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USO DE PLAGUICIDAS EN ZONAS CAÑERAS DEL MUNICIPIO DE CÁRDENAS TABASCO, MÉXICO: POSIBLE IMPACTO AMBIENTAL Y A LA SALUD

Liliana Hernández-Acosta [1]
Francisco Javier Qué-Ramos [1]
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*José Ramón Laines Canepa [1]

PESTICIDE USE INAREAS OF THE MUNICIPALITY OF CARDENAS SUGARCANE TABASCO, MEXICO: POTENTIAL ENVIRONMENTAL IMPACTAND THE HEALTH

Recibido el 20 de enero de 2013; Aceptado el 30 de mayo de 2013

Abstract

For some years it has been questioned on the effects that pesticides can cause both environmental compartments and the fauna, flora and especially humans. Excessive use of these chemicals can cause environmental problems and human health, which if not prevented or treated in time may result in irreversible environmental damage and epidemiological. Today some are studies that allow us to know the use, distribution and the impact these substances cause. In southeastern Mexico, particularly in the town of Cardenas in the state of Tabasco, the cultivation of sugar cane is economic livelihood of many families and the excessive use of pesticides for the eradication of pests and diseases of crops is already a Normal practice. In this paper, derived from interviews with producers, the staff responsible for the distribution of pesticides in each association and groups of residents near the sugar cane area, shows a general diagnosis of pests affecting the cultivation of sugar cane and as the use, distribution and type of pesticides applied. Geographically locating the area of influence of the culture, we identified 17 different types of pesticides frequently used and based on the mechanisms of toxic action, delivering a diagnosis of their potential environmental impact and human health.

Keywords: pesticides, pests, sugar cane.

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ESTUDO OPERACIONAL COMPARATIVO EM DIFERENTES CONCEPÇÕES DE ETEs EM FORTALEZA

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Raimundo Oliveira de Souza [1]
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COMPARATIVE OPERATIONAL STUDY IN DIFFERENT CONCEPTIONS OF ETEs IN FORTALEZA

Recibido el 2 de abril de 2013; Aceptado el 29 de mayo de 2013

Abstract

The article provides a critical analysis of the sewage treatment quality in Fortaleza, on the following STPs: Aracapé III, São Cristóvão and Almirante Tamandaré. The analyzed parameters were Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). It was also verified the sampling variability of the effluents to sewage treatment, for the parameters BOD, COD and TSS. Analytical approaches were made through statistical treatment of the obtained data, as well as the contribution to the approximation of the design methodologies with changes of variables involved in the performance of the studied STPs. The adopted methodology was the qualitative and quantitative inspection and testing, of parameters, including assessment of operational efficiency and reliability.

Keywords: Reliability analysis; Sewage treatment; Environment.

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REMOÇÃO BIOLÓGICA DE NITRATO EM ÁGUA DE ABASTECIMENTO UTILIZANDO O ENDOCARPO DE COCO COMO FONTE DE CARBONO

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BIOLOGICAL REMOVAL OF NITRATE IN THE WATER SUPPLY USING THE COCONUT ENDOCARP AS CARBON SOURCE

Recibido el 12 de abril de 2013; Aceptado el 6 de julio de 2013

Abstract

Groundwater quality has been deteriorated as a result of the intensification of human activities over the years. Groundwater contamination by nitrate is one of the effects of this degradation, a socio-environmental problem that affects many regions of the world. Developing techniques for nitrate removal in water is intended to eliminate or reduce the concentration of this compound, and those that involve biological processes have produced economic and environmental advantages. This study proposes a technology for biological removal of nitrate in water supply for humans consumption, using the endocarp's coconut as a carbon source and bacteria support. The experiments were performed in pilot scale anoxic chambers, testing different areas of the substrate surface. Results showed high rates of nitrate removal during the monitoring period, noting the occurrence of denitrification after the beginning of system operation. The best performance was achieved in the treatment system containing increased substrate surface area, indicating that the decrease in the endocarp size contributed to increased bacterial activity, improving the ability to remove nitrate.

Keywords: denitrification, nitrate removal, water treatment.

