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## ENGLISH TITLES

### AGRICULTURAL SCIENCES

#### **Evaluation of PCR-RFLP markers for maize (*Zea mays* L.) genotypes**

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#### **Abstract**

PCR-RFLP analysis is a site targeted PCR where the non-arbitrary primers are used. In this study, the primers used were selected among the available primers randomly. Five pairs of chloroplast primers namely, *rbcl*, *rpoB*, *psbC*, *N* and *A* and one pair of ribosomal primers; IGS-rDNA, were used. Among the six pairs of primers, three primers, *rbcl*, *N* and IGS-rDNA, were recommended to be used to analyse phylogeny of maize germplasm using the PCR-RFLP. technique.

Polymorphism of PCR-RFLP technique is resulted from digestion of the targeted DNA sequence or PCR products using restriction enzymes. Six restriction enzymes have been evaluated in this study, four of them *BsuRI*, *Hind III*, *Pst I* and *TaqI*, were found able to digest PCR products into smaller fragments, while two restriction enzymes, *EcoRI* and *Bam HI*, were unable to do so. Generally, enzymes having four-base recognition sites were found to have digested broader ranges of PCR Products than those having six-base recognition sites.

**Keywords:** Maize, Molecular markers, Restriction enzymes, PCR-RFLP.

### ENGINEERING

#### **Simulation of a brushless DC motor**

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#### **Abstract**

Conventional dc motors are highly efficient and their characteristics make them suitable for use as servomotors. However, their only drawback is that they need a commutator and brushes which are subjected to wear and require maintenance. When the functions of commutator and brushes were implemented by solid-state switches, maintenance-free motors were realized. These motors are now known as brushless dc motors (BLDCM). The motor has the characteristics of a dc motor driven from ac mains. BLDCM utilizes semiconductor devices and

rotor position sensors replacing the mechanical commutator and brushes. It becomes popular because of long life, simple control and excellent dynamic behavior. Moreover, the absence of sparking makes it suitable for hazardous environments.

In this paper, the concept of BLDCM is discussed, the dynamic mathematical model is presented, and the dynamic and steady state performance of the motor is simulated and presented.

**Keywords:** Brushless motors, Permanent magnet motors, Electronic commutator

## **ENVIRONMENT**

### **Phytogeomorphological study of Abyan Delta and neighboring areas ( Yemen)**

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**\*\*Biodiversity Department – Centre of Environmental Study and Research,  
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#### **Abstract**

This Study is a monographic elaboration of natural vegetation in Delta Abyan and land in the vicinity. It aims to describe and review the distribution of species composition of plant communities in relation with terrain and land- forms. Six land units, with twenty-one recurrent facets related to different species, have been identified. Numerical, diagrammatic and percentage analysis were carried out for plant species and their distribution on land units and facets.

**Key words:** Natural vegetation, phytogeomorpholgy, Delta Abyan, land unit, land facet.

### **Hydrographical studies in seawater from Yemeni ports**

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University**

#### **Abstract**

The present study deals with the hydrographical parameters: air, water temperature, salinity, pH, and total alkalinity of Yemeni ports waters. The obtained results reflect the effect of the warm tropical zone of the Red Sea, Gulf of Aden and Arabian sea, irregular topography, and local hydrographic condition.

**Key words:** Hydrographical parameters – Sea water – ports of Yemen

## MATHEMATICS

### **Acceleration waves in a radiative and vibrational nonequilibrium gasdynamics, when the medium ahead of the flow is in a general state of nonequilibrium, spatially uniform and at rest**

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#### **Abstract**

In this paper, the method of characteristics is applied to study the effect of ambient radiative nonequilibrium as well as the effect of ambient vibrational nonequilibrium on both compressive and expansion waves. It is found that the ambient radiative nonequilibrium increases the strength of the compressive wave and terminates into shock wave; while the convergence rate of expansion waves decreases by the presence of ambient nonequilibrium.

Keywords: acceleration waves, shock formation , compressive and expansion waves, ambient and radiative nonequilibrium.

