Kafrelsheikh University
Postgraduate Studies & Research Sector

جامعة كفر الشيخ
Kafrelsheikh University

Kafrelsheikh University Prizes for Discretionary, Incentive and Published Research Articles in International Reviewed Journals

8th edition

2013-2014

Dear faculty members

It is our pleasure to express our congratulations to the authors of the papers published in the impacted international Journals, and I invite them with the rewarded colleagues for the incentive and discretionary University prizes to celebrate and receive their awards in the 8th annual university ceremony. Actually, we extend our hands to all researchers in the university and promise them that we will stand and support anyone who has the willing to conduct a useful and valuable research deals and contributes for solving the existing problems. Our university needs your efforts and contributions in order to satisfy the quality standards in education and research and occupy remarkable position among the world wide universities. Finally, I wish for all great success and more achievements to enhance the higher education in Egypt.

Prof. Dr. *Maged El-Kemary*

President, Kafrelsheikh University

Dear Colleagues

It's well known that the University Scientific Research is the backbone of any community development. So, the main objective of the University post graduate and research sector is inspiring their staffs who are able to invent and perform distinguished research proposals could compete globally.

Kafrelsheikh University will be aspiring, remarkable and could be ranked among highly recognized world Universities through the efforts of their honest personnel.

Congratulations for the rewarded colleagues the international scientific contribution, discretionary and incentive University prizes, hoping continuous illustrious achievement for them .

Prof. Dr. El Sayed Mohamed Hegazi

Vice-President of Postgraduate Studies & Researches

CONTENTS

DISCRETIONARY AWARDS

Prof. Dr. Nabil M.Mehanna

Name : Nabil M.Mehanna

Date of Birth : December 15,1949

Place of Birth : Banha, Egypt.

Nationality : Egyptian

Social Status : Married

Current Position : Professor - Dairy Sci. Department, Faculty of Agric., Kafr El-Sheikh University, Egypt.

Education :

- B.Sc Agric. (Dairy, Sci). Faculty of Agric., Alexandria University, Alexandria, Egypt, June 1971, General Grade Very Good with Honor Degree.
- M.Sc.Agric. (Dairy, Sci). Faculty of Agric., Tanta University, Kafr El- Sheikh, Egypt, 1975.
- Ph.D.Agric. (Dairy), Faculty of Agric., Tanta University, Kafr El-Sheikh, Egypt, 1981.

Professional Experience:

- Demonstrator - Dairy Sci.Department, Faculty of Agric., Tanta University, Kafr El-Sheikh, Egypt. (1972-1976)
- Assistant Lecturer - Dairy Sci. Department, Faculty of Agric., Tanta University, Kafr El-Sheikh, Egypt. (1976-1981).
- Lecturer - Dairy Sci. Department, Faculty of Agric., Tanta University, Kafr El-Sheikh , Egypt. (1981-1985).

Occupational History

- Associate Professor - Dairy Sci. Department, Faculty of Agric., Tanta University, Kafr El-Sheikh , Egypt.(1985-1989).
- Professor - Dairy Sci. Department, Fac.Agric., Tanta University, Kafr El-Sheikh, Egypt.(From 1989).
- Head of Dairy Sci.Dept.,Fac.Agric. Kafr El-Sheikh, Tanta Univ., (2002-2006).
- Vice-Dean for Education and Student Affairs, Fac.Agric.,Kafr El-Sheikh Univ., (Sep. 2006 –Aug2007).
- Dean of Fac. Agric., Kafr El-Sheikh Univ. (Aug 2007 –July 2010).
- Emeritus Prof (Aug . 2010 – till now) .

Other Activities

- Published over (85) papers in reviewed periodicals on different topics including milk proteins, technology and biochemistry of yoghurt and cheese, preservation and keeping quality of milk , milk coagulants.
- Published four text books concerning functional properties of milk proteins , nutritional anemia, packaging of food and milk products and dried milk and dairy products .

Address

Home : (3) Abd- Elwahid Fahmi St., Heliopolis, Cairo, Egypt.
Work : Fac.Agric., Kafr El-Sheikh Univ., Kafr El-Sheikh Egypt.

