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ABSTRACTS

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Health Abstracts
ATTRIBUTES OF FOOD LITERACY LINKED WITH TERTIARY LEVEL STUDENTS IN DHAKA CITY, BANGLADESH

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Abstract

This qualitative study set out to recognize attributes of food literacy linked with tertiary level students, who live independently and manage their own food and living. The purpose was to acknowledge the knowledge, technical skills, and social norms that preserve food literacy from the viewpoint of Bangladeshis. Qualitative data was collected from 31 in-depth interviews with tertiary level students in Dhaka city. To analyze data sets, words were distilled into fewer categories through qualitative content analysis based on previously identified attributes of food literacy from existing literature. This led to separation of ten attributes of food literacy linked with tertiary level students. The key attribute of food literacy identified in the category ‘self-controlled attributes’ is ‘Positive food attitudes’. Within the same category, ‘Awareness of food type, ingredients and production environment’ as well as ‘choosing healthy food options’ are some of the useful attributes of food literacy observed in this study. ‘Social support to learn and share food’ is an attribute of great significance found in the category ‘attributes beyond self’. The results indicate that application of food literacy can salvage younger generation’s declining connection to food caused by rising popularity of convenience food which in turn can possibly address the increasing trend of overweight and obesity alongside undernutrition in developing nations such as Bangladesh. The findings of this study will facilitate the making of a food literacy implementation guide for Bangladeshis, which would be beneficial to evaluate interventions targeted at improving nutrition.

Keywords: Bangladesh, Food Literacy, Nutrition, Public Health, University Students.
STUDY OF ANTINEPHROPROTECTIVE COLEUS AMBOINICUS EXTRACT ON CISPLATIN-INDUCED NEPHROTOXICITY IN RATS

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Abstract

Coleus amboinicus (CA) are known to have antioxidant activity, anti-inflammation, antiplatelet aggregations, anti-cancer cells. This study is to evaluate effects of Coleus amboinicus (CA) extracts on cisplatin-induced nephrotoxicity by comparing the level of Tumor Necrosis Factor-α (TNF-α) expressions and level of serum Alkaline Phosphatase (AP), Blood Urea Nitrogen (BUN) and serum Creatinine concentrations in Wistar rat. Twenty-four male Wistar rats (Rattus norvegicus), 3 months of age with a body weight (BW) of 200-250 g, were allocated into three groups, with eight animals per group. The control group received CMC solution at 0.1% (p0). The treatment group were treated with single doses of cisplatin (5 mg/kg bw., ip) (P1) and received 100 mg/kg bw, po, of the CA extracts (P2) respectively for 7 days. Blood was collected for analysis of serum alkaline phosphatase (AP), serum creatinine and Blood Nitrogen Urea (BUN) concentrations. The levels of Tumor Necrosis Factor-α (TNF-α) concentrations were analysed by Avidin-Horseradish Peroxidase (HRP) Sandwich-ELISA. All groups were sacrificed for histopathology. Quercetin as a marker compound of CA extract has proven stronger bind to the TGF-β1 receptor (PDB code: 4X0M) than its of 3WA_601 ligand in silico analyzed. Coleus amboinicus extract significantly decreased the level of AP, BUN and serum creatinine concentrations to the control group (p<0.05). The level of TNF-α significantly decreased in treatment group (p<0.05). In histopathological examination showed that all groups with cisplatin-induced have severe multifocal hemorrhage, interstitial congestion, cell inflammation, acute glomerular and tubular injury with necrotic cells. This study concluded that CA extract has activity to inhibit cisplatin-induced nephrotoxicity and has potential for drug against cisplatin-induced nephrotoxicity.
**Keywords:** Coleus Amboinicus (CA), Tumor Necrosis Factor-α (TNF-α), Cisplatin, Nephrotoxicity.
Adverse drug reactions (ADRs) are an important public health issue with a negative impact on the treatment of patients leading to mortality, morbidity, hospitalizations and costs increasing.