### **The binding number of the corona of complete graphs and complete bipartite graphs**

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#### **Abstract**

The binding number of almost all known graphs has been studied by several authors. The binding of the corona of graphs is still an open problem. This paper determines the binding number of the corona of the complete graphs  $K_n$  and the complete bipartite graphs.  $K_{a,b}$ .

Keywords: Binding number, corona of graphs.

## MEDICINE

### **Major congenital surgical malformations among Yemeni children admitted to the Pediatric Surgery Unit in Al-Gamhouria Teaching Hospital, Aden**

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#### Abstract

The aim of this study is to find out the percent of congenital malformations at Al-Gamhouria Teaching Hospital, a referral hospital in Aden, Republic of Yemen, in January 2000 – December 2004. Data were collected from the clinical records of children admitted to the Pediatrics Surgical Unit., Out of 3174 cases, 588(18.5%) were diagnosed with different types of congenital malformations in different body systems. This study revealed that .the highest number of congenital malformation was in the year 2000(27.6%). There was a male to female predominance with a ratio 3:1 respectively. The majority of affected children were at the age less than 1 year (33. %). Anomalies of the genitourinary system had the highest percentage (36.7) , followed by digestive system (36.1%) and central nervous system(23,1%) We also found that inguinal hernia (16.2%), meningocele (11.1%) and imperforated Anus (9.0%) were the most common congenital malformations among children .We concluded that the rate of congenital malformations in Aden, Republic of Yemen, was high compared with other pediatric surgical diseases. For that, we need more analytical research studies, in depth, to determine the possible genetic, sociodemographic and socioenvironmental factors underlying the various types of congenital malformations encountered in this area.

**Key words:** Congenital malformation, gender, meningocele, inguinal hernia imperforate anus, Aden.

## **Evaluation of laparoscopic cholecystectomy in Aden General Hospital**

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### **Abstract**

The current treatment procedure for symptomatic cholecystitis due to cholelithiasis is laparoscopic cholecystectomy. The present study aimed to evaluate the laparoscopic cholecystectomy as a treatment of gallbladder stones over four- year period at Aden General Hospital. From July 2002 to July 2006. Data of 652 patients with gallbladder stones having laparoscopic cholecystectomy were obtained from hospital record.

77% were women, 23% were men. 6% of laparoscopic cholecystectomies required conversion, and 7% of patients suffered from postoperative wound infection. Readmission rate was 2%. The results of this study indicate the importance of skill and experience in improving the intra- and postoperative results.

**Key words:** laparoscopic cholecystectomy, conversion, complication.

## **The effect of prenatal care, education and socioeconomic status on obstetric outcome in Alwahda Teaching Hospital, 2002-2003**

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**2 Al-Wahda Teaching Hospital Ministry of Public Health and Population, Aden Office**

### **Abstract**

We aim to evaluate and compare the effect of prenatal care, education and socioeconomic condition and the interaction of education with each of these variables upon obstetric outcomes.

Data were collected and analyzed using computer facilities (Epi info 3.3). We explore the effect of each variable then stratified by education, looking for the interaction between them upon the outcomes and stating 95% as the level of significance ( $P < 0.05$ ).



The Obstetric outcome was good in 83.3%, for PNC users compared to 70.7% for nonusers. Illiterate-nonusers of PNC were the most prone subset to bad pregnancy outcome (35.1%) rather than illiterate-users (23.2%), literate-nonusers (22.6%) and literates users (14.5%) of PNC services.

There are no significant differences in the obstetric outcomes according to the number of PNC-visits and the time of booking, but together with the interaction of education the outcome is better among literate late bookers ( $P=0.0025$ ), and those with less PNC visits ( $P=0.026$ ), compared with illiterate counterparts..

