

**TABLE OF CONTENTS**

**ENGLISH TITLES**

**AGRICULTURAL SCIENCES**

**Expression patterns of *p1* alleles in maize *Zea mays* L.tissues**

Abdul Aziz A. Bawazir

**ENGINEERING**

**Performance comparison of buffered system area networks of multi computers**

Mohsen Hussien Mohamed

**An approach to Arabic speech recognition based on improving the features extraction**

Adel Sallam M. Haider

**ENVIRONMENT**

**Notes on the Flora of Yemen. 1: Morphological and anatomical studies on *Cuscuta planiflora* Tenore. (Cuscutaceae) collected from Jabal An-Nabi Shu'ayb, Sanaá, Yemen, with reference to its phytogeographical distribution.**

Hassan M. Ibrahim , Fatima A. Alhadi, Azza A. Khafagi and Abdul Nasser Al-Gifri

**MEDICINE**

**Perioperative complications in cleft lip repair (CLP)**

Gunida Abdullraman Hassan Al-guneid

**Jaboulay's and Lord's operations versus window drainage for idiopathic hydroceles; a comparative study**

Omar A. M. Al-Aidaros

**Plication Darn Repair versus Lichtenstein Mesh Hernioplasty  
for primary inguinal hernia**

Omar A. M. Al-Aidaros and Khaldoon Abdulbari K. Saleh

**Morbidity patterns for patients admitted to the medical wards at Al-  
gamhouria Teaching Hospital, Aden: 2007**

Ahmed Saeed Al-Mansoob, Abdul Samad Taresh and Salem Saleh  
Mohamed

**Cancer in Aden - Yemen: a retrospective study (2005-2006)**

Mohsen Awad Ben Humam, Abdul Samad Taresh, Ahmed Saeed Al-  
Mansoob , Nazeeh MS Bahumaid and Jawdat Abubaker Salem

**Management of Hydatid disease in Al-gamhouria Teaching Hospital**

Abdulla Mohammed Baodha

**Management of breast cancer in Aden Hospitals during the period  
2005-2007**

Ali Karama, Abdullah Mohammed Baodha and Gamal Mohammed Saleh

**Conventional versus laparoscopic cholecystectomy in patients  
admitted to Al-gamhouria Teaching Hospital, Aden-Yemen**

Ali Mohammad Al-Nawi

**Bone marrow involvement in solid tumors and lymphoma**

Nohad Ahmed Hanbala and Gamal Abdul Hamid

**SHORT COMMUNICATION**

**Cauda equina syndrome and profound hearing loss after spinal  
anaesthesia**

Raga Ahmed Ali Musaid

## ARABIC TITLES

### AGRICULTURAL SCIENCES

**Agro ecological factors affecting chemical contents and quality of Yemeni coffee**

Amin Abdo Al hakimi

**The effect of oil and ethanolic extracts of neem kernels *Azadirachta indica* ( A . Juss ) on the orange friut green mold fungus *Penicillium digitatum* (Pers.; Fr.)Sacc.**

Hassan M.H.Al-Rahawi and Mohammed Fadhl Al-Maisary

**Effect of some plant extracts and Neemix4.5 insecticide on immature stages of *Culex pipiens* mosquito under laboratory conditions**

S.A. Ba-Angood and Aref M. A. Ali

**Studying the effect of some yemeni honeys on rabbits` lipids profile**

Saeed Omer Farag, Mohammad Adam Abdulaziz and Faiza S. Abdilla

**A survey of mite species on plants in Abyan Governorate: their hosts and distribution**

S. A. Ba-Angood and M. S. Ba – Hassen

### ENGINEERING

**The planning of new residential areas in the Western Suburbs of Mukalla city ( Fowa - as a case study)**

Khaled Nasser Barashed and Ramadan Anbar

### ENVIRONMENT

**Drinking water copper pollution in locally made water-cooler**

S. Kh Bamoteref, A.M. Saedan and M. A. Al-gahri

### FOOD TECHNOLOGY

**Production of dietary fiber- rich biscuits from wheat flour, sorghum and mango peel flour**

Nadheira A . Mohamed and Othman S. Saeed

ABSTRACTS

ENGLISH TITLES

AGRICULTURAL SCIENCES

Expression patterns of *p1* alleles in maize *Zea mays* L. tissues

Abdul Aziz A. Bawazir

Faculty of Science, University of Hadhramout For Science and Technology  
Republic of Yemen.

