a very broad concept. MSU is the one with the gold rating in the Sustainability Tracking, Assessment and Rating System (STARS) and SU is the new player in the field. Both universities are similar in size, academic departments and climate. Criteria of STARS is used as a reference assessment system because of its transparency in assessments and publicly accessible data.

Key words: Campus sustainability, environmental sustainability, sustainability assessment, STARS

THE ROLE OF IT IN THE DEVELOPMENT OF DISTANCE LEARNING IN PUBLIC AND PRIVATE UNIVERSITIES IN KOSOVO

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ABSTRACT

Distance learning is a neologism in the context of computer-based learning and lies in the use of IT and communication in the teaching process. Learning is based on internet services (in distance) or through a CD-ROM (offline). Teaching can be done at work, at home, at school, or anywhere; "*Learn anything, everywhere, and whenever you want*". Distance learning is a collection of works by practitioners and researchers working actively in the field of distance education. Although it is not an old academic discipline, distance learning as theory and practice has evolved through five generations in 150 years of its existence (Taylor, 2001). The distance of educators, students, administrators and parents is and will be every day, but these will push on making constant pedagogical and economic choices, then the features of the political systems of distance education, the systems within which they participate, etc. to provide the desired information and knowledge, and we hope that this study will be a guide for many universities in our country to approach this idea which has proved to be very efficient and very flexible, both economically, educative and performer, where the expertise can influence their vision, their concerns, and their solutions to distance study practice. Distance learning is a discipline that consumes the knowledge and practice of pedagogy, psychology and sociology, economics and business, production and technology. We will strive to address each of these perspectives through the explanations and experiences of many institutions that have succeeded in bringing this ideology to success in their universities and businesses as possible scientific discipline. This study will present a mix of knowledge and research, practical attention to teaching and learning details, supply opportunities, spread of research results, and attention and awareness for the economy, business and education in particular.

Key words: Distance Learning, e-learning, web platform, World Wide Web, etc.

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NEW ADVANCED MATERIALS FOR ENERGY PRODUCTION: THE ARC FUSION REACTOR AND MHD PHENOMENA IN THE FLIBE BREEDER

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ABSTRACT

For decades, nuclear fusion energy has been pursued by scientist worldwide. This is because fusion energy devices have the potential produce huge amounts of clean carbon-free energy. Different designs for fusion reactors have been proposed and some have been built. At the Plasma Science and Fusion Center (PSFC) of the Massachusetts Institute of Technology (MIT), an innovative design was created: ARC, the Affordable Robust Compact reactor. ARC achieves its compactness partially due to the presence of High Temperature Superconductors (HTS) for the magnetic confinement and the use of molten salt Lithium-Fluoride, Beryllium-Fluoride (FLIBE) as coolant, neutron shield, and tritium breeder. FLIBE has the characteristic of extremely high boiling point (about 1700 K) which guarantees a single-phase flow. As an electrical conducting fluid, MHD flows can be encountered in FLiBe. The flow inside breeding blanket channels can be very complex and results in high pressure drops, especially when the channels are also made by electrically conducting materials. The evaluation of fluid velocity profile, pressure drop and prediction of thermal heat fluxes are of considerable interest for the blanket design. For this purpose, thermal-MHD simulations can be run. Those simulations evaluate 3D transient problems in which the quantities describing the problem have to be estimated at each discretized point of the geometry domain. After a brief introduction of ARC and the fundamentals of MHD, the paper will present the numerical approach adopted and the implementation of thermal-MHD coupled code on Open-FOAM and COMSOL, as well as a stability discussion. The results of such simulations are presented, with sections dedicated to comparison between codes and analytical results for a simple class of problem: square ducts.

Keywords: fusion energy, advanced materials, FLIBE, ARC reactor.

BUSINESS KNOWLEDGE MANAGEMENT AS A PREREQUISITE FOR A STRONGER POSITION IN THE MARKET

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ABSTRACT

Companies are realizing how important it is to "know what they know" and to be able to use their knowledge to the maximum. This knowledge is encountered in many countries such as databases, knowledge bases, data cabinets and people's heads, and they are distributed throughout the companies. It also happens that a part of company repeats the other company's work, simply because it is impossible to pursue and utilize knowledge in other parts. Companies should know:

- ✓ Which are their means of knowledge;
- ✓ How to manage and use these tools to achieve the maximum return (profit).

