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ENGLISH TITLES

BIOLOGY

Effects of *Aloe woodii* gel methanolic extract on the liver function changes induced by high sugar intake infemale albino rats

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Abstract

Consuming sugar-added foods and sweetened beverages is being a familiar habit associated with many diseases. Folk information in Yemen indicates the therapeutic effects of *Aloe woodii* on some diseases. So, the aim of this study is to evaluate the ameliorated effect of *Aloe woodii* gel extract on liver lesions in female rats induced by high table sugar intake. This study lasted 11 weeks and was divided into two periods. The first period was for high table sugar supplement, whereas the second was for the treatment by the methanolic extract of *Aloe woodii* gel. At the end of the experiment, body weights were recorded, blood samples were taken, and liver samples were also taken for the histopathological examination supported by quantitative measurement. Results: There was no remarked change in the body weights between groups, but there was an accumulation of the visceral fat and an elevated of alanine aminotransferase (ALT) level in the sugar group. Histopathological examination of liver tissues in the sugar group revealed many degenerated manners such as vacuolation and/or ballooning of hepatocytes and inflammation. However, the treatment by *Aloe woodii* gel led to an ameliorate of the histopathological changes, but had no effect on ALT level. Conclusion: High sugar supplement induced high visceral fat accumulation and many lesions in liver tissue, whereas *Aloe woodii* treatment ameliorated these effects.

Keywords: Table sugar, *Aloe woodii*, liver, quantitative analysis, ballooned hepatocyte.

ENGINEERING

Enhanced Mammography image for Breast Cancer detection using LC-CLAHE technique

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Abstract

Breast cancer is the greatest challenging health complexities that medical science is facing. Most cases can be prevented by early detection and diagnosis which are the best way to cure breast cancer to decrease the mortality rate. The aim of this research is to obtain a method for enhancing the mammography images by using the proposed method which is incorporating the Local Contrast with Contrast Limited Adaptive Histogram Equalization (LC-CLAHE) to improve the appearance and to increase the contrast of the image and then de-noised by 2D wiener filter techniques. To extract the region of interest (tumor), we used region growing technique for the segmentation process. The standard Mammographic Image Analysis Society (MIAS) database images are considered for the evaluation. Efficiency is measured by Root Mean Square Error (RMSE) and Peak Signal to Noise Ratio (PSNR). It is observed that the proposed method with wiener filter gives higher (PSNR) and lower (RMSE), with a significant filter mask [3 3].

Keyword: Breast Cancer, Image Pre-processing,Image Enhancement, Segmentation,Wiener filter, Root Mean Square Error (RMSE) and Peak Signal to Noise Ratio (PSNR).

ENVIRONMENT

Life-forms and Chorotypes of succulent plants of Al-Dale'a Governorate, Yemen

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Abstract

The present study was carried out during the years 2015- 2019, deals with the floristic composition of the flora, life forms and phytogeographical affinities of Succulent plants of Adhale Governorate, Yemen., The succulent flora of the study area consisted of 104 succulent taxa belonging to 52 genera and 29 families. Life form of study area, was dominated

Chamaephytes with the maximum number of species they were represented by 46species (44.23%), followed by Phanerophytes represented by 29 species (27.88 %), Geophytes represented by 13species (12.5 %), Hemicryptophytes represented by 9 species (8.65 %) Therophytes represented by 6 species (5.7%) and 1 parasite (0.96 %).From the chronological point of view, the largest proportion of the succulent flora belongs to Monoregional constituting 77.8% (81) of species is native to the Sudano-Zambenzianphytochoria. The second dominant phytochoria was Bi-Regional constitute (11.46 %) "Sudano-Zambenzian + Saharo-Sindian(11 sp. 10.5%) and Sudano-Zambenzian +Mediterranian(1 sp. ., 0.96%), while Plueriregional comprises (11sp. ; 10.57 %) " The Tri-Regional element "Sud-Zam +Sah-Sin+ Med, 3 sp. Cosm. 5 sp. ; Trop. 2 sp. ; Pan. 1 sp. Results also revealed that 41 taxa (39.4%) are endemic, (among them are 21 taxa (20.19%) which were endemic to Yemen alone, while the remaining (19.23%) are near endemic.