Poor pregnant women have had more bad outcomes (21.1%) than well-to-do ones (11.4%) and more worse was the outcome in illiterate-poor patient compared to literate-poor and to both illiterates and literates well-to-do fellows

**Key words:** obstetric outcome, prenatal care, education, socioeconomic level

## **An epidemiological view of Helicobacter pylori infection among patients who underwent upper gastrointestinal tract endoscopyin**

**Nazih Mohamed Bahumid\* , Gana Al-Kazimi\* , Abdul Samad Taresh\*\* , Hael Saeed Abdullah\* , and Intisar Khamis\***

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**\*\* Department of Community Medicine and Public Health, Faculty of Medicine and Health Sciences, University of Aden**

### **Abstract**

The aim of the study is to determine the proportion of H. pylori among dyspeptic patients and to describe the association of H. pylori infection with sex, age, residency and endoscopic findings.

One hundred and four records of endoscoped patients, during a 3-year period, were retrospectively reviewed. The study was carried out in one Endoscopy Center, Aden, Yemen.

Overall, H. pylori was detected in 75% (78/104) of the 104 dyspeptic patients (47 males and 57 females, aged 16-80 years, and the mean age 42 years). The difference of positive and negative values in relation to sex is not statistically significant ( $p > 0.05$ ). Most of the positive cases i.e. 59 out of 104 (56.7%) were from the rural governorates. Difference between values was not statistically significant ( $p>0.05$ ). The most infected patients (47.1%) of the total study subjects were found in the age group 30-49 years.

The commonest H. pylori infection was found in patients with gastritis (28.2%), erosive gastritis (26.9%), and erosive gastritis with erosive duodenitis (23.1%).

In conclusion, H. pylori infection is common in dyspeptic patients referred to our Endoscopy Center with high proportion of positive H. pylori infection among

patients from rural areas, and the commonest *H. pylori* infection was found in patients with gastritis and erosive gastritis.

**Key words:** Endoscopy, dyspepsia, *Helicobacter pylori*, Aden

## **Intra-abdominal pressure and abdominal compartment syndrome**

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### **Abstract**

The patho-physiological embarrassment of raised Intra-Abdominal Pressure (IAP), known as Intra-Abdominal Hypertension (IAH), with subsequent organ dysfunction and failure, known as Abdominal Compartment Syndrome (ACS), has recently been demonstrated to occur relatively frequent in critically ill patients. Clinical diagnosis is unreliable, so routine measurement of IAP should be undertaken, particularly in high risk patients, for the prevention of ACS and early diagnosis, which is very important for its successful management. The history, patho-physiology, clinical presentation, and management are outlined. The purpose of this review is to enhance awareness among clinicians about a subtle condition with a devastating impact on morbidity and mortality if undiagnosed.

**Keywords:** Intra-abdominal pressure, Intra- abdominal hypertension, Abdominal compartment syndrome.

## **Breast feeding as a protective factor for breast cancer**

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University of Aden

### **Abstract**

The Objective of this research is to study the protective effect of breast feeding on breast cancer in patients admitted at Al-Gamhouria Teaching Hospital during the period from January 1st, 2003 to December 31st, 2004. This was a prospective case control study. The total population was composed of 55 patients who were diagnosed with breast cancer and 110 controls were free from the disease. The controls were matched to the patients on sex and age group criteria and analyzed using statistical test and 95% interval confidence. The difference between patients and controls regarding to ever breastfeeding is insignificant

with odds ratio 0.88. The difference between patients and controls who had breastfed their children during the period less than 24 months was insignificant with the odds ratio 0.96 with 95% CI: 0.37 – 2.64. There is a reduction in the risk of breast cancer among patients who had ever fed. Their children, compared with those never breastfed, OR: 0.88. There is protection from breast cancer among females who breastfed their children within the period  $\geq 24$  months compared with those never breastfed, OR: 0.74. Parous women who ever breastfed their children for less than 24 months had a borderline reduced risk of breast cancer, OR: 0.96. Breastfeeding for  $\geq 24$  months protect the occurrence of breast cancer more than breastfeeding in less than 24 months compared with never breastfed. We recommend to organize regular lectures in mother and child health care centers to emphasize the importance of breast feeding as a protective factor for breast cancer and to introduce breast cancer risk factors as part of teaching in mother and child health care centers.