The company's most traditional policies and controls focus on its most available tools by letting unmanaged the most important tools, the knowledge ones. Success in markets where competition tends to grow depends on the quality of knowledge used by organizations in key business processes. For example, the bidding part depends on the knowledge in various fields, including raw material, planning, production and distribution. Product development also requires knowledge about consumer requirements, new scientific developments, new technology developments, marketing, and so on. The issue of organizing the means of knowledge of an organization to create competitive advantage becomes more important when:

- ✓ Markets are increasingly competitive and innovation rates are increasing so that knowledge has to develop and adopt at a very rapid growth rate.
- ✓ Corporations organize their businesses to be focused on creating customer values. Staff functions have been reduced in line with management structures. There is a need in changing the informal management of staff function knowledge with formal methods in customer directed business processes.
- ✓ Competition is reducing the size of the workforce that holds this knowledge.
- ✓ Knowledge takes time for experience and development. Employees have less and less time to do so.
- ✓ There is a tendency for employees to retire earlier and increase mobility, which leads to loss of knowledge.
- ✓ There is a need for managing complexity as small business operators and transnational resource operations.

The change in strategic direction can result in loss of knowledge in a particular field. A future change in politics may lead to a renovated request for this knowledge, but employees with this knowledge may not be there.

Key words: business knowledge management, stronger position, market

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THE COMBINATION OF NEURAL THERAPY WITH OZONE THERAPY IN SILENT INFLAMMATION (I.V. / I.A APPLICATIONS)

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ABSTRACT

Ozone treatment is used in general practice mainly in the "great self-blood therapy." The application as a local treatment method is also established in the bag fumigation. Now, there are recurrent cases of persistent pain in the shoulders, hip joints or bursae, which under a local treatment with injections improve surprisingly. With the help of cases, I show you that the cause of such chronic pain is often the infection with borellia and their coinfections, and how the strategy for sustainable treatment of this germ spectrum can be Neural therapy.

Key words: ozone treatment, ozone therapy, neural therapy

SENSORY PROPERTIES AND PHYSICO-CHEMICAL ANALYZES OF PASTEURIZED MILK

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ABSTRACT

Pasteurized milk products, widely used in dietary diets, are highly popular products in the dairy industry. Safety and control of these products is part of food safety and includes technological processes as well as additional substances approved by the state standard. Additives in pasteurized milk products are used to perform a variety of functions, both to improve their taste, texture and longevity. Notwithstanding this, consumers should not be jeopardized in their health when consuming these foods and the use of these pasteurized milk products is regulated by legislation in different countries and between EU countries, many additives are listed in Directives 94/35 / EC, 94/36 / EC2 and 95/2 / EC3 on dyestuffs, sweeteners, antimicrobial substances, antioxidants, and other additives applied by EU countries. By standard analytical methods they were evaluated for a period of several days from pasteurized milk products obtained from the network of supermarkets in several cities of Kosovo and produced by the most popular Kosovar firms in milk processing. The samples were selected taking into account the storage time and temperature and were analyzed in relation to physico-chemical indicators and the amount of additional substances used in dairy products.

Keywords: antimicrobial substances, antioxidants, pasteurized milk, sweeteners.

SOIL BIOLOGICAL ACTIVITY UNDER THE HUMAN-INDUCED IMPACT IN THE FARMED ECOSYSTEM

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ABSTRACT

The application of organic fertilizers (60 t/ha of dung) to gray forest soils increases the proportion of deeply humified humus substances within a humus, so the soils become more cultured. The organic-mineral fertilizer system (12 t of dung and 220 kg of NPK – nitrogen-phosphorus-potassium – per 1 ha of crop rotation area) and the organic fertilizer system (24 t/ha of dung) result in humus wide reproduction at the level of 1,32% and 1,35% comparing to the initial level (1,20%). The regular input of fresh organic fertilizers into soil caused the 1,5-times increase of intensity of biological processes (according to CO₂ release) if compared to the soil without such an input. The intensity of CO₂ release rose by 56% while applying organic-mineral fertilizers, by 28% with organic fertilizers, and by 14% with mineral fertilizers if compared to the control soil without applying fertilizers (118 mg of carbon-dioxide per 1 sq.m./h). The input of organic fertilizers in soil changed the concentration of microorganisms which decompose cellulose, and they prove to be rather good indicators of changes of soil agronomical properties. The cellulose-decomposing activity of soil nourished only with mineral fertilizers was 38,9%, that is a medium intensity. The cellulose-decomposing activity of soil amended only with fresh organic fertilizers rose to 80% that corresponded to a strong intensity. Fertilizing with both organic and mineral material stimulated the process of cellulose decomposing up to 82,4%. The intensity of a nitrification process reflects a potential soil biological activity. According to the research, the low nitrification intensity was observed in soil without fertilization (12,8 mg/kg), while the nitrification intensity rose to 14,0 mg/kg after mineral fertilization and to 17,4 mg/kg after organic fertilization. We revealed that the nitrification ability of soil tended to increase up to 21,9 mg/kg following the combined application of organic and mineral fertilizers, consequently coordinating with cellulose-decomposing activity changes of soil microbial cenosis under field conditions.