Keywords: Succulent, life-forms, phytogeographical affinities, Endemic, Adhale, Yemen.

MATHEMATIC

Ongeneralized for curvature Tensor P^i_{jkh} of second order inFinslerspace

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Abstract

In this present paper, we introduced a Finsler space F_n which Cartan's second curvature tensor P^i_{jkh} satisfies the generalized birecurrence property with respect to Berwald's connection parametersG^i_{kh}which given by the condition

$\mathcal{B}_n\mathcal{B}_m P^i_{jkh} = a_{mn}\, P^i_{jkh} + b_{mn}\left(\delta^i_h g_{jk} - \delta^i_k g_{jh}\right) - 2\,\mu_m\,\mathcal{B}_r\left(\delta^i_h C_{jkn} - \delta^i_k C_{jhn}\right)y^r \quad , P^i_{jkh} \neq 0$,

where $\mathcal{B}_n\mathcal{B}_m$ is Berwald' scovariant differential of second order with respect to x^m and x^n , successively,$\mu_m$is non-zero covariant vector field,$a_{mn}$and b_{mn} are non-zero recurrence vectors field of second order ,such space is called as *a generalized $\mathcal{BP}$-Birecurrent space* and denoted it briefly by$GBP\text{-}BIRF_n$**.** We have obtained Berwald' scovariant derivative of second order for the h(v)-torsion tensor P^i_{kh}, P-Ricci tensor P_{jk} and the curvature vector P_k for Cartan's second curvature tensor P^i_{jkh}. Also, we find some theorems of the associate curvature tensor$P_{ijkh}$of the (hv)-curvature tensor$P^i_{jkh}$and the associate tensor P_{jkh} of the v(hv)-torsion tensor P^i_{kh}in this space.We also obtained the necessary and sufficient condition for Cartan's fourth curvature tensorP^i_{jkh} to be generalized birecurrent and the necessary and sufficient condition of Berwald'scovariant derivative of second order for the h(v)-torsion tensor H^i_{kh}, the R-Ricci tensor R_{jk} andthe deviation tensor H^i_h , alsothe necessary and sufficient condition for the curvature vector R_j and the deviation tensor H^i_j to be non-vanishing in this space.

Keywords: Generalized $\mathcal{B}P$-birecurrent space,Berwald's covariant derivative of second order, Cartan's second curvature tensor P^i_{jkh}.

Applications of certainoperational matrices of Dejdumrongpolynomials

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Abstract

In this paper, we propose a numerical method based on Dejdumrong polynomials and their operational matrices for solving both linear and non-linear differential equations,calculus of variations, integral equations, optimal control and fraction differential equations. Several examples have been included to demonstrate the validity and applicability of the Dejdumrong operational matrices.

Keywords: Dejdumrong polynomial, Operational matrix, Differential equation.

MSC (2010)**:** 34K28 · 40C05 · 15A60 · 14F10

A class of proper and improper partial bilateral generating functions for some special polynomials

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Abstract

In this paper, the group theoretic method is used to derive some classes of proper and improper partial bilateral generating functions for certain special polynomial. Some new and known results are obtained as special cases of the main results.

Keywords: Konhauser polynomials, Gegenbauer polynomials, Laguerre polynomials & proper and improper bilateral generating functions.

On certain a generalized $N_{|m}$- Recurrent Finsler space

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Abstract

A Finsler space F_n for which the normal projective curvature tensor N^i_{jkh} satisfies $N^i_{jkh|m} = \lambda_m N^i_{jkh} + \mu_m\left(\delta^i_h g_{jk} - \delta^i_k g_{jh}\right), N^i_{jkh} \neq 0$, where λ_m and μ_m are non□zero covariant vectors field, will be called *a generalized* $N_{|m}$ *– recurrent space*. The curvature vector H_k, the curvature scalar H and Ricci tensor N_{jk} are non-vanishing. When the generalized $N_{|m}$ - recurrent space is affinely connected space and under certain conditions, we obtain various results. Also, in generalized $N_{|m}$ recurrent space, Weyl's projective curvature tensor is a generalized recurrent tensor.