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METODOLOGIA PARA LA FORMACION DE ESTUDIANTES DE INGENIERIA AMBIENTAL UTILIZANDO INDICES FISICOQUIMICOS Y BIOLOGICOS PARA DETERMINAR CALIDAD DE AGUA EN LA QUEBRADA MENZULI (SANTANDER, COLOMBIA)

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Ricardo Restrepo[1]

FORMATION OF ENVIRONMENTAL ENGINEERING STUDENTS APPLYING A METHODOLOGY TO ASSESS WATER QUALITY THROUGH PHYSICAL, CHEMICAL AND BIOLOGICAL INDEXES: CASE STUDY OF MENZULI CREEK IN SANTANDER, COLOMBIA

Recibido el 4 de abril de 2012; Aceptado el 31 de julio de 2013

Abstract

Waste water discharges water bodies produce a steady detriment of organisms. Living organisms are indicators of pollution according with its presence or absence. The purpose of this research was to find suitable bioindicators of water pollution in Menzuli Creek (Santander, Colombia), from its source to its mouth, in order to identify critical areas with the highest pollution levels. As a starting point, secondary information of previous physical and chemical sampling campaigns was collected and analyzed to establish the most relevant sampling points. Once the sampling points were selected, a biological sampling was performed in order to gather and classify species that can be used as indicators of water pollution along the whole water body selected for this study. At the same time, water samples from the same sites were analyzed for physical and chemical characterization. Based on these analyses, the macro-invertebrate species found in this creek, and comparing with related information of water quality indexes found in scientific literature, potential bioindicators were identified. The experimental methodology applied in this study also pretends to motivate the development of skills and competences in undergraduate students that will be useful for their professional growth as environmental engineers. Furthermore, the information on potential bioindicators of water pollution gathered throughout this study provides a good basis for the development of a guide of bioindicators of water quality in the metropolitan area of Bucaramanga and its surroundings.

Keywords: Bioindicators, quality indexes, water pollution indexes.

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ENSINO DE EPIDEMIOLOGIA PARA CURSOS DE GRADUAÇÃO EM ENGENHARIA AMBIENTAL: O PORTFÓLIO COMO FERRAMENTA DE AVALIAÇÃO

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EPIDEMIOLOGY TEACHING IN ENVIRONMENTAL ENGINEERING UNDERGRADUATE COURSES: THE PORTFOLIO AS A TOOL FOR ASSESSMEN

Recibido el 17 de junio de 2012; Aceptado el 1 de abril de 2013

Abstract

In the first term of 2010, it was proposed to the students enrolled in the course Epidemiology Applied to Environmental Sanitation (37 students) offered for degree in Environmental Engineering at Federal University of Viçosa the development of a portfolio as a complementary assessment of learning. The portfolios were assessed by the teacher and the teaching interns in the middle and the end of term. Overall, at the final assessment, the groups of students presented well prepared portfolios, but in the proceeding assessment, it was realized that few groups had made progress, i.e., the construction of the portfolio happen at the end of the course. For some students, the portfolio ended up being 'just another' task among others developed in other courses they were enrolled in the term. The students assessed the portfolio as a 'different' 'valid' and 'innovative' instrument but 'laborious' and 'difficult to implement' because, as it was done in group, demanded meetings of its members, which is not easy to be coordinated due to several academic tasks. Despite the difficulties, experience has shown the applicability of the portfolio of the course content. Portfolio should be enhanced to become a more viable and effective teaching-learning instrument.

Keywords: active methodologies, curriculum, teaching-learning, training.

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EXPERIÊNCIA EM EDUCAÇÃO AMBIENTAL ADQUIRIDA DENTRO DA COORDENADORIA DE GESTÃO AMBIENTAL DA UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL – UFRGS

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EXPERIENCE IN ENVIRONMENTAL EDUCATION IN THE ENVIRONMENTAL MANAGEMENT COORDINATION OF UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL - UFRGS

Recibido el 20 de agosto de 2012; Aceptado el 31 de julio de 2013

Abstract

The Coordination of Environmental Management of Universidade Federal do Rio Grande do Sul, "CGA", has the task of managing all programs and projects that underpin the functioning of the Environmental Management System, and works with four main programs: Environmental Education, Environmental Aspects and Impacts, Environmental Licensing and Environmental Certification. To carry out their projects, the Coordination has the support of students from various courses. As part of the project, students are monitored and encouraged to enhance the *management* tools and improve the practices adopted and disseminated by the CGA to units and buildings that studing. The fellows work with just part of the CGA own tasks: to contribute to Environmental Education. In this regard, the student gains experience in the stock market environmental management practices and knowledge that can be applied to other institutions or companies, with the student, thus forming a more complete and being more suited to the needs of the labor market, contributing to the dissemination of environmental knowledge.

Keywords: CGA, environmental education, management tools, environmental management.