Email

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Phone Number

+20226364610 (**Home**)
+201227682883 (**Mobile**)
+2049102930 (**Office, Tel and Fax**)

Prof. Dr. Amal Abd El-Samea Baza

Name: Prof. Dr Amal Abd El-Samea Baza.
Date of Birth: 5 / 5 / 1953.
Current Profession: Emeritus professor of Mental Hygiene
Date of Employment: 25 / 9 / 2001.
General Specialization: Psychology.
Specific Specialization: Mental Hygiene.
Work Phone: 047 / 3223415.
Address: Tanta, Tharwat Riyad Street, Society Land.
Personal ID No.: 25305051702182.
Marital Status: Married.
Husband's Name: Kamal Mohamed Alam.

Academic Qualifications:

1 – A Bachelor of Science and Education with a general grade "Very Good" in 1975, Faculty of Education, Tanta.
2 – A Special Diploma in Education with a general grade "Very Good" in 1977, Faculty of Education, Tanta.
3 – A Master in Mental Hygiene with a general grade "Excellent" in 1981, Faculty of Education, Tanta.
4 – A Ph. D. in Mental Hygiene in 1986, Faculty of Education, Tanta.

Professional Gradation:

1 – A Demonstrator at the Educational Psychology Department according to the Decision No. 252 in 8 / 11 / 1978.
2 – An Assistant Lecturer at the Psychology Department (Mental Hygiene) in 12 / 10 / 1981.

3 – A Lecturer at the Psychology Department (Mental Hygiene) in 24 / 9 / 1986.
4 – An Associate Professor of Mental Hygiene in 31 / 10 / 1995.
5 – A Deputy of Psychology Department according to the Decision No. 268 in 26 / 3 / 1996.
6 – A Deputy of Mental Hygiene Department according to the Decision No. 377 in 28 / 4 / 1999.
7 – A Professor of Mental Hygiene according to the Decision No. 1481 in 2 / 10 / 2001; officially from 25 / 9 / 2001.
8 – A Head of Mental Hygiene Department according to the Decision No. 1573 in 31 / 10 / 2001 for three years.
9 – A Head of Mental Hygiene Department according to the Decision No. 1456 in 10 / 11 / 2004 for another three years; from 31 / 10 / 2004 to 20 / 8 / 2005.
10 – A Vice Dean of the Faculty Research and Post-graduate Studies according to the Decision No. 1067 in 7 / 8 / 2005.
11 – A Dean of the Faculty in 1 / 8 / 2009 for three years.
12 – A Deputy of Kindergarten Department according to the Decision No. 1998 in 26 / 3 / 1996
13 – A Model Mother of the Staff Female Members in 2008.
14 – Awarded the University Encouragement Prize in 2009.
15 – A Candidate for the Culture Higher Assembly Excellence Prize of Social Sciences by the University Council.

Professional and Academic Experiences in the Field of Development and Training:

- Training the female teachers of Special Education in the schools under the supervision of Education and Instruction.
- Conducting counseling studies at the Eastern Instructional Area for Secondary and Preparatory stage students.
- Giving courses of evaluation and development at the National Centre of Curricula Development and Exams.
- Executing the programs and studies related to students with special needs and Master and Ph. D. candidates, evaluating programs and systems and working at the Human Development Center.
- Evaluating projective tests.

Prof. Dr. Ahmed Ali El-Swak

Name	:	*Ahmed Ali El-Swak*
Position	:	Emeritus professor of Pathology
Date of birth	:	1-9-1953
Nationality	:	Egyptian
Marital status	:	Widower
Address	:	Faculty of Veterinary Medicine, Kafrelsheikh University
Present Employment	:	Emeritus professor and head of Pathology Department
Academic Qualifications	:	• B. Sc. Cairo University 1977 • M. Sc. Alex University 1982 • Ph. D. Alex University 1986
Previous Professional Position	:	- Demonstrator in Pathology Assiut University 1978. - Demonstrator in Pathology Alex University 1981. - Associate lecturer in Pathology Alex University 1982. - Lecturer in Pathology Alex University 1986. - Associate professor in Pathology Alex University 1990. - Associate professor in Pathology Tanta University 1992. - professor in Pathology Tanta University 1994. - Head of Department of Pathology Tanta University 1995.