Keywords: Generalized $N_{|m}$ - Recurrent Space, Generalized Recurrent Tensor, Generalized$N_{|m}$ - Recurrent Affinely Connected Space, Weyl's projective curvature recurrent tensor.

On regular generalized N–Preopen sets

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Abstract

The purpose of this paper is to provide a new class of generalized N–preopen sets, namely, regular generalized N–preopen sets which is finer than the class of regular generalized preopen sets and the class of regular generalized open sets. Furthermore, we study the fundamental topological properties and introduce the notion of regular generalized N–precontinuous functions.

Keywords: Regularopen; Preopenset; Generalized closedset; Decomposition of continuity.
AMS classification: Primary 54A05, 54A10, 54C10

MEDICINE

Cyto-Histopathological diagnosis of the Thyroid Lesions: A comparative study

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Abstract

Fine-needle aspiration cytology FNAC is the single most important diagnostic test for the evaluation of patients with thyroid lesions, it has been almost universally recognized as constituting the most significant advance of the past 20 years in the diagnostic evaluation of patients who present with palpable nodules of the thyroid gland. In this study, the effectiveness of fine needle aspiration cytology was evaluated through the identification of the correlation between the cytology diagnosis of thyroid fine needle aspiration cytology and the postoperative histopathologicaldiagnosis.This is a retrospective study was performed on 80 cases underwent to both thyroid cytological and histopathological diagnosis, reports were retrieved from pathology archive of Aden Diagnostic Center/ Aden Governorate, during the period of 2012-2013.The inclusion criteria is that all patients, irrespective of sex and age; having thyroid lesion, diagnosed cytologically and confirmed histologically. Whereas the exclusion criteria: (1) Patients having history of recurrent thyroid carcinoma after lobectomy (2) patients who underwent fine needle aspiration cytology but did not undergo subsequent histopathological diagnosis (3) patients undergoing chemotherapy. Cytological study results in (85%) benign and (15%) malignant cases, while histological examination revealed (64%) benign cases and (16%) malignant cases. The most common benign lesion diagnosed by both cytologically and histologically was colloid goiter (63.7%) and (56.2%) respectively, followed by follicular adenoma, cytologically(15%) and histologically (21.25%), while Hashimotos` thyroditis was the less common lesion which is, by cytological diagnosis (6.25%) and by histological diagnosis (2.5%). The main malignant lesion was papillary carcinoma, (15%) of the cases were diagnosed cytologically and (20%) were diagnosed histologically. Fine needle aspiration cytology sensitivity was (62.5%), specificity (97%), Positive predictive value (83.3%), negative predictive value (91.1%), and accuracy (90%).Benign lesions were the most common than malignant, as diagnosed by both cytologically and histologically. The most common benign lesion diagnosed by both methods was colloid goiter, followed by follicular adenoma. The main malignant lesion was papillary carcinoma by methods of diagnosis. False negative cases represent 7.5% and false positive represent 2.5%. Statistical analysis for cytological diagnosis revealed that it was moderately

sensitive, highly specific, and accurate.So it is recommended to be applied as routine preoperative investigation**.**

Keywords: Thyroid lesions, benign thyroid lesions, malignant thyroid lesions, cytological and histological diagnosis.

Cesarean section in the delivery and Neonatal Center - Al-Saab-Aden Hospital from 1st Jan-31st Dec 2016

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Abstract

A caesarean section (CS) is a life-saving surgical procedure when certain complications arise during pregnancy and labour. However, it is a major surgery and is associated with immediate maternal and perinatal risks and may have implications for future pregnancies as well as long-term effects that are still being investigated.

The aim of the study is to estimate the rate of CS to evaluate the most common indications of the operated CS, to estimated, and outline the most common types of CS in the delivery and neonatal center (Al-Saab-Aden Hospital).

A retrospective analysis of clinical medical records of woman operated cesarean section and managed in the Department of Obstetrics and Gynecology at the Delivery and Neonatal Center -Al-Saab-Aden Hospital from 1st Jan to 31st December 2016.