**Keywords:** breast - Cancer , breastfeeding.

## **Evaluation of hemoglobin level , leukocyte and platelet counts in malaria patients**

**Omer Hazza Mohammed Ali**

**Department of Physiological Sciences -Faculty of Medicine & Health Sciences –  
University of Aden**

### **Abstract**

The present study was conducted in two private clinical laboratories in Aden, during May-Sept.2005, to estimate the hemoglobin level , leukocyte and platelet counts in malaria. The study group consisted of 40 malaria patients and the second (control) group included 40 normal healthy persons. Their age ranged from 15-45 years. The following hematological parameters were done: estimation of hemoglobin, total leukocyte count & platelet count.

The mean level of concentration of hemoglobin of the control group (11.7 g/dL) was significantly higher than that of the study group (10.4 g/dL),( $p < 0.001$ ).

The mean level of the platelet count of the control group was 164925 /mm<sup>3</sup>, while that of the study group was 160075 /mm<sup>3</sup>. However, no significant difference was detected between the two groups ( $p > 0.05$ ).

Leukocytosis was observed in 9 patients (22.5%) of the study group, while leucopenia occurred in 7 patients (17.5%).

**Key words :** malaria , hemoglobin , leukocytes , platelets.

## **The most common types of eye refractive errors in Yemen**

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### **Abstract**

**This study is aimed to determine the common types of refractive errors of eyes, in Yemen.**

**The duration was (12 Weeks). The examination of patients was carried out in five governorates of Yemen (Sana'a, Aden, Alhuddida, Taiz and Ibb) through optical centers run by professional an optician/ optometrist under the supervision of an ophthalmologist.**

**Measurement of visual acuity for all patients was provided by using standard Snellen E chart. Visual acuity of 6/9 and less in any eye was corrected by using autorefractometer and cycloplegic retinoscopy was also used for some children and spectacles were given.**

**The out comes of the visual measurement, age, sex and medical history were recorded on data sheets containing assessment quiz and those who were associated with other eye diseases were excluded. Analysis of data was performed in the computer by using SPSS 13Windows.**

**The findings of 934 patients representing refractive errors was as follow: Astigmatism was the prevalent type constituted 58.5 % of the total eyes examined, followed by myopia 34.5% and hypermetropia 7.0%. More than 75% of 1832 ametropic eye cases were with low degrees of errors  $\leq 2D$ . 15%.of the total eyes were uncorrected. Anisometropia of  $\leq 1D$  constituted 75.6% of the total 391 anisometropia cases.**

**It is obvious that the astigmatism was the most prevalent refractive error; compound myopic astigmatism in particular, among the study groups, followed by myopia. It is recommended that advance studies should be conducted in the whole Yemen. More attention to all eye clinics/departments in the public hospitals should be given**

**Key words: Refractive errors, Yemen.**

## PHARMACY

### **A comparative study of legal and illegal items of different commercial brands of mefenamic acid 500 mg tablets**

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#### Abstract

Mefenamic acid, N-(2,3-Xylyl)-2-Aminobenzoic acid or N,2,3-Xylylanthranilic acid is an analgesic, antipyretic and non-steroidal anti-inflammatory drug.

The aim of this study is to assess the quality and quantity of legal and illegal types of mefenamic acid (500 mg tablets) marketed in Yemen.

We have selected six legal types of mefenamic acid tablets, which are registered by the Supreme Board of Drugs and Medical Appliances and one illegal type of mefenamic acid which is a smuggling drug without name of brand (Welstan® forte 500 mg) (China).

We have applied the qualitative and quantitative analysis for evaluating the items. The limit of the content of mefenamic acid tablets, according to B.P is (95-105%). The result of the analysis of these seven items of mefenamic acid were evaluated and showed that the qualitative analysis of six items were complied with B.P requirements whereas the uniformity of weight of tablets smuggled (Welstan® forte 500 mg) (China) did not. The quantitative analysis showed that the five types of mefenamic acid, (Ponstan® forte 500 mg) (Park-Devis) (Germany) (97.48%), (Pangesic® forte 500 mg) (Ram Pharma) (Jordan) (101.34%), (Ponsten® forte 500 mg) (Birkel-Dove) (Turkey) (103.27%), (Ponstel® forte 500 mg) (Shin Poong Pharma) (Korea)(98.93%), (Omatan® forte 500 mg) (NP) (Oman) (104.24) were complied with B.P, whereas the two items- (Biostan® forte 500 mg) (Biopharm) (Yemen) (86.86 %) and (Welstan® forte 500 mg) (China) (84.45%), did not comply.