To analyze the economic impact of ADRs associated to emergency department visits, a search on PubMed of papers about ADRs and associated costs was conducted. For this study, the inclusion criteria were: (i) papers published between January 2010 and March 2016 (ii) papers in English, Spanish or Portuguese, (iii) the setting of the study is emergency departments and/or critical care wards or other wards if identify ADRs as cause of hospitalization (iv) identify costs of ADRs associated to hospitalization.

After application of inclusion criteria, 13 studies were included for analysis. Nine studies were developed in Europe, two in South America and the other two in Asia. The average cost per patient hospitalized with an ADR changed between US$65 and US$115, in the studies from Asia. In South America, studies reported a cost of US$556 per day and per patient in one study and in other study a cost increasing of US$233 in patients with ADRs comparing with patients without ADRs visiting emergency department. The mean total treatment costs of hospitalizations due to ADRs reported in European studies changed from 2036 Euros to 5373 Euros between studies.

The increasing costs associated to ADRs leading to emergency department visits and to hospitalization is a reality. The studies evaluating these costs are very heterogeneous and it is very difficult to compare results between studies.
Keywords: Adverse Drug Reactions, Costs, Emergency Department.

References:


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Life Sciences
Abstracts
ASSESSMENT AND DISTRIBUTION OF SOIL ENTOMOFAUNAL COMMUNITY OF ENTOGNATHOUS HEXAPODS IN FOREST AND GRASSLAND

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Abstract

The abundance of entognathous hexapods in the soil ecosystem discloses the fact that degradation of its resources is not imminent. This entomofauna group of soil fauna is very related to the fertility status and sensitive to soil pollution and accumulation of toxic substances. Results of this study show the abundance of entognathous hexapods as well as other soil arthropods in the forest and grassland soil of the Central Luzon State University, Philippines. In accordance with other similar researches, forest ecosystem has greater number of entognathous population as compared to grassland, however, diversity indices revealed high diversity of entognathous populations in grassland.

There are four families of Collembola identified that were present in both soil ecosystems, one of the two families of Diplura was present also in both ecosystems and the lone family of Protura species was found only in the forest ecosystem. Dominance of entognathous species was observed in the forest area while evenness of entognathous hexapods distribution was extracted in grassland soil samples.

Keywords: Entognathous, Collembola, Diplura, Protura.
Abstract

The diversion of waste biomass from landfills has the potential to make significant contributions to sustainable practices in the agricultural and food processing industries. For example, dragon fruit (Hylocereus spp.) peels have been industrially exploited to generate functional and healthy products with high economic values. This study concerns the valorisation of fruit waste, as a natural source of pectin that would have applications in food processing. The initial objective was to optimise yield and quality of the pectin by applying the Response Surface Methodology to the conventional extraction of white-flesh (Hylocereus Undatus) and red-flesh (Hylocereus Polyrhizus) dragon fruits. The physicochemical properties of the pectin obtained were assessed using a suite of analytical techniques. The extraction process resulted in yields ranging from 5.81% to 13.11% for the white-flesh dragon fruit peel (DFP) and are from 8.99% to 15.12% for the red-flesh DFP. The results show that the extraction temperature and the type of peels have significant influences on both yield and degree of esterification (DE). The DE of pectin obtained from the two types of peels were higher than 50%, indicating high-methoxyl pectin. These high ester pectins jellify predominantly by the sugar-acid gelling mechanism to be used as gelling agents in food products. The structural assessment by Fourier Transform Infrared spectroscopy evidenced that our pectin was very similar to commercially available citrus pectin. These preliminary results suggest that the dragon fruit peels represent a valuable source of high-grade pectin.