Out of 1532 deliveries over the study period from1st of Jan– 31st of Dec 2016 , 312 cases had cesarean section representing 20.4% of total deliveries. More than half (52.9%) of cesarean section cases had repeated cesarean section and 77.2% in the Maternal age group 20 – 34 years,. Cephalo-pelvic disproportion constitutes 14.7% of registered indications of CS, and the majority of C S due to previous one Scar (28.9%).

The cesarean section rate still high with continuous increasing more than the rate stated by WHO. It is obvious that previous scare is the most common indications for CS. The decision to perform a CS must be maternity-centered and not technology-centered, in turn, lower the total cesarean delivery rate.

Keywords: Cesarean delivery, Cephalo-pelvic disproportion , previous.

Pattern of Congenital Anomalies among Newborns, Infants and Children in Aden city

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Abstract

The field of dysmorphology has expanded dramatically as the number of recognizable patterns of malformation has more than tripled during the last 30 years. Major congenital anomalies are currently the leading cause of perinatal, neonatal and infant mortality worldwide, including Yemen. A basic method to investigate congenital anomalies is through medical review records at hospitals and child maternity services.

A retrospective analytic study through review of medical records was conducted includeding 1920 patients in all major congenital anomalies with a male to female ratio of 2:1 within age range from 1 day to15 years at Al-Sadaqa and Al-Gamhouria Teaching Hospitals, Aden city, Yemen, during January 2000 to December 2007. Digestive system (DTS) 649 (33.8%) formed the commonest major congenital anomalies, followed by circulatory system (CVS) 416 (21.7%), central nervous system (CNS) 273 (14.2%), urogenital system (UGS) 202 (10.5%) and musculoskeletal system (MSK) 137 (7.1%).

Generation of the available information will form the basis to reflect the magnitude of these birth defects, their pattern and any associated risk factors. These results will have important implications in planning appropriate preventive, therapeutic and rehabilitative programs. Future plan would include the implementation of innovative health education strategies and standard screening with sophisticated diagnostic procedures.

Keywords: Congenital anomalies, digestive system, circulatory system, central nervous system, urogenital system and musculoskeletal system.

Radiographic evaluation of third molars development in relation to chronological age among children and youth in Aden city

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Abstract

The only tool available to estimate the age of individuals is the third molar after puberty, which plays an important role in forensic science. This research aims at assessing an individual's chronological age based on the third molar's stage of dental growth according to Demirjian's model.

A comprehensive cross-sectional sample of 950 orthopantomorgrams consisting of 530 with known age and sex and ranging from 16 to 23 years of age, was obtained from a Diagnostic Medical Center in Aden City / Yemen, between 2017 - 2018.The mean age at the early stage of development (A&D) was lower for males than females. Later growth in females in maxillary molars was the stage (E&G), but later in mandibular molars in males. Earlier in the four molars, the complete eruption of the third molar (H) stage was in females. There was a strong association between the developmental stages of maxillary molars in females and lower (right and left) molars and third molars in females between upper (right and left). As the results show that, in the case of completion of the roots of the third molars in stage (H), the likelihood of an adult being over 18 years of age in the case of full development wisdom is 100% in females when one molar or more was found, but it is 66.7% in males when one molar is present, and 100% when two or more molars are present. We concluded that the third stage of molar development is one of the few tools we can use to evaluate the age when the development is close to completion and it can be assumed that individuals with complete x-ray calcification of the third molar at (G – H) stages are over 18 years, while those at the (E-F) stages are probably under 18 years of age.

Keywords: Chronological age, Third molar, Wisdom teeth, Demirjian's Method, Dental development stage, Orthopantomorgram.