- Vice Dean Of Faculty of Veterinary Medicine, Tanta University 1999.
- Vice Dean Of Faculty of Veterinary Medicine, Tanta University 2002.
- Head of Department of Pathology Tanta University 2005.
- Head of Department of Pathology Kafrelsheikh University 2007.
- Head of Department of Pathology Kafrelsheikh University 2010.
- Emeritus professor and head of Department of Pathology Kafrelsheikh University 2013-2014.

Other Professional Activities :

- External examiner in Veterinary Pathology.
- Member of the standing committee of Veterinary Pathology, supreme council of Egyptian Universities.
- Member of the editorial board of Egyptian Veterinary Journal of comparative Pathology, and Clinical Pathology.

Professional society membership

- Member of Egyptian society of Veterinary Pathology and Clinical Pathology.
- Member of Egyptian Veterinary Medical Association.

INCENTIVE AWARDS

Dr.Ismael Abdel Hafez Khatab

PERSONAL DATA

Name : Ismael Abdel Hafez Khatab

Address: Department of Genetics, Faculty of Agriculture,

Kafrelsheikh University, 33516, Egypt

E-mail ismael.khatab@yahoo.com ,

Web site: http://kfs.academia.edu/khatab

Qualifications:

1- B.Sc. Genetics (6.1996) Department of Genetics, Faculty of Agric, Kafr El Sheikh, Tanta University, **Egypt**

2- M.Sc. Genetics (12. 2000) Department of Genetics, Faculty of Agriculture, Kafr El Sheikh, Tanta University, **Egypt**

3- Ph.D Biology, Genetics (3.2008) Department of Biology, Faculty of Sciences, Kyushu University, **Japan**.

Achievements

I submitted 116 nucleotide sequences in NCBI (**National Center for Biotechnology Information**) with accession numbers EU441947 thought EU441983 and EU280809 thought EU280886. And from AB724403 thought AB725182

http://www.ncbi.nlm.nih.gov/nuccore/AB724403)

Awards:

1- Kafrelsheikh Univ., prize in scientific publication in 2009.

2- Research assistant in Dep., of Biology, Faculty of Sciences, Kyushu University, Japan 2004-2005.

3- PhD scholarship from Japanese government **(**MONBUKAGAKUSHO**)** to study PhD 2005- 2008

4- Scientific mission for 6 months in Institute of Genetic Resources, Faculty of Agriculture, Kyusyu University, Japan from **10/1/2013 to 10/7/2013**

Position Held:

1- From 1996 to 2001: Demonstrator in Department of Genetics, Faculty of Agriculture, Kafr El Sheikh, Tanta University, Egypt

2- From 2001 to 2008: Assistant lecturer in Department of Genetics, Faculty of Agriculture, Kafr El Sheikh, Tanta University, Egypt.

3- From 2008 – 2010 Assistant Prof., Biotechnology Department King Faisal University, Kingdom of Saudi Arabia

4- From 2008 ~ 2013 Lecturer in Department of Genetics, Faculty of Agriculture, **Kafrelsheikh University, Egypt.**

5- From Sep., , 2013 Associate professor Department of Genetics, Faculty of Agriculture, Kafrelsheikh University, Egypt**.**

Academic position

Head of Genetics Department, Faculty of Agriculture, Kafrelsheikh University, Egypt**.**

October, 2013 till now.