Keywords: Pectin Extraction, Dragon Fruit Peels, Optimization.
Agriculture
Abstracts
SPROUTING ABILITY IN MICROPROPAGATION OF LABAN (VITEXPUBESCENS): THE MEDICINALLY IMPORTANT TREE

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Abstract

Laban (Vitex pubescens), Indonesian native species, possesses diverse medicinal properties ranging from anti-inflammatory, anti-allergic, anti-microbial to anti-cancer and anti-HIV. Many potential bioactive molecules form an integral part, of which some are highly valued by multinational pharmaceutical companies. Unrestricted harvesting and high market demand of laban had drastically reduced the existing wild stocks. Micropropagation, a key tissue culture technique of medicinal trees has come forth to take up the challenge. The purpose of this research is to observe the sprouting ability of laban to get the highest nodes number as multiplication source, an important factor in micropropagation technique to produce high multiplication clones. We used 10 families of laban young seeds from Ketapang, West Kalimantan as mother plants. The in vitro shoots initiation were established on Murashige & Skoog (MS) medium supplemented with 1g/LBAP (benzylaminopurin); 0.1 g/L kinetin and 0.01 g/LNAA (naphtalenaceticacid) (M1); 2g/LBAP, 0.1 g/L kinetin and 0.01 g/LNAA (M2) and 3g/LBAP, 0.1 g/L kinetin and 0.01 g/LNAA (M3). All treatment shoots regenerated from explants tissue were transferred to a rooting medium consisting of half-strength MS medium supplemented with 0.5g/L IBA. After 6 months of shoots initiation subculture, the high average of shoots elongation was obtained from family 1 (3.79 cm ± 1.06) and family 5 (3.47 cm ± 1.25) in M1 media. After 6 months of rooting subculture, the highest average of node number (8node in one shoot) was obtained from family 1. This family has the highest average of root elongation (5.36 cm ± 1.25). The best node number, highest shoot elongation and highest rooting elongation from in vitro regeneration were expected the highest multiplication for mass micro propagation.

Keywords: Micropropagation, Node Number, Root Length, Shoot Length, Vitex Pubescens.
NANO-FERTILIZER INCREASED GROWTH, PHYSIOLOGY AND YIELD PARAMETERS OF OKRA PLANTS

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Abstract

Nano fertilizers stands as increasing intelligent materials that enhance nutrients phytoavailability of crops. To justify the effects of nano fertilizer, we measured growth, physiological and yield parameters of okra plants. Three nano fertilizers were compared to inorganic fertilizers and control treatments. Six treatments, (3 types of nano and 2 inorganic fertilizer and control) were arranged as per completely randomized design with five replications. Growth, physiology and yield parameters were measured. Nano fertilizer significantly increased growth and physiological parameter such as leaf numbers, the plant height, chlorophyll (Chl) content, Chl fluorescences, quantum yield (Fv/Fm), net photosynthesis rate (Pn), photosynthetically active radiation (PAR) and relative water content (RWC). Moreover, nano fertilizers significantly increased yield and yield parameters of okra production. Nano fertilizers did not affect stomatal aperture and glutathione content in guard cells which might indicate the suitability of nano fertilizer in protecting environment. In conclusion, this study suggests that nano fertilizer might enhance nutrients phytoavailability therefore growth, physiology and yield parameters of okra plants were increased.

Keywords: Glutathione, Relative Water Content, Chlorophyll Content, Photosynthesis, Quantum Yield.
ACCLIMATIZATION OF SENGON (FALCATARIAMOLUCCANA) FROM MICRO CUTTING PROPAGATION IN VITRO

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Abstract

Sengon (F. moluccana) is a legume fast growing, light wood tree species of legume family. Legume tree-based farming systems sit at a crucial nexus of agro-ecological sustainability. For the past few decades, the widespread disease of gall rust on sengon trees has affected most areas in Indonesia. The disease has caused serious damage to death and destroys the environment of sengon habitat or community forests. Vegetative propagation is necessary to maintain the disease tolerant genetic material of sengon. Till to date, macro propagation of sengon still encountered obstacles. The use of micro propagation with tissue culture is considered to bean alternative technique. The aims of this study were to observe acclimatization, an important stage that requires appropriate environmental treatments, from micro cutting propagation in vitro: 1) direct treatment (explants from micro cutting in vitro) and 2) indirect treatment (explants from chamber hood). Explants from each treatment were transferred in three media composition (soil and compost) with no rooting stage in vitro as shortcut method. The study was conducted from September 2014 to February 2016. The results indicated indirect treatment has best acclimatization with low mortality average in compost media (3 %); with the highest average of shoots elongation (17.76 ± 1.37 cm). The best treatment were expected the effective and efficient alternative techniques for mass micro propagation of sengon.