PHARMACY

Comparison of in vitro dissolution of BisoprololFumarate tablets of five Brands marketed in Aden, Yemen

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Abstract

Bisoprolofumarate is a selective β-1 blocker and is useful in the management of cardiovascular diseases. According to Biopharmaceutical Drug Classification System, it is a class I drug, which has high solubility and permeability. In this study, five brands of bisoprololfumarate 10 mg tablets that are marketed in Aden, Yemen, have been evaluated

using dissolution test with the aim to assess bioequivalence of the generic products B, C, D and E with the innovator product A. A high Performance Liquid Chromatographic method was used for the analysis of bisoprololfumarate in the tablets. The method was validated for the parameters like system suitability, linearity, limit of detection and limit of quantification. The dissolution test was performed according tothe United States Pharmacopoeia-30 (USP-30) for the five brands and the obtained dissolution profiles data of the four generic brands were subjected to comparison with the innovator brand using difference factor f_1, similarity factor f_2 and dissolution efficiency. The results of the method validation revealed its suitability for quantification of bisoprolol in the tested tablets. The five brands contain between 97.52%-102.43% of the labeled amount of bisoprololfumarate and released more than 80% of drug within 30 minutes, which were within the USP acceptance criterion. The calculated f_1, f_2 and DE indicated that the generic brands, except brand E, were bioequivalent to the innovator and could be used as generic substitutes for the innovator brand.

Keywords: Bisoprololfumarate tablets, in vitro dissolution, bioequivalence, fit factors, dissolution efficiency.

Helicobacter Pylori treatment regimen and the extent of antibiotics effectiveness in AL- Gamhoria teaching Hospital and five private clinics in Aden-Yemen, 2017

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Abstract

Studies about H pylori infection in Aden governorate are still scarce. Thus, our objectives in this study are to investigate and to evaluate the incidence rate of H. pylori infection, risk factors, efficacy of therapy and drug resistance.

A cross sectional study was conducted for 325 patients who attended in Al-Gamhuri Teaching Hospital and five private clinics, in Aden governorate, during the period March to September -2017.

Gastric mucosa biopsy samples were obtained from 50 patients who had undergone upper gastrointestinal endoscopy for culture and sensitivity test for H. pylori for susceptibility to four antibiotics (clarithromycin, amoxicillin, metronidazole, and levofloxacin). During this study, we found that (70.8%) females and (29.2%) males are suffering from H. pylori infection. The maximum number of cases (41.2%) were found between the age group 21-30 years.59.4% of them received (PPI+ Clarithromycin+ Amoxicillin or metronidazole), while 40.6% received (Levofloxacin containing triple therapy) for 10-14 days.

25.2% have been completely improved, and 3.4% haven't, while 30.2% have recurrent, 41.2% not return for farther follow up. All risk factors are in higher percentage.

The commonest drug resistant for Amoxicillin was 30%, Clarithromycin 26% and metronidazole was 24%., while 20% for Levofloxacin.
Conclusion:-To eradicate H. pylori successfully, the whole society authorities and systems should cooperate together as one team because this is multifactor problem, including host, environmental, socioeconomic, educational and inappropriate treatment.

Keywords: Antibiotics, H. Pylori, Drug resistance, Aden.

PHYSICS

The study of Silver Nanoparticles in basis of Slater functions

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Abstract

The electronicstructure of thesilvernanoparticles were investigated bysemi-empiricalWolfsberg – Helmholz method. It is avariant ofthe molecularorbitals method. Molecular orbitalsare representedas a linear combinationof valence atomicorbitalsof the atomsof the nanoparticle.Theatomic orbitalsused5s-, $5p_y$-, $5p_z$- and $5p_x$-Slateratomic orbitalsof silver atoms. The exponentialparameters of Slaterfunctions were calculated and defined the analyticexpression ofthe basis functions.The numerical values ofthe unknown coefficientsof the linearcombination are foundby solution of equationsof molecularorbitals method.Calculations were carried outwith computer program. The orbital energies, potential ionization,total electronic energyand the effective charge of atoms ofsilver nanoparticles were also calculated. Theresults indicatethat thesilvernanoparticles aretough,electrophile and stable dielectric material.

Keywords: Quantum mechanical calculations, nanotechnology, computer program, electronicstructure.