**Key word:** Mefenamic acid tablets, Qualitative and Quantitative Analysis, Spectrophotometer.

## ARABIC TITLES

### AGRICULTURAL SCIENCES

#### **Physiological studies of cotton seed imbibitions and germination under saline conditions**

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#### **Abstract**

This research was carried out during 2006 – 2007. in Faculty of Agriculture at Tishreen Univ. to study the imbibitions of Aleppo133 & Raqa 5 seed cotton and components (hulls and kernels) under laboratory condition, using 8 NaCL salinity concentration 0.0, 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6 Molur NaCl. The result showed the followings:

- Increased temperature led to increased imbibitions, where the imbibitions in the kernels was bigger than in the hulls in both varieties.
- Significant increased germination was observed at 12 C? and above root farming has not been observed until 10 days post treatment.
- Salinity has decreased seed germination, rootlet length, hypocotyls and seedling weight.
- Variety Raqa 5 gave better salinity tolerance. It is recommended that this variety should be cultivated in medium salt contents.

**Key words:** Seed, imbibitions, cotton, salinity, germination.

### ENVIRONMENT

#### **The effect of humic material in the reduction of soil lead toxicity**

**Nada Al- Syed Hassan Ahmed**

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#### **Abstract**

When humic material was added to agricultural soil, the reduction of lead concentration in the soil was noticed. This could be attributed due to the formation of lead complex compounds where these complexes have the ability to strongly combine with lead. It was found that the use of absolute humic material has greater effect in comparison to a process using the humic extracts.

When different concentrations of lead nitrate were added to the soil, followed by adding the humic material or its extracts, the same results were obtained. A spectrophotometer (Vario 6) was used to read the concentrations of lead in the soil during the study process.

**Key words:** Humic material, Lead solution, Agricultural soil.

## **ENGINEERING**

### **Analysis of the phase composition of produced and imported cement in Yemen with X-ray diffraction (XRD)**

**Mohammad Ahmad Ali Thabet**  
Architectural Department, Faculty of Engineering, Aden University

#### **Abstract**

A study has been conducted to analyse the phase composition of produced and imported cement in Yemen. The present study is based on eight cement samples representing four produced cements in Yemeni factories and the other four were imported. The cement samples were subjected to various tests using X-ray diffraction (XRD) with Diffractometer D5000 manufactured by Siemens, and was calculated with the help of the software TOPAS (from the company BRUKER-AXS) in the Finger institut (Bauhaus University Weimar).

Generally, the tests show that 7 samples are responding to the requirements for use in building construction, and only one sample (namely, MA7) is not satisfactory and has an expected pre-crushing test failure.

The researcher suggests some recommendations according to the study results so as to ensure optimal use of cements for the construction industry in Yemen.

**Key words:** Yemen, Cement, phase composition, X-ray diffraction (XRD).

**VETERINARY**

**Prevalence of hydatid cysts in camels in Lahej district –  
Yemen**

**Obad Mohamed Al-Salami , Mohamed Zain Ali and Mohamed Ahmed Hyderah  
Department of biology , College of Education – Zingbar , University of Aden**

**Abstract**

**A total of 139 camels slaughtered in some local abattoirs in Lahej area during the period from June 2006 to May 2007 were examined , 11 of them were infected with cysts of Echinococcus granulosus (7.9 %).**

**Most of the infection (9 camels) were found in the lungs instead of only 2 camels were infected in the liver with 81.8 % , 18.2 % respectively . Camels may play important roll in the epidemiolog of this disease in the area.**

**Key words : Hydatid cysts, Camel, Lahej area.**



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