Keywords: Micropropagation, Node Number, Root Length, Shoot Length, Vitex Pubescens.
BREEDING BIOLOGY OF ENDANGERED EGYPTIAN VULTURE NEOPHRONS PERCNOPTERUS (LINNAEUS, 1758) IN PLAINS OF PUNJAB (INDIA)

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Abstract

Egyptian vulture, Neophrons percnopterus is one of the 7 species of vultures found in Punjab, India and is considered as a non-resident bird in Punjab. It is a medium-sized scavenging bird and mainly feeds on carrion of small vertebrates and scraps of meat from large carcasses. The species is declining in virtually all parts of its range, apparently for a number of different reasons. In India, it has declined by >90\% in the last decade; European populations have declined by 50-79\% over the last three generations (IUCN, 2017). Breeding biology of the endangered Egyptian vulture Neophrons percnopterus has been studied in agricultural plains of district Patiala, Punjab (India) from 2015 to 2017. The breeding of a vulture pair occupying the same nesting site (hollow of a ventilation window of the Space Observatory located at geographical coordinates: 30°21'32.1"N, 76°26'55.3"E, Punjabi University, Patiala, Punjab) year after year was first noticed in 2014. It has been monitored for three consecutive breeding seasons i.e., from 2015-2017. On basis of the repeated field/nest visits and video-recorded data in 2017, the detailed observations have been made on nesting, incubation, hatching, growth, feeding of the young ones/parents and other behavioral aspects. All chicks survived to fledging and no mortality or siblicide of the younger chick due to aggression by the elder chick/starvation occurred. A total of 06 young hatched and fledged from 03 broods of 02 eggs each. The asynchronous egg laying interval and hatching interval between two eggs/chicks is 6 days each. The nestlings were primarily fed by the parent/s till 60 days and subsequently they started consuming the available food directly using their own claws.

Keywords: Breeding, Conservation, Egyptian vulture Neophrons Percnopterus, Feeding, Punjab.
Environmental Sciences

Abstracts
EX-POST ECONOMIC IMPACT ASSESSMENT OF AGRI-ENVIRONMENTAL MEASURES: CASE STUDY OF LITHUANIA

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Abstract

The aim of the research is to develop an ex-post impact assessment methodology for agri-environment measures and to test it empirically. Impact assessment is an important tool for policy makers. Pursuing sustainable farming development, it is important to analyse and evaluate possibilities and obstacles of the implementation of sustainable farming practices. The development of new policies requires a thorough analysis and a thorough assessment of the impact of already implemented agri-environmental measures (ex-post evaluation). In this way, the methodology would allow to assess effectiveness of the implemented measures and consider the possibilities of applying these measures in the future. The main element of the ex-post impact assessment is to create the opposite of the current situation by using counterfactual analysis methods, such as, propensity score matching analysis, double difference analysis, combined propensity score matching and double difference analysis, etc. In order to come to the reasonable conclusions, the most appropriate methodology will be developed and verified empirically by using the most comprehensive economic information about the activities of agricultural entities in Lithuania from the Farm Accountancy Data Network (FADN). Ex-post economic impact assessment of agri-environmental measures will be carried out by the comparison of agricultural holdings participating in the agri-environmental measures (before and after joining the measures) and not participating. The results of the research will provide new knowledge about effectiveness of agri-environmental measures and the ways of their improvement in the future.