ARABIC TITLES

AGRICULTURE SCIENCES

The effectiveness of biological control for control the causal agents of Onion diseases in the laboratory and nursery

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Abstract

The study was carried out in the vivo during the period from July to August and during the nursery in the period from September to December 2018 in the Department of Biology, Faculty of Education / Saber, Aden University- Yemen. The effect of biological agents, *Bacillus subtilis* and *Trichodermaviride*, on fungus pathogens in the southern coastal plain of Yemen, namely*peronosporadestructor*,*Leveillulataurica*,*Sclortiumcepivorum*, *Botrytis allii*,*Alternariaporri*, was evaluated in vitro. Vital factors have proved their ability to inhibit pathogens under vivo conditions and gave the most effective biological factors, compared to the witness and were of highest effectiveness of bacteria *B. subtilis* against the fungus *peronospora destructor* where the rate of inhibition to 87.5%, while the lowest efficacy of *T. viride* against pathogenic fungi *Botrytis allii* did not exceed 64.08%. As for the protection of onion seeds from these pathogenic fungi under the nursery conditions, bacteria *B. subtilis* and *T. viride* gave the highest effect against *P. destructor* where the germination rate of seeds was 95% and *B. subtilis* against pathogen *S. cepivorum* has also reached the rate of germination to 95%. When the seedlings were grown, the fungus was shown to be highly effective. These organisms protected the root vegetation of the pathogenic fungi, compared to the witness. The high efficacy of *B. subtilis* was to protect the root vegetation against *P. destructor*, while *B. subtilis* was less effective against *S. cepivorum*.

Keywords: Biological control, *Bacillus subtilis*, *Trichodermaviride,* Onion diseases.

Effect of Garlic extract and Zinc on germination and growth of Tomato seeds

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Abstract

The effect of garlic extract and zinc was studied on the germination and growth of tomato seeds. The study included the use of garlic extract with 20, 40 and 60 mg / L concentrations and zinc solution (7H2O.ZnSO4) with (0.2, 0.4, 0.6, 0.8 mg / L) concentrations, in addition to, distilled water that was used as control.. The results showed that the garlic extract has inhibited the seed germination, the root length and the feather length of the tomatoes. The highest inhibition was observed at 60 mg / L concentration . Zinc solution has resulted in a significant increasing of the root length and feather of the tomatoes where the 0.8 mg / L concentration gave higher values, while germination rate decreased with the effect of zinc solution.

Keywords: garlic, zinc, tomatoes, germination and growth.

Taxonomic Study of Solanales order in Tuban Delta, Lahej Governorate, Yemen

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Abstract

This study deals with the Solanales order taxonomically in Delta Tuban, Lahej governorate, Yemen. The present study has revealed the existence of 21 species within 10 genera belonging to two families of the Solanales. The largest family is:Solanaceae (7 genera and 12 species). This family represents a high percentage 70% of the total genera and 57.14% of the total species of the studied area. The greatest genera recorded were:*Solanum* and*Ipomoea* (6 sp. for both), these two genera represent about 57.14% of the total species recorded in the studied area. The vegetative and reproductive characters proved that they are with high taxonomic values in identification and classification at the level of species, genera and families. The vegetative characters include habit and leaf features. The reproductive characters are those of: inflorescence, flower, calyx, corolla, as well as features of stigma. Type of fruit, its diameter and color, were with high taxonomic values in identification and classification at the level of some families, genera and species.

Keywords: Classification, Solanales Order, genera, species, Tuban delta, Lahej.

The influence of using the two methods of breeding (Doolittle and Miller) on the characteristics of the emerged queenBees

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Abstract

The study was conducted at the Nasser College of Agricultural Sciences, Aden University, under the Directorate of Houta / Lahj Governorate, on the Yemeni bee Strain Apismellifereyemenitica , during November 2017, in order to study the effect of the two methods of rearing Miller and Dolittle on the qualities of queens emerging in terms of number of queen cells; The number of queen virgins Newly emergences - the weight of the queen virgins Newly emergences , the size of the queen cells after the exit, the length of the body of the queens and the length and width of the Abdomen of the virgins queens).

The results showed the significant superiority of the Miller method on the Dolittle method in the number of queen cells consisting of the number of virgins, respectively, and the exit percentage, which was 17±1.15 queen cells , 14±1.15 queen virgin with percentages of 82.6±6.20 %, while significant superiority of the Miller method on the Dolittle method in the abdomen length which was 9.13± 0.24 mm, and the rest of the other studied traits did not have any significant differences between the methods of Miller and Dolittle.

Keywords: Honey bee, Methods of rearing queens, number of queen cells , morphometric characteristics.