Key words: soil biological activity, humus, fertilization, soil fertility, fertilizers

PREVALENCE OF *EHRlichia* SPP IN TICKS COLLECTED FROM DOGS IN PROVINCE OF VAN IN TURKEY

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ABSTRACT

Ticks *Rhipicephalus sanguineus* of Rhipicephalus strain of Ixodidae family are biological mediators to transfer of Rickettsia pathogens such as Ehrlichia and Anaplasma in animals. In the present study, a total of 220 ticks were collected from 55 infested dogs. The ticks' taxonomy was carried out through microscopically. Additionally, DNA extraction from ticks was conducted and nested PCR was performed to differentiate the *Ehrlichia* spp. The obtained results indicates that collected ticks were belong to *Rhipicephalus sanguineus* of Rhipicephalus strain of Ixodidae family of ticks. The PCR results showed *Ehrlichia* spp. was present in ticks and *E. canis* was more common (50 of 220 ticks) than *E. ewingii* (3 of 220 ticks). In conclusion, *E. canis* was firstly detected in *R. sanguineus* tick in dogs in the Province of Van in Turkey. *E. ewingii* was firstly detected in *R. sanguineus* tick in dogs in Turkey. Its presence in dogs indicates the potential factor for public health hazard in Turkey.

Keywords: Dog, *Ehrlichia* spp, Nested PCR, *Rhipicephalus sanguineus*.

RENEWABLE ENERGY: LEARNING BY MODELING

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ABSTRACT

Modeling is one of the preferred methods to make learning permanent in science education. The aim of this research is to determine the students' perceptions about renewable energy by using modeling method. This research was conducted on students who took Environmental Chemistry course in Kocaeli Vocational School in 2018-2019 academic year. Qualitative method was adopted in the research. Data were collected by pre-interview and final interview with experimental and control groups. 10 students participated in the study. In the study; The experimental and control groups were asked questions about renewable energy. Then, only theoretically the experimental group and the experimental group were told about the renewable energy by modeling. The data obtained in the qualitative research were subjected to content and significance analysis. In the research, the effect of teaching the use of materials and renewable energy concept on learning was examined and students' perceptions about renewable energy concept were determined.

Keywords: Renewable energy, modeling, qualitative research

ANALYSIS OF WORTH ASSESSMENT OF INFORMATION SOURCES OF ARTISANAL FISH FARMERS IN SELECTED COASTAL AREAS OF NIGERIA

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ABSTRACT

Information sources play a vital role in improvement of artisanal fish farming, however, the different sources of information do not receive equal attention by artisanal fishers, and as a result the worth assessment of information sources used by artisanal fish farmers in selected coastal states of Nigeria was conducted. The study was carried out in the coastal States of Bayelsa, Rivers and Akwa Ibom in Nigeria. The data for this study was obtained from primary sources using questionnaire. Descriptive and inferential statistical analysis was employed. The result from the findings indicates that the majority of artisanal fish farmers were male (79.90%). Artisanal fish farmers are predominantly adults as the result shows that most (43%) fall within the age bracket of 41 – 50 years. Few of the respondents (23 =5.2%) have been engaged in fish farming for the past 15 years and above. Majority (88%) of the artisanal fish farmers had one form of education or the other. Majority of artisanal fish farmers 243 (55%) earn monthly income between ₦11,000 – ₦50,000. Coastal artisanal fishers' information is highly motivated by farmers groups, Posters, Neighbour farmers, Co-operatives, Community leaders, Cell phones, Extension agents, Church meetings, input dealers, Output buyers and Credit agencies. The regression analysis revealed that there is significant relationship between the socio-economic characteristics of artisanal fish farmers and their information worth assessment. The researcher recommends that government and non-governmental agencies should provide literacy programmes to improve the education background of artisans and also provide comprehensible sources of information to enable artisans understand and increase output.

Key words: worthiness of information, information sources, artisanal fish farmers, coastal areas

PROTHROMBOTIC STATUS IN ACTIVE- AND ACUTE STAGES OF CANINE MONOCYTC EHRLICHIOSIS

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ABSTRACT

Biomarkers in an attempt to determine prothrombotic condition alterations, for the vast majority by use of D-dimer, has long been elucidated retrospectively. D-dimer, a well known breakdown/degradation product of cross-linked fibrin, has been the subject of several researches. On the other hand to the present authors knowledge, to those of different stages of Canine Monocytic Ehrlichiosis (CME), D-dimer levels have not been analyzed, which should thoroughly effect therapeutic scenario. The aim of this study was to measure D-dimer concentrations and assess their value in the diagnosis of CME. Therefore D-dimer analyses by use of Wondfo Finicare Fluorescent Immunoassay were performed in four groups of dogs; (i) 8 dogs with acute CME, ii) 9 dogs with active CME infection, iii) exposed dogs (n=8) then were compared to those of healthy dogs (n=9 dogs as iv) control group. The D-dimer range in clinically healthy dogs was <0.1 mg/L. In the present study D-dimer levels were detected as follows: 0,06±0,10, 3,20±3,05, 4,04±3,94 and 0,06±0,07 mg/dl for control, acute infected, active infected and exposed dogs with a statistical significance (p<0.01) as shown in table In both infected groups, D-dimer levels increased with clinical evidence of disease. D-dimer concentration may be considered as an indicator for disease activity during acute/active disease condition and may be useful as a potential biochemical marker.