Keywords: Agri-environmental Measures, Counterfactual Analysis, Sustainable, Farming.
CHARACTERISTICS AND CORRELATION OF INDUSTRIAL AIR POLLUTANT AND GREENHOUSE GAS EMISSIONS IN TYPICAL CITIES OF NORTHWEST CHINA

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Abstract

China is confronted with the dual task of controlling air pollution and reducing greenhouse gas emissions. Researching the characteristics and correlation of air pollutants and greenhouse gas emissions have important practical guiding significance for government to formulate relevant policies on cooperative control of air pollutants and greenhouse gas in China. The air pollution in many cities of Northwest China is particularly acute, and industrial activity is a major source of air pollutants and greenhouse gas emissions. In order to understand the relationship between air pollutants and greenhouse gas emissions in Northwest China, this paper has selected the capital cities of the five north-western provinces in China (i.e., Xi ‘an, Lanzhou, Xining, Yinchuan and Urumqi) as the research object, based on the industrial energy consumption data of five cities during 2013-2016, the CO2 emissions are calculated, and then the characteristics of air pollutants and CO2 emissions are compared according to the industrial air pollutant emission data of five cities during 2013-2016. Finally, the correlation between air pollutants and CO2 emissions are studied by the relevant analysis and regression analysis method. The results show that the industrial energy structure of the five cities is mainly coal consumption, especially raw coal consumption (mainly raw coal and crude oil consumption in Lanzhou), the proportion of industrial raw coal consumption is relatively high, but it has decreased year by year (Yinchuan has increased year by year). The emissions of SO2 and NOx in the five cities have been decreasing year by year from 2013 to 2016, and the emissions of particulate matter have decreased since 2014. Except that the emissions of CO2 are increasing year by year in Yinchuan, the emissions of CO2 are all decreasing year by year in the other four cities, and their emission reduction rate is lower than that of air pollutants.
In the five cities, the emissions of SO$_2$, NO$_x$ and particulate matter are lowest in Xi’an, among them, the order of NO$_x$ emissions is: Urumqi > Yinchuan > Lanzhou > Xining > Xi’an, and the order of CO$_2$ emissions is slightly different, which is: Yinchuan > Urumqi > Lanzhou > Xi’an > Xining. The emissions of SO$_2$ and NO$_x$ have significant positive correlations with CO$_2$ respectively in Lanzhou, Xi’an and Xining, among which, the relationship between the emissions of SO$_2$, NO$_x$ and CO$_2$ accords with the linear regression model respectively in Lanzhou, and there is a significant linear positive correlation between particulate matter and CO$_2$ emissions in Urumqi. In general, the emissions of air pollutants and CO$_2$ are highest in Yinchuan and Urumqi, and then in Lanzhou, the lowest in Xining and Xi’an. In recent years, as the implementation of air pollutant emission control measures, the emissions of air pollutants in Northwest China has been greatly decreased, and the effectiveness of air pollution control has been significant. The emissions of industrial SO$_2$, NO$_x$ and CO$_2$ are highly correlated, which are mainly affected by fossil fuels. Therefore, energy structure adjustment and energy efficiency improvement should be as a strategic priority in the future policy development, which will contribute to the co-control of air pollutants and greenhouse gases.

**Keywords:** Air Pollution, Greenhouse Gases, Northwest China, Correlation Analysis.
Abstract

China’s fast-paced economic development has lead to diet structure transformation by shifting diets towards higher shares of higher protein and fat foods. Such trends changes not only affects health but also potentially contribute to growing resource shortages and environmental problems, and thus necessitate an understanding of the links between nutritional quality, resource shortages and environmental impacts of Chinese diets. Based Adoption of statistic data on daily diet of residents in China, we assess the nutritional quality of in urban and rural areas during the 1983–2016 period and quantify their resource and environmental footprints. Our study shows that higher shares of protein and fat in the average daily diet per capita has improved nutritional quality but with increased negative resource and environmental consequences, especially the greenhouse gas emissions, water consumption and land appropriation of the average diet increased. Finally, we give some suggestions on the elimination of malnutrition and the solution of related resources and environmental issues in Chinese cities and rural areas.

Keywords: China, Diet Structure, Environmental Impacts, Nutritional Quality, Resource Shortages.
The International Journal of Contemporary Research in Health and Life Sciences (IJCRHLS) publishes papers that significantly contribute to the understanding of the health and life sciences. Using a wide range of research methods including statistical analysis, analytical work, case studies, field research and historical analysis, articles examine significant research questions from a broad range of perspectives. The goal of IJCRHLS is to publish papers devoted to the dissemination of health and life sciences’ practice, research, and education knowledge.

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