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COMO LOS ESTUDIANTES PUEDEN MANEJAR LOS RESIDUOS ESCOLARES: UN ESTUDIO DE CASO

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HOW STUDENTS CAN HANDLE SCHOOL WASTE: A CASE STUDY

Recibido el 9 de enero de 2012; Aceptado el 21 de marzo de 2013

Abstract

This study challenged a public school community in Brazil to construct a waste management scheme with the aim to divert the maximum possible quantity from the landfill. The method asked for separation of waste into biodegradable material, inert recyclable material and trash. Students operated the system. They produced compost from the biodegradable material on the school premises and delivered the inert recyclable material to reverse logistics operators. Only the trash ended up in the landfill. The separated waste consisted of 38.2% biodegradable food scraps, 42.6% inert recyclable material and 19.2% useless material designated as garbage. The windrows for composting received all biodegradable waste from the school, fruit scraps from a neighboring shop, dry leaves and some small branches from the garden as well as water to control the humidity. Of the 157.7 kg of waste produced per month, the management scheme diverted from the landfill 80.8%. The method is available for imitation elsewhere.

Keywords: Diversion of waste from landfills, recycling waste in schools, waste management in schools.

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PROPOSTAS DE EDUCAÇÃO AMBIENTAL POR MEIO DAS PRÁTICAS DE PRODUÇÃO MAIS LIMPA EM UMA INDÚSTRIA DE VESTUÁRIO

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PROPOSALS FOR ENVIRONMENTAL EDUCATION THROUGH THE PRACTICES OF CLEANER PRODUCTION IN A GARMENT INDUSTRY

Recibido el 2 de marzo de 2012; Aceptado el 31 de julio de 2013

Abstract

The present study aimed to analyze the reality of a manufacturing company in the clothing business in Rio Grande do Sul, and propose an environmental education through techniques that focus on cleaner production. For this, a case study was conducted. It may be noted that PmaisL simple techniques, allied to the existing programs, will bring opportunities for improvement, both economic, social and environmental concerns for the company.

Keywords: Environmental Education, Cleaner Production, Minimizing Environmental Impacts.

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PRÁCTICAS PROFESIONALES: UNA EXPERIENCIA EXITOSA DE INTEGRACION UNIVERSIDAD-EMPRESA EN LA FORMACIÓN DE LOS INGENIEROS AMBIENTALES

*Andrés Mauricio Vélez Pereira[1]

INTERNSHIPS: A SUCCESSFUL EXPERIENCE OF UNIVERSITY-PRIVATE COMPANIES INTEGRATION IN THE FORMATION OF ENVIRONMENTAL ENGINEERS

Recibido el 29 de marzo de 2013; Aceptado el 31 de julio de 2013

Abstract

The Colombian Ministry of Education to grant Educational accreditation for academic excellence, establishes as a fundamental aspect the assessment and monitoring of impacts generated by the environmental engineering graduates and solutions that provides the degree to the local needs. Therefore, current pedagogical models used in the faculties of engineering, reaffirmed in the training cycles ideal and present spaces to contextualize their theoretical knowledge through praxis. A concrete example is the inclusion of a professional internship complementary to the professional cycle, allowing fulfilling the training process, by applying knowledge and skills acquired in the training process considered by the challenges of their activities, while their first job skills are developed. For the specific case of Environmental Engineering program of the institution, the processes of professional practice have generated a positive impact and acceptance by the private sector, linking to the company workforce 46.2% of students who have completed the process, which represents 17.6% of the total who have developed the program, showing an articulation between program curricular structure with the productive public / private sector needs.

Keywords: Articulation University-Society-Private Company, Course Design, Professional training, pedagogical processes.

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INNOVACIÓN CURRICULAR PARA LA CARRERA DE INGENIERÍA AMBIENTAL PARA EL AÑO 2012, UNIVERSIDAD DE VALPARAÍSO, CHILE

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CURRICULAR INNOVATION IN ENVIRONMENTAL ENGINEERING FOR 2012, UNIVERSITY OF VALPARAÍSO, CHILE

Recibido el 17 de abril de 2012; Aceptado el 31 de julio de 2013

Abstract

Environmental Engineering was created in 1997, with an integrated vision in the area environmental science with a strong study of the characteristics of air, soil and water, contaminants, industrial processes and management tools to improve the quality life and country's economic development consistent with regulations environmental and studies in the area basics science. This allow specialists to act against contingent environmental problems. The process curriculum innovation for this year 2012, was part of the general purposes contained in the Plan of Institutional Development at the University of Valparaiso (2010-2014) and include several changes related to methods of teaching, changes in programs, incorporation of new thematics and changes in the exit profiles. Mainly, this process aims to produce holistic and integrative environmental professionals in the areas of science and technology basic and applied through the modification in the curriculum and the graduate profile.

Keywords: basic sciences, competency, curriculum innovation environmental, profiles.

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