Keywords: Acute stages, Canine Monocytic Ehrlichiosis, Prothrombotic status.

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RECOGNIZABILITY OF SOME NON-WOOD FOREST PRODUCTS BY YOUNG PEOPLE: CASE OF ATABEY VOCATIONAL SCHOOL, ISPARTA, TURKEY

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ABSTRACT

Survey was conducted with 150 person who are students 1st and 2nd grades in three departments of Applied Sciences University of Isparta, Atabey Vocational School: Computer Technologies, Office Management and Secretary and Forestry. The survey consists of 2 sections according to the demographic characteristics, the identification of 25 plants and their intended use status. The data of the study were analyzed by transferring the data into SPSS 22.0 statistics program. The chi-square test was used to determine the students' perception of plants with respect to gender and department of education $p < 0,05$. None-wood forest products, the students who participated in the survey recognized the most were determined to be; walnut (99.3%), almond (98%), linden (98%), sage (97.3%) and chestnut (97.3%). It was determined that the students recognized haw (44%), balm (36.7%) and saffron (24%) plants the least. There was a significant difference with respect to gender in status of recognition non-wood forest products for balm, fennel and sweetgum plants. There was a significant difference with respect to department of education in status of recognition non-wood forest products for haw, blackberry, chestnut, mint, balm, fennel, sweetgum and sumac.

Keywords: Non wood forest product, Atabey Vocational School, survey, student

THE POLLEN LOAD OF SNAKE FRUIT FLOWERS

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ABSTRACT

Salacca are dioecious. Pollen in zalacca is numerous, light and sticky. Salacca pollen has a monolithic type with a round shape, indentation in the aperture and a small protrusion on its surface. Pollen protects the sperm wall while the pollen grain core moves from anther to stigma, protecting vital genetic material from dry and solar radiation. The number of pollen loads in male and female beetles did not have a significant. Pollen load on the body of the male beetle is 500 grains of pollen while in the female beetle is 557, 69 are pollen. the ability to carry pollen on pollinating insects is dependent on body structure, and body. Male beetles have a relatively small body size when compared to female beetles. Human activities have an impact on the surrounding environment, changing the structure and dynamics of ecology. The interaction of plants and insects is a link between several insects that increasing the number of seed plants with the ability to spread by insects. The beetle group is one of the important pollinators in the environment. Pollinating agents help the process of producing fruit or seeds.

Keyword: Salacca plant, pollen load, body size of beetle, beetle ability

SOIL MICROBIAL DIVERSITY AND ANTIBIOTIC RESISTANCE IN NATURAL AND TRANSFORMED ECOSYSTEMS

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ABSTRACT

Terrestrial ecosystems may provide an ideal setting for the acquisition and dissemination of antibiotic resistance, because they are frequently impacted by anthropogenic activities. The soil microbiome plays an important role in development and spread of antibiotic resistance in humans. The aim of our study was to detect the antibiotic resistance soil bacteria in different ecosystems: natural ecosystems, agroecosystems and urboecosystems. Were isolated 468 dominating bacteria, among them 79 antibiotic resistant bacteria. All isolates were multi-drug resistant, of which greater than 74,5% were resistant to 9 antibiotics. A study of soil samples from the primeval forests showed that the microbial community characterized by a low content of antibiotic-resistant microorganisms. Among 78 isolated bacteria only two of them *Bacillus cereus*, and *Pantoea agglomerans* demonstrated high level of resistance to antibiotics. A total 106 strains were isolated from the soil of medicinal plants, 13 of them were antibiotic-resistant. The greatest numbers of antibiotic-resistant bacteria have been isolated from soil of urboecosystems and agroecosystems contaminated by enrofloxacin. Among the 284 tested bacteria 64 were antibiotic resistant. Multi-resistance were such pathogenic and conditionally pathogenic bacteria as: *Enterococcus faecium*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Bacillus licheniformis*, *Serratia fonticola*, *Hafnia alvei*, *Bacillus cereus*, *Bacillus megaterium* and *Clostridium difficile*.

Keywords: ecosystem, soil, diversity, microbiome, antibiotic resistance.