E-mail: [aaabawazir@hotmail.com](mailto:aaabawazir@hotmail.com)

Abstract

Repeated tandemly endogenous genes are common in plants, but their regulatory transcription is not well described. The P1-wr allele of pericarp color1 in maize is composed of multiple copies arranged in an opposite fashion. P1-wr is responsible for white kernel pericarp and red cob glume pigment phenotype which shows stability over generations. This paper aims to describe a spontaneous epiallele of p1-wr designated probably as p1-wr\* , that specifies a white pericarp and white cob glume phenotype. To understand the mechanisms which regulate tissue – specific expression of P1-wr, P1-wr may be characterized as a spontaneous loss of function epimutation that shows a white kernel pericarp and white cob glume phenotype. P1-wr\* shows a range of cob glume pigmentation, whereas pericarps remain colorless, with the presence of the epigenetic modifier Ufo1 (Unstable factor for orange1). P1-wr\*Ufo1 plants did not show any change in a distal enhancer region that has previously been implicated in Ufo1 – induced gain of pericarp pigmentation of the P1-wr allele. These results reveal that distinct regulatory sequences in the P1-wr promoter can show independent epigenetic modification to generate tissue – specific expression patterns.

Keywords: Tissue – specification, p1 alleles, maize.

ENGINEERING

Performance comparison of buffered system area networks of  
multi computers

Mohsen Hussien Mohamed

Information Technology Department, University of Aden  
Aden, Yemen

Abstract

In this paper we investigate the interrelations of various communication parameters, such as the network contention, the lock cycles, the arrival rate, the delivery rate, the buffer length, the number of virtual channels, and their impact on the communication performance of system area networks (SAN) for multi computer platforms. The system area networks (SAN)'s under investigation are

of mesh and 2D torus topologies with adaptive and deterministic XY order routing of the wormhole type with deadlocks, respectively.

The results of the study show that the values of the maximum and average packet latency for the system area networks (SAN) of mesh topology and adaptive routing are significantly higher than those values of the system area networks (SAN) of torus topology with deterministic XY order routing.

**Keywords:** system area network (SAN), wormhole routing, communication performance

**An approach to Arabic speech recognition based on improving the features extraction**

**Adel Sallam M. Haider**

**Information Technology Department**

**University of Aden**

**Aden, Yemen**

**[Adel\\_ye@yahoo.com](mailto:Adel_ye@yahoo.com)**

**Abstract**

The aim of this paper is to perform an Arabic speech recognition system based on Arabic words. For increasing the efficiency of the identification, this paper shows the advantage of using bark-cepstrum over Fourier Transform-filter bank (FT-filter bank), which presently used parameters for Automatic Speech Recognition (ASR). Thus, comparing the two methods has been achieved for independent Arabic speaker based on the linear decision function. Experimental results obtained with many speakers have shown that the use of a bark-cepstrum, with an appropriate factor, improves the identification of Arabic speaker.

**Key words:** Speech Recognition, Identification, verification, features extraction, Cepstrum, Decision function.

## ENVIRONMENT

**Notes on the flora of Yemen. 1: Morphological and anatomical studies on *Cuscuta planiflora* Tenore. (Cuscutaceae) collected from Jabal An-Nabi Shu'ayb, Sanaá, Yemen, with the reference of its phytogeographical distribution.**

Hassan M. Ibrahim<sup>1</sup>, Fatima A. Alhadi<sup>1</sup>, Azza A. Khafagi<sup>2</sup> and Abdul Nasser Al-Gifri<sup>3</sup>

<sup>1</sup>Biology Department, Faculty of Science, Sanaá University, Sanaá Yemen;

<sup>2</sup> Botany Department, Faculty of Science (for girls), Al-Azhar University, Cairo, Egypt;

<sup>3</sup> Biology Department, Aden University, P.O.Box.6014 Khormaksar, Aden, Yemen.

### Abstract

*Cuscuta planiflora* is a parasitic plant on numerous plants from different families such as Lamiaceae (*Thymus laevigatus*), Acanthaceae (*Hypoestes forsskalii*) and Dipsacaceae (*Pterocephalus frutescens*). Morphological, anatomical and phytogeographical studies were carried on the *Cuscuta planiflora* which was collected from Jabal An-Nabi Shu'ayb located 30 km west of Sanaá the capital of Yemen, with coordinates (043° 58' - 043° 59' E & 15° 14' - 15° 15' N ). The morphological study includes stem morphology and floral structure. Anatomically, the cross, lateral section of the stem and lateral section of the haustoria's area, were studied. Phytogeographical studies were done by studying its distribution in Yemen and in plant geographical regions.

**Keywords:** *Cuscuta planiflora*, Jabal An-Nabi Shu'ayb, morphology, floral structure, anatomy, phytogeography.

## MEDICINE

### Perioperative complications in cleft lip repair (CLP)

Gunida Abdullraman Hassan Al-guneid

Anesthesia and I. C. U. , Faculty of Medicine , Aden University

e-mail: gunaida\_algunaid@yahoo.com

### Abstract

Worldwide, cleft lip and cleft palate (CLP) is one of the most common congenital malformations. Surgery for CLP is a big challenge for both surgeon and anesthetist.