INTERNATIONAL SCIENTIFIC PUBLICATIONS AWARDS

No	Papers Title	Authors	Journal	Impact Factor
FACULTY OF AGRICULTURE				
1	Modification and Performance Evaluation of a Reciprocating Machine for Shelling Peanut	M. A. Helmy; A. Mitrroi; **Said Elshahat Abdallah;** M. A. Basiouny	**Ama-Agricultural Mechanization In Asia, Africa, And Latin America 2013 Vol. 44 No. 3**	**0.062**
2	Influence of Pad Configuration on Evaporative Cooling System Effectiveness Inside a Wind Tunnel	M. A. Basiouny; **Said Elshahat Abdallah**	**Ama-Agricultural Mechanization In Asia, Africa, And Latin America 2013 Vol. 44 No. 4**	**0.062**
3	Spatial variation of soil carbon and nitrogen pools by using ordinary Kriging method in an area of north Nile Delta, Egypt	Heba Elbasiouny; Mohamed Abowaly; **Adel Abu_Alkheir,** Abd_Allah Gad	**Catena Volume 113, February 2014, Pages 70–78**	**1.889**
4	Mode of action of Bacillus pumilus in suppressing Pseudoperonospora cubensis (Berk and Curt) Rostow, the pathogen of downy mildew of cucumber	**El-Gremi, S. M. A.;** Ghoniem, K. E.; Mohamed, H. A.; Kamel, S. M. H.	**Egyptian Journal Of Biological Pest Control 2013 Vol. 23 No. 1 Pp. 71-77 ISSN 1110-1768**	**0.159**
5	Bioethanol production from rice straw residues	**Elsayed B. Belal**	**Brazilian J. Of Microbiology 44,1,225-234(2013)**	**0.896**
6	Bioremediation of pendimethalin-contaminated soil	**Belal, B. Elsayed** and Mohamed F. El-Nady	**African Journal of Microbiology Research, Vol. 7(21), pp. 2574-2588, 21 May, 2013, ISSN 1996-0808**	**0.539**
7	Remediation Technologies Of Diazinon And Malathion Residues Aquatic System	Aly Derbalah, **Ahmed Ismail**	**Environ. Protection Engineering Ol. 34 No3, 2013**	**0.423**
8	Biological and fungicidal antagonism of *Sclerotium cepivorum* for controlling onion white rot disease	**Moustafa E. Shalaby,** Kamal E. Ghoniem, Mohamed A. El-Diehi	**Ann Microbiol (2013) 63:1579-1589**	**1.549**
9	Effect of Milk Yield on Economic Profitability of Holstein Friesian Cows under Intensive Production System in Egypt	**H. G. El-Awady**	**Pakistan Veterinary Journal , 33(1):23-26, 2013.**	**1.365**

10	Efficacy of some Botinical extracts against Trogoderma granarium in Wheat Grains with Toxicity Evaluation	**Aly Derbalah**	**The Sientific World Journal, Vol. 2012, 9 Pages.**	**1.730**
11	Monitoring of organophosphorus pestivides and remediation technologies of the frequently detected (chlorpyrifos) in drinking water	**Aly Derbalah,** Ahmed Ismail**,** Sabry Shaheen	**Polish Journal Of Chemical Technology, 15,3,25-34**	**0.444**
12	Phosphorus Sorption and Availability to Canola Grown in an Alfisol Amended with Various Soil Amendments	**Sabry Shaheen** & Christos Tsadilas	**Communications In Soil Science And Plant Analysis, 44:1-4, 89-103**	**0.420**
13	Infuence of Fly Ash and Sewage Sludge Application on Cadmium and Lead Sorption by an Acidic Alfsol	**S. M. SHAHEEN***;* and C. D. TSADILAS	***Pedosphere*** **20(4): 436{445, 2010 ISSN 1002-0160**	**1.232**
14	Utilization of Biosolids in Production of Bioenergy Crops I: Impact of Application Rate on Canola Biomass, Soil Properties, and Nutrient Availability	**Sabry Shaheen** , Christos Tsadilas .	**Communications In Soil Science And Plant Analysis, 44:1-4, 243-258, 2013.**	**0.420**
15	A review of the distribution coefficients of trace elements in soils: Influence of sorption system, element characteristics, and soil colloidal properties	**Sabry M. Shaheen,** Christos. Tsadilas, Jörg Rinklebe.	**Advances In Colloid And Interface Science 201–202 (2013) 43–56**	**8.120**
16	Heavy metals removal from aqueous solutions and wastewaters by using various byproducts	**Sabry M. Shaheen** ,Fawzy I. Eissa ,Khaled M. Ghanem, Hala M. Gamal El-Din, Fathia S. Al Anany.	**Journal Of Environmental Management 128 (2013) 514e521**	**3.245**
17	Utilization of Biosolids in Production of Bioenergy Crops II: Impact of Application Rate on Bioavailability and Uptake of Trace Elements by Canola	Christos D. Tsadilas **&** **Sabry M. Shaheen**	**Communications In Soil Science And Plant Analysis, 44:1-4, 259-274**	**0.420**
18	Distribution of Total and Ammonium Bicarbonate-DTPA-Extractable Soil Vanadium From Greece and Egypt and Their Correlation To Soil Properties	Ch*ristos D. Tsadilas* and **Sabry M Shaheen**	***Soil Science*** **, Volume 175, Number 11, November 2010**	**1.144**

19	Role of reactive oxygen species in suppression of the Barley Powdery Fungus, *Blumeria graminis* f.sp. *hordei* with benzothiadiazole and riboflavin	**Yaser M. Hafez** and N. A. El-Baghdady	**Egyptian Journal Of Biological Pest Control,23(1),2013,125-132**	**0.159**
20	Non-traditional Methods to Control Choclate Spot of Faba bean Caused by Botrytis fabae Sard under Greenhouse Condition	Derbalah, **G A El-Kot,** Y M Hafez, A F Omar	**Egyptian Journal Of Biological Pest Control,23(1),2013,137-144**	**0.159**
21	Fortification of rabbit diets with vitamin E or selenium affects growth performance, lipid peroxidation, oxidative status and immune response in growing rabbits	**T.A.Ebeid** , H.S.Zeweil , M.M.Basyony , W.M.Dosoky , H.Badry .	**Livestock Science155(2013)323–331**	**1.506**
22	Identification and Mechanism of Echinochloa crus-galli Resistance to Fenoxaprop-p-ethyl with respect to Physiologicaland Anatomical Differences	**Amany Hamza,** Aly Derbalah, andMohamed El-Nady.	**The Scientific World Journal Volume 2012,8 Pages.**	**1.730**
23	Non- traditional methods for Controlling Maize Late Wilt Disease Caused by Cephalosporium maydis	**Amany Hamza**, G A El-Kot,S. EL-Moghazy	**Egyptian Journal Of Biological Pest Control,23(1),2013,87-93**	**0.159**
24	Genetic Diversity Analysis of Some Barley Genotypes for Salt Tolerance Using SSR Markers	Samah A. Mariey, Maher Noaman Mohamed, **Ismail A. Khatab**, Antar N. El-Banna, Amro Farouk Abdel Khalek & Medhat Eraqy Al-Dinary	**Journal Of Agricultural Science; Vol. 5, No. 7; 2013 ISSN 1916-9752 E-ISSN 1916-9760**	**2.041**
25	Impact of Leaf/Bunch Ratio and Time of Application on Yield and Fruit Quality of Barhi Date Palm Trees (Phoenix dactylifera L.) Under Saudi Arabian Conditions	**Alaa El-Din K. Omar**, S. S. Soliman, and M. A. Ahmed.	**Journal Of Testing And Evaluation, Vol. 41, No. 5, 2013**	**0.384**
26	Storability and quality improvement of Washington Navel orange fruit (Citrus sinensis sbeck) by safe pre-harvest treatments	**Alaa El-Din K. Omara,** and El-Sayed A. Belal	**Biological Agriculture & Horticulture, Accepted: 25 Aug 2013,Pages 42-51, Volume 30, Issue 1, 2014**	**0.381**

27	Enhanced tolerance to drought and salt stresses in transgenic faba bean (Vicia faba L.) plants by heterologous expression of the PR10a gene from potato	Moemen S. Hanafy • **Antar El-Banna** • Heinz Martin Schumacher • Hans-Jorg Jacobsen • Fathi S. Hassan	**Plant Cell Rep (2013) 32:663–674,Issn:0721-7714**	**2.509**
28	Molecular and Horticultural Characteristics of *In vitro* Induced Tomato Mutants	Tarek A. Shalaby& **Antar El-Banna**	**Journal Of Agricultural Science; Vol. 5, No. 10; 2013**	**1.691**
29	Stem Fasciation In Cacti And Succulent Species – Tissue Anatomy, Protein Pattern And Rapd Polymorphisms	**A. N. El-Banna**, M. F. El-Nady, Y. H. Dewir and M. E. El-Mahrouk	**Acta Biologica Hungarica 64(3