Effect of cutting type and agriculture conditions on cuttings rooting of Fig, Mulberry and Pomegranate trees.

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Abstract

Deciduous fruits are considered one of the most important sources of food ingredients necessary to build the human body through the production of a wide variety of delicious fruits and are acceptable to the consumer. Cultivation of these fruits are spread in different climatic zones, but they thrive in the regions have cool weather in winter and moderate to warm in

summer. The research aims at studying stem cutting type (terminal, middle, basal) and cuttings incubation conditions (covered, exposed) on rooting and growth of deciduous cuttings (fig, pomegranate, mulberry) treated with constant concentration of indole butyric acid (IBA) @4000p.p.m. Stem cuttings of 15-20cm in length, 3-5mm in diameter were collected from trees 12 years old, planted in propagation beds containing a mixturey of soil and sand media (1:2). The research was conducted in factorial experiments design in completely random blocks (FRCBD) in two factors; the first was the incubation conditions which is in two levels, and the cutting type which is in three levels for the three kinds of fruits, each one was separated. Results indicated that Fig cutting gave the best values in rooting percentage, cutting height, number of shoots and number of leaves under covered conditions over the exposed conditions. In the same tend, the cutting a recorded a higher value under the covered conditions for blueberry and pomegranate in all the studied parameters irrespective of cutting type. Pomegranate basal cutting was superior in the number of roots and of leaves, whereas the middle cutting recorded higher values for cutting height and shoot numbers. The research demonstrated good response for these fruit trees by stem cuttings in availability facilities to be done by normal farmer.

Keywords: fig, mulberry, pomegranate, stem cutting, rooting ratio, IBA.

The effectiveness of some Fungicides for control of powdery mildew on sesame (*Sesamumindicum* L.) under field conditions.

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Abstract

This study aimed at evaluating the efficiency of three types of chemical and natural pesticides manufactured in controlling the severity of mildew disease on sesame caused by the fungus *Oidiumsesames* .

The results showed that the chemical pesticide (Decor)was ranked first with the ability to reduce the rate of severity of the incidence of mildew to 0.15 at the end of spraying , while this percentage increased by 91% in the treatment of the witness in the first season 2014. It was significantly higher than the natural insecticide Nimicidine 0.03 and did not differ significantly with pesticide Thiovent 80% ((Sulfur). In the second season of 2016, the pesticide reduced the severity of the disease to 10% at the end of spraying, while the ratio was increased by 86 % in comparison to control. It was significantly higher than pesticide nimicidine 0.03 and did not differ significantly with the pesticide Thiovent (80%).

The plants, treated with pesticide Decor , gave the highest productivity in the two seasons 2014 and 2016 at 789 kg/ha and 679 kg/ha and an average production of 734 kg/ha, while the

nemididine antibiotic extracted from the Netime tree did not show a significant effect in reducing the severity of infection of the seasons, compared to other pesticides, where the severity of infection 34% and 31% and gave productivity of 695 and 510 kg/ha and an average of 33% , and the average production of seeds 602.5 kg /ha (0.81 and 0.78), yielding 508 and 508 kg / ha, respectively, with an average incidence of 0.80 and an average yield of 457 kg / ha .

Keywords: sesame, powdery mildew, pesticides assessment, severity of infection, seed production.

The storability of Onion Baftaim improved -1 imported from three agricultural Governorates in Yemen

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Abstract

This study aimed at comparing of storability of onion Baftaim Improved-1 alworad, from three most important governorates in the Republic of Yemen, (Hadramout, Lahj and Abyan) for cultivation during the agricultural season 2017-2018 at Food Research and Post – harvest Center Khormaksar , Aden governorate for three to six months.

The results showed that the percentage of loss in the wet weight and the disease incidence and disease severity of onion rots increases with the duration of storage during the study period. Asignificant superiority was observed in the various indicators tested for onion Baftaim Improved-1 alworad from Hadramoutgovernorate where the percentage of weight loss during the study periods (three, six months) was8.00% 15.5% respectively the disease incidence of black rot was 5.88% 9.09% respectively and the disease severity of black rot was 2.35,4.55% respectively, And the disease incidence of bacterial soft rot was 1.96% 2.27% respectively, the disease severity of bacterial soft rot was 0.98,1.14% respectively, compared to the results recoded by onion from Lahj and Abyangovernorates which showed no significant ststistical differences.