The objective of this study is to identify the perioperative complications of CLP repair.

A prospective study of 151 cases of CLP repair performed at Algamhoria Teaching Hospital. The patient's age; 4 months - 20 years with ASA score 1, the pre-operative monitoring was: SPO<sub>2</sub>, ECG, blood pressure. An intravenous or inhalation induction was used with muscle relaxant to facilitate intubation.

Balanced anesthesia was used for maintenance. The complications were classified as minor or severe based on the classification of Cohen et al. Results have shown that the total numbers of complication were [18, (11.92%)]; severe complications occurred in 8 patients; one patient died, respiratory depression 1, circulatory collapse 1, accidental extubation, reintubation 1, and severe hypoxemia 1, and three patients with high temperature. Minor complications were seen in 10 cases; 5 cases with mild hypoxemia, and 5 cases with tube disconnection. Complications were found in 20.8 % (5/24) of infant patients and 17 % (12/70) in patients of age between 1-5 years, while in patients with age between 6-10 years, the incidence of complication is only 3.7 % (1/27), and no complications have happened in older patients. Both minor and severe complications occurred mostly intra-operatively (10 minor complications 6.6%, 4 severe complications, 1.98%). Postoperative complication occurs in 4 patients (2.6%). In conclusion; Age is an isolated risk factor. The complications are mostly respiratory. The presence of a wide cleft is a risk factor for causing Perioperative complications. An experienced anesthetist and postoperative nursing care is essential.

**Key words:** cleft lip, palate, repair, perioperative

**Jaboulay's and Lord's operations versus window drainage  
for idiopathic hydroceles; a comparative study**

**Omar A. M. Al-Aidaros**

**General Surgery Department, Faculty of Medicine & Health Sciences, Aden  
University**

**Abstract**

The aim of this study is to compare the results of excision and plication procedures with that of the internal drainage technique in the treatment of idiopathic hydrocele, with regard to safety and efficacy.

A prospective study was conducted between October 1, 2004 and September 30, 2007 at Aden University Teaching Hospitals. A total of 60 patients who had a unilateral idiopathic hydrocele were randomly divided into three groups of 20 hydroceles each. One group undergone excision (Jaboulay's operation) and the second group undergone plication (Lord's operation) while the third group undergone internal or closed drainage. Scrotal Ultrasound was done before the treatment then six months after. The complications and recurrence rates of each technique were evaluated.

In all, 60 patients were included in the study (mean age 42.8 years, range 16 – 60) and follow-up examinations were done at 3-month intervals during 1 to 2 years. The excisional technique group had resulted in a high rate of complications (65%), compared with plication technique group that had lower rate of complication (15%) and lowest rate (5%), regarding internal drainage technique. Infection and haematoma among the three techniques were not statistically significant. The recurrence rate was higher among the internal drainage group (25%), compared with the other groups (10%) for excisional group and (5%) for plication group (P<0.001).

Although it has relatively a high recurrence rate, the internal drainage technique may be the preferable method as it does not necessitate dissection or

manipulation of the scrotal contents. Furthermore, infection, oedema, and pain in the postoperative period are minimized. It is essentially indicated in adult patients with idiopathic hydrocele and a healthy tunica vaginalis. Patients with recurrence should be considered for surgical therapy, preferably plication procedure. On the other hand, plication is better than excision as it causes fewer complications.

**Key words:** hydrocele, technique, recurrence, complications

## **Plication Darn Repair versus Lichtenstein Mesh Hernioplasty for primary inguinal hernia**

**Omar A. M. Al-Aidaros and Khaldoon Abdulbari K. Saleh**  
General Surgery Department, Faculty of Medicine & Health Sciences, Aden University

e-mail: [omar\\_alaidaros@yahoo.com](mailto:omar_alaidaros@yahoo.com),

e-mail: [khaldoonbary@yahoo.com](mailto:khaldoonbary@yahoo.com)

### **Abstract**

The aim of this research is to compare two tension-free techniques of inguinal hernia repair: the plication darn repair (PDR) and Lichtenstein mesh hernioplasty (LMH), in terms of postoperative pain, complications and recurrence rates.

Sixty-seven patients with primary inguinal hernia were randomized to either plication darn repair PDR (group A) or Lichtenstein mesh hernioplasty LMH (group B) under spinal anesthesia in Aden hospitals and clinics over a period from October 2005 and September 2008. Patients with bilateral inguinal hernias, recurrent hernias, complicated hernias and other inguinoscrotal pathologies were excluded from the study. Follow-up was on the 7th and 12th postoperative day of the third month, and then yearly for two years. The main outcome measures were postoperative pain, recovery, postoperative complications and recurrence.

Thirty-three patients had plication darn repair PDR (group A) while 34 patients had Lichtenstein mesh hernioplasty LMH (group B). The mean operating time was longer for Lichtenstein mesh hernioplasty as compared to plication darn repair (70.1min vs. 62.6 min,  $p = 0.1$ ). Pain score and hospital stay was the same for both groups and return to normal activity was not significantly different, being 14.1 days for LMH and 13 days for PDR ( $p = 0.07$ ). Complication rate in group (B) was 17.6%, while in group (A) it was 3% ( $p = 0.001$ ). There was no recurrence in either group after a mean follow-up of 2 years.

LMH and PDR were equivalent in terms of post-operative pain, recovery and recurrence rate. However, the PDR was less time-consuming and has fewer postoperative complications. Furthermore, in spite of Mesh repair for inguinal hernia is definitely the more popular version of the two but a well-constructed darn is equally effective and on the whole, a much less costly treatment option for inguinal hernias.

**Key words:** Inguinal hernia - Lichtenstein technique - Darn repair - Open inguinal hernia repair

**Morbidity patterns for patients admitted to the medical wards at Al-Gamhuria Teaching Hospital, Aden: 2007**

**Ahmed Saeed Al-Mansoob<sup>1</sup>, Abdul Samad Taresh<sup>2</sup> and Salem Saleh Mohamed<sup>1</sup>.**

<sup>1</sup>: Department of Internal Medicine, Faculty of Medicine, University of Aden.

<sup>2</sup>: Department of Community Medicine and Public Health, Faculty of Medicine, University of Aden.

**Abstract**

This is a retrospective analysis of the disease patterns in the medical wards at Al-Gamhuria Teaching Hospital, Aden. All cases were admitted and discharged in the period from January 1, 2007 to December 31, 2007. A total number of 1107 Patients were admitted during the study period.

Males were 58.5% (647) and females were 41.5% (460). The male and female ratio was M:F = 1.4:1. The age range of the patients was 16 –78 years and the mean age was 41.5 years. 31-60 years age group accounted for 77.2% (855). The difference between frequencies is significant ( $p < 0.05$ ).

Overall, the study revealed that diseases of the digestive system were the most cause of admission in the medical wards during 2007, with 20.8% (230).

In males, diseases of the digestive system were the most common (15.1%), whereas in females, infectious & parasitic diseases represented the first place (10.5%).

Infectious and parasitic diseases comprised 212 patients (19.1%) as the second cause of admission. In females it represented the first cause of admission, while in males represented the 5th cause of admission, ( $p < 0.05$ ).

We concluded that the patterns of diseases observed in this study showed that diseases of non-communicable diseases represented the most common causes of admission to the medical wards, and this means that the proportion and presentation of non-communicable diseases has changed in this governorate and the neighboring governorates.

**Key words:** Diseases patterns, medical ward, Al-Gamhuria Teaching Hospital, Aden.

**Cancer in Aden- Yemen: a retrospective study (2005-2006)**

**Mohsen Awad Ben Humam<sup>1</sup>, Abdul Samad Taresh<sup>2</sup>, Ahmed Saeed Al-Mansoob<sup>1</sup>, Nazeeh M. S Bahumaid<sup>1</sup>, Jawdat Abubaker Salem<sup>3</sup>.**

<sup>1</sup> Department of Internal Medicine, Faculty of Medicine, University of Aden.

<sup>2</sup> Department of Community Medicine and Public Health, Faculty of Medicine, University of Aden.

<sup>3</sup> Surgical Department, Al-Gamhuria Teaching Hospital, Aden.

**Abstract**

The collection of credible information on cancer patterns is an important basis for determining the priorities for cancer control. There is no reliable information about the incidence or pattern of cancer in Yemen and, hence, an attempt was made to assess the situation based on hospital data which is the only

way to achieve the source of cancer in Aden, Yemen. Four hundred and seven confirmed cases of cancer (155 males, 252 females), seen at the three hospitals from January 2005 to December 2006, were included in the study.

The mean age of male and female patients was 48.5 and 48.7 years, respectively. The majority of the patients i.e. 286 (70.2%) were above 41 years of age. The difference between values is statistically significant ( $p < 0.05$ ).

Overall, the most common cancer patterns were from the gastrointestinal tract (28%), breast (22.8%), lymphoma (9.6%), and leukemia (6.9%). The most common cancer patterns among males was gastrointestinal cancer (36.8%) and among females was the breast cancer (36.9%). Our study provides valuable leads to cancer epidemiology in Aden, and is considered as useful information for health planning and future researches.

**Key words:** cancer, frequency, pattern, hospitals, Aden

### **Management of hydatid disease in Al-gamhouria Teaching Hospital**

**Abdulla Mohammed Baodha**

**Department of Surgery, Faculty of Medicine, University of Aden**

#### **Abstract**

This is a retrospective descriptive study performed in Algamhouria Teaching Hospital, Aden - Yemen, using the registry of the Surgical Department during the period January 2005 through to June 2007. The main objectives were to analyze the age, sex, localization, and management of hydatid disease in human, and compare them with the literature.

The total number of cases of hydatid disease was 28 patients: female to male ratio 1.15:1. The result shows that the age group mostly affected was 21-40 years old. All cases treated surgically except one patient. 92.9 % of cases have one cyst, 71.4% located in the liver, 28.6% are located in the lung. The surgery was the main method applied for hydatid disease.

**Key words :** Hydatid disease, liver, lung .

### **Management of breast cancer in Aden hospitals during the period 2005-2007**

**Ali Karama, Abdullah Mohammed Baodha and Gamal Mohammed Saleh**

**Department of General Surgery, Faculty of Medicine and Health Sciences,  
University of Aden**

#### **Abstract**

The breast cancer is the most common cancer diagnosed and second most common cause of cancer-related deaths in women. This study was carried in Aden general and private hospitals during the period of two years (2005-2007), with the main objectives to analyze breast cancer according to sex, age, other aims are to identify some tumor characteristic, like histopathology, size,

site, stage, and the type of surgical treatment applied in comparison to other developed countries. 120 patients were included; all were female except one male the range of age was 22-to 86 years, with an average of 46+/-11. and the peak age of incidence between 40-50 . Invasive ductal carcinoma was the most common pathological type found in 88.3% of the cases, with invasive lobular constituting only 7.5% of cases. Modified radical mastectomy & axillary clearance was the standard surgical treatment in this study , with breast conserving surgery done only in few cases . The breast cancer strikes females at their productive age with a median age of 46 years. Modified radical mastectomy with axillary clearance being the standard surgical method used and the invasive ductal carcinoma was the most common type found .

Accordingly, we recommend the following: (1) development and implementation of early breast cancer detection programmes and increase at the public awareness about breast cancer, (2) providing general hospitals with all the facilities needed for accurate diagnosis , (3) creation of a well- staff breast unit in Aden to which all patients should be referred, ( 4) building up a radiotherapy unit in Aden.

**Key words:** Breast, cancer stage , mastectomy.

### **Patients Admitted to Al-gamhouria Teaching Hospital, Aden-Yemen.**

**Ali Mohammad Al-Nawi**

**Department of Surgery, Faculty of Medicine and Health Sciences, University of Aden.**

### **Abstract**

Cholecystectomy, the surgical removal of gallbladder, is one of the most frequently performed operations as a common therapy for gall bladder disorders.

This study is a prospective and comparative hospital-based, with an overall aim to compare the outcome of conventional cholecystectomy (CC) and laparoscopic cholecystectomy (LC) in patients admitted to Al-gamhouria Teaching Hospital, during the period of one year, from January 1st, 2007 through December 31st 2007.

Cholecystectomy was performed for 146 patients (72 by CC and 74 by LC). Variables analyzed were age, sex, associated morbidity, postoperative complications hospital-stay, mortality and operative time.

The female to male ratio was (6.3:1). The common age group was the fifth decade (40-49 years) 56.8%. The mean operation time was 149 min for CC vs. 48 min for LC. The morbidity during and after CC was higher than that of LC. Mortality was 1.4% in CC, & 0% in LC.

LC is safe, cost effective, and cosmetic, with short postoperative hospital-stay, and less perioperative morbidity and mortality.

**Key words:** Cholecystectomy, conventional, laparoscopic, complications.

**Bone marrow involvement in solid tumours and lymphoma**

**Nohad Ahmed Hanbala<sup>1</sup> and Gamal Abdul Hamid<sup>2</sup>**

**<sup>1</sup>Department of Pathology, Al-Gamhouria Teaching Hospital**

**<sup>2</sup>Department of Hematology/Oncology, University of Aden,**

**Abstract**

Besides being the site of origin of numerous primary hematopoietic malignancies, the bone marrow is commonly involved by metastatic tumors. The objective of this prospective and descriptive study is to determine the frequency of bone marrow involvement by solid tumours, and lymphoma detected by bone marrow trephine biopsy (BMTB). The study was carried on the Departments of Pathology and oncology of Al-gamhouria Teaching Hospital, during the period from Jan 2005 to Dec 2005.

A total of 28 patients with suspected or confirmed malignancy underwent BMTB from the posterior superior iliac crest;. 21 patients with solid tumors and 7 patients with lymphoma. The results show that the frequency of BM involvement by solid tumors was (47.6%) and, in 100% of patients with lymphomas,. the breast cancer was the most common primary site of solid tumors and low grade lymphoma was the most common type of lymphoma with bone marrow involvement

**Conclusion:** BM involvement by solid tumors, and lymphoma was common in our study. The BMTB is an important procedure in detecting such tumors.

**Key words:** Bone marrow trephine biopsy, Non Hodgkin's Lymphoma. Solid tumours

**Cauda equina syndrome and profound hearing loss after spinal anaesthesia**

**Raga Ahmed Ali Musaid**

**Department of anaesthesia and intensive care unite, Faculty of medicine and health science. Aden University**

**[dr.ragarose@hotmail.com](mailto:dr.ragarose@hotmail.com)**

**Abstract**

A 35 years old man undergoing anorectal surgery developed cauda equina syndrome and bilateral profound hearing loss after single injection spinal anaesthesia with heavy xylocaine. There was no pain on needle placement. Neurogenic assessment found impaired sensation to pinprick in the perineal region, lower extremity paralysis, and bowel and bladder incontinence. In addition, he developed a bilateral profound hearing loss involving the low frequencies, with left side more affected than the right side. Although hearing impairment can occur with cerebrospinal fluid leakage, the etiology of cauda equina syndrome is uncertain. The simultaneous occurrence of these events has not been previously reported.

**Key words:** Cauda equina, hearing loss, spinal anaesthesia.

## ARABIC TITLES

### AGRICULTURAL SCIENCES

#### **Agro ecological factors affecting chemical contents and quality of Yemeni coffee**

**Amin Abdo Al hakimi**

**Faculty of Agriculture, Sanaa University, P.O. Box 13 768, SANAA YEMEN,  
e-mail: aminalhakimi@yahoo.com**

#### **Abstract**

For studying the quality of Yemeni green coffee and the impact of environmental and cultural conditions, seventeen samples of coffee fruits have been sampled from main regions of coffee productions. Green coffee have been evaluated for chemical characterizations such as water content, caffeine, trigonellin, chlorogenic acids, fat, and sucrose contents ...etc. These analysis were conducted in the Chemical Technology Laboratory of CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement), Montpellier–France. Areas of production influencing the quality of coffee and non-irrigated coffee in marginal rainfall areas usually show the greatest seasonal quality on coffee quality. The best quality is obtained from selective picking in which only red ripe cherries are gathered, by hand in successive picking rounds until most of the crop has been harvested.

High variations of chemical composition of coffee have been observed between samples collected from different regions of coffee production, which reflect the high effects of cultural, post harvesting treatments and climate conditions of coffee growing area on coffee quality.

The principal result's of these analysis are presented and discussed in relation to the origins of samples and the effect of cultural, environmental and possessing conditions on coffee quality.

Recommendations and actions to be undertaken in different level of coffee production for preserving and improving coffee quality in Yemen were discussed.

**Keywords:** Caffeine, sucrose contents, cultural conditions, Yemeni coffee

**The effect of oil and ethanolic extracts of neem kernels *Azadirachta indica* ( A . Juss ) on the orange fruit green mold fungus *Penicillium digitatum* (Pers.; Fr.)Sacc.**

**Hassan M.H.Al-Rahawi and Mohammed Fadhl Al-Maisary  
Dept.of Biology, College of Science and Education (Zingibar), Univ. of Aden,  
Yemen**

**Abstract**

In this study, oil and ethanol extracts of neem seeds were extracted by soxhlet, and the propylene glycol was used as an emulsifying agent. The seed was collected from neem trees of Abyan Governorate in Yemen. The efficacy of these extracts against the growth of the fungus (*Penicillium digitatum*) and its spore colonies was also studied.

The results showed that the upper inhibited percentage for growth fungi by seed oil was 84% at 20000ppm, while the lower inhibited percentage at 7500ppm was 81%.

The inhibited percentage by using ethanol extract was 84% at 20000ppm and 76% at 2500ppm .

The efficacy of extracts against spores of fungi was 100% at 20000ppm, while it was 55% and 50% by oil and ethanol extracts, respectively at 2500ppm.

**Key words ; Neem oil, ethanol extract of neem , *Penicillium digitatum*,**

**Effect of some plant extracts and Neemix4.5 insecticide on immature stages of *Culex pipiens* mosquito under laboratory conditions**

**Saeed A. Ba-Angood and Aref M. A. Ali**

**[baangood@yemen.net.ye](mailto:baangood@yemen.net.ye)**

**Abstract**

The environmental risks of random abuse of chemical pesticides for the control of agricultural and general health pests have been recently arisen and, accordingly, natural pesticides, particularly of plant origin, are now considered to be promising alternatives.

This study aims at testing aqueous plant extracts of *Piper nigrum*, *Allium sativum*, *Syngium aromaticum*, *Artemisia abyssinica*, *Eucalyptus camaldensis* at the rates of 30, 40, and 50ml/lit of water; in addition to neem (*Azadirachta indica*) oil and a neem insecticide (Neemix4.5) at the rate of 0.5, 1.0 and 1.5ml/l of water, for their effect immature stages of *Culex pipiens* mosquito. The results have shown that there was no statistical significance between the plant extracts and the control on the hatchability of eggs. However, but neem oil as well as the neem insecticide Neemix when applied at the rate of 1.5ml/l water reduced significantly the hatchability of eggs (61%and 84%), compared to the control (96%). Accumulated mortality percentage of larvae, resulted from eggs of *C. pipiens*, have reached 100% in *P. nigrum*, *A. sativum*, *S. aromaticum*, and *E. camaldensis* plant extract treatments when used at 50ml/l water. The same result has been reached when neem oil and Neemix 4.5 insecticide when used at 1.5ml/

l; and none of the larvae have reached the pupal stage. This means that these plant extracts as well as neem oil, which are available in the area, could easily be applied in an Integrated Pest Management program for mosquito in Yemen.

**Keywords:** Plant extracts, *Culex pipiens*, neem (*Azadirachta indica*), Neemix 4.5, Yemen

### **Studying the effect of some yemeni honeys on rabbits` lipids profile**

**Saeed Omer Farag\***, **Mohammad Adam Abdulaziz\*\*** and **Faiza S. Abdilla\*\*\***  
\*Dep. of Biology, Education Fac. Sabir; \*\*Dep. of Animal Production, \*\*\* Dep. of Plant Protection Fac. of Agric. – Aden Univ.

#### **Abstract**

The present study aims at investigating the effect of 4 kinds of honey: *Zizyphus* (cider), *Acacia* (Sumer), *Mascit* (Sysiban) and non- floral honey (bees were fed with sugar lequir) on the profile of lipids (Lipogram): Cholesterol, triglycerides, low density lipoprotein (LDL) and high density lipoprotein (HDL), in the serum of male rabbits fed with high level animal fat fodder (10 % lamb fat). This work was carried out during the period 1/12/2007 to 7/1/2008. 16 male rabbits of Yemeni local breed were divided into 4 groups - 4 animals in each-, for 4 treatments as were mentioned above, according to Latin Square design. Data were analyzed using the computer programmed Genstat- 5.

Obtained data showed that blood serum of rabbits treated with the studied floral honeys get less lipid content. This result was more obvious with the treatment of *Zizyphus* honey which was significantly less than non- floral honey in the following studied parameters: Triglycerides, cholesterol, and LDL ( 117,75mg/dl, 70.25mg/dl, 13.25mg/dl respectively).

**Key words:** Floral honey, lipids profile, rabbits

### **A survey of mite species on plants in Abyan Governorate: their hosts and distribution**

**S. Ba- Angood<sup>1</sup> and M. S. Ba – Hassen<sup>2</sup>**

<sup>1</sup>Department of Plant Protection, Nasir's College of Agric

<sup>2</sup> College of Education- Lawder, Univ. of Aden

#### **Abstract**

A survey of mite species was conducted at some areas in Abyan Governorate during the period June2006-December2008. Forty- four mite species were identified belonging to the following families:

seven species belong to the family Tetranychidae , four species to Tenuipalpidae , two species to Tarsonemidae , four species to the Acaridae, five to Eriophyidae, five species to the family Phytoseiidae, three to Cheyletidae , one

species to each of the families Cunaxidae and Neophyllobiidae, and two species to each of the families Tuckerellidae, Tydeidae, Stigmaeidae, Asceidae, Bdellidae and Anystidae. 25 species were recorded for the first time in Abyan Governorate, of which 20 are recorded for the first time in Yemen. Eleven of them are phytophagous, while 14 are useful predacious mites which can be used in any Integrated Pest Management (IPM) programs for harmful insect or mites.

**Keywords :** Phytophagous mites, predacious mites, Abyan Governorate.

## **ENGINEERING**

### **The planning of new residential areas in the Western Suburb of Mukalla city (Fowa -as case study)**

**Khaled Nasser Barashed and Ramadan Anbar  
Barashed@hotmail.com**

#### **Abstract**

Mukalla, the capital city of Hadhramout Governorate, in Yemen, was affected, since the end of the nineteenth century by several changes on political and economical facets, which reflected itself on all aspects of life. One of the important domains which included the changes was, perhaps, the urban growth that took place in the whole city, where new residential area expanded and appeared in the suburbs. The city waded since originated her in many attempts of developmental growth beginning by the traditional growth, then the organized plan – which began in the period of the Alqai'ty Sultanate that ruled the city between (1882-1967) . The rulers in that time were influenced by comparable planning in Indian peninsula (which was under the British colonization), and persuaded from the British and Indian advisers. That has resulted into the use of simple grid planning with poor design criteria, causing positive reflection on the residential environment and its inhabitants later.

In the period after independence in 1967 - around one and a half decade -, the city didn't become any interest. In the beginning of the eighties, an Arab Planning office was trusted to make a complete preparation of a general plan for the city. The goal of the scheme was to study and imagine the future status of the old and new residential areas of the city, during the coming thirty years (1981-2011)

The planning scheme defined the residential districts and service zones, including schools, mosques and health facilities, in addition to commercial, administrative and recreational services tied with roads network.

Despite the completion of the planning in the year 1982, and its guiding examples for units and neighborhoods and demographical density, became the city of Mukalla detailed planning first in the eighties (1988-1989) - after passing of six years.

The detailed planning was made in the Ministry of Construction where was established in Aden under the leading of Russian experts. The planning was limited and concentrated on the center of the western suburb (the new city of Fowa). In the nineties of the last century, another detailed planning was followed for the remaining parts of the western districts, neglecting the assessment of basic data due to changes occurred in the population, density, as well as the overspread of illegal round housing around the old city centers.

**This paper intends to study and analyze the general plan of the western suburb of the city of Mukalla and its residential areas in order to evaluate its results and make recommendations to develop the process of planning for residential areas in the suburbs of the Yemeni cities.**

**Key Words: Planning, General scheme, residential districts, Mukalla, Yemen**

## **ENVIRONMENT**

### **Drinking water copper pollution in locally made water-cooler**

**S. Kh. Bamoteref<sup>1</sup>, A. M. Saedan<sup>2</sup> and M. A. Al-gahri<sup>2</sup>**

**<sup>1</sup> Chemistry Department, College of Science, Mukalla, Hadramout University of Science and Technology**

**<sup>2</sup> Chemistry Department, College of Education- Aden. University of Aden.**

**E-mail : [mohsen72@hotmail.com](mailto:mohsen72@hotmail.com)**

### **Abstract**

**The present research work studies the concentration of copper ions in cold drinking water because of the use of copper pipes in locally made water-coolers. The concentrations of copper in the cold water were measured, using technique of Flame Atomic Absorption Spectrophotometry (FAAS). The results of the analysis indicate that cold water of the first group of water-coolers, after being used for less than one year, had copper concentration of (0.06mg/L) compared with (0.025mg/L) of the source water, with an increase of (2.4) times. In the cold water of the second group of water-coolers, after one and half year, the concentration of copper reached (0.20mg/L) compared with (0.025mg/L) of the source water, with an increase of (8) times. In the third group of water-coolers, after three years, the concentration of copper reached (0.60mg/L) compared with (0.025mg/L) of the source water, with an increase of (24) times. In the third group, copper concentration reached the high boundaries allowed internationally and locally, hence drinking of this cooled water is unsafe for human. The continuation of drinking this type of water, even in small doses for a long period, might lead to severe health problems, especially in young ones.**

**Key words: Copper in cooled drinking water, Corrosion of copper pipes, Locally made water- cooler**

## **FOOD TECHNOLOGY**

### **Production of dietary fiber- rich biscuits from wheat flour, sorghum and mango peel flour**

**Nadheira A . Mohamed \* and Othman S. Saeed\*\***

**\*Food Research & Post harvest Technology Center – Aden Agricultural  
Research and Extension Authority ( AREA )**

**\*\* Biology Department, Faculty of Education, Aden University**

#### **Abstract**

The present study was carried out in the Food Research & Post-harvest Technology Center, in August 2007, for the production of fiber rich biscuits from wheat ,sorghum and mango peel flour, so as to increase nutritional value of the biscuits.

Mango peel was the main waste of mango juice processing. Mango waste is potentially considered as a good source of human nutrients and dietary fibers .

Mango peel powder was prepared from the peel after being washed dried, and milled. The dried powder was added to replace wheat flour in quantities of 5, 7 and 9 gm. The preparation of the biscuits physical, chemical and organoleptic quality tests were evaluated. Results indicated that the consumers prefer biscuit powder that contained up to 7 grams dried mango peel product.

**Keywords; Biscuits, dietary fiber, mango peel, protein, ash, nutritional quality .**