Keywords: Onion crop(Baftaim Improved-1)، Curing ، Storage ، Black rot ، Soft rot.

Monitored Gelechiidae: Lepidoptera in the traps of pheromone times of appearance and numerical density Lahj Governorate Republic of Yemen.

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Abstract

A field experiment was carried out to Monitoring of the tomato leaf miner *Tutaabsoluta* to study the times of appearance and disappearance of the blight and the extent of its spread during the period from the beginning of April 2017 until the end of March 2018. Two sites were selected for this study, and the results of the pheromone traps suspended in both sites indicated that the insect existed during the year, but the number of them has increased and decreased based on effective environmental circumstance .The number of insects in April in both sites reached to 254 and 78 insect / per month, respectively. The number of insects decreased in May, June, July, August and September. The total number of insects in both sites increased in October to February, with the maximum number of insectsin both sites (5652 and 3110 insect / per month, respectively) and The insects decreased in activity slightly in March, where the insect numbers in both sites reaching to 5150 and 2440 insect / per month, respectively. The total number of insects detected at the first site during the study period was13142 insects, while the total number of insects detected at the second t site was (6462 insects).

Keywords: Monitoring of the tomato leaf miner *Tutaabsoluta,* times of appearance, numerical density, Lahj Governorate , - Al Yemen.

CHEMISTRY

Proximate analysis of four medicinal plants grown in Yafae-Yemen belonging to *Lamiaceae*/*Moraceae* Families

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Abstract

The present work gives view on proximate analysis, namely the content (%) of moisture, ash, non-dissolved ash in acid and dissolved ash in water, proteins, fats, fibers, carbohydrates and extractive values of four local medicinal plants grown in Yafae. Results showed that *Plectranthusambinicus* had the highest percentage of moisture, ash, non-

dissolved ash in acid and dissolved ash in water in comparison with other investigated plants. Moisture and total ash were found close to previous studies, while a non-dissolved ash in acid and dissolved ash in water have exceeded the ratio observed in other studies. *Dorstenia Foetida*plant was the most superior in its level of fat (reached 10.78%). Significant differences in protein levels appeared among our plants and the highest percentage of protein (% 4.24) was found in *D.Foetida* that agree with the observed value for *D. psilirus.*On the other hand, *Plectranthusambinicus* has exceeded protein level of what observed in the previous studies for the same plant. *Plectranthusasirensis* and *LavandulapubescensDecne* protein levels were less than that on *P. rotundifoliu* and *L. officinalis* plants. The level of carbohydrates in*Plectranthusasirensis*(4.59%) and *Plectranthusambinicus* (8.53%) found to be less than *P. mollis*and *P. esculentus* that belong to the same genera. In *LavandulapubescensDecne*, the ratio of carbohydrates was low compared with what was found in the previous studies for the same genera. For *Dorsteniafoetida* plant, the ratio of carbohydrates increased more than in what was observed in other studies. Our study concluded the order of extractive values as: *P. ambinicus*>*P. asirensis*>*D.Foetida*> *L. pubescensDecne*.

Keywords: Yafae Plants, Proximate Analysis, Medicinal P.

ENVIRONMENT

Environmental study of Marshesplants in the Hadramaut Coast

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Abstract

The study was conducted between May 2016-August 2017 to identify the vegetation cover in three salt marshes in the Coastal Hadhramout Governorateand the effect of environmental factors on the presence of plants**.** Randomly quadrats methods were used in the survey study for the plant distribution in the study aria which was recorded by three marshes (Umbeekha, Alaega and Boyish). The field survey showed that the vegetation cover in the salt marsh was: 82 species, belong to 60 genera and 29 families. There was similarities in the presence of genera and species for some plant families, but the genera and species of Asteraceae was more than the other families where its species was recorded by 11% and the genera by 10% . Whereas shrubs, by appearance, were more, recording by 50%.

Keywords: Marshes, Environment, plant species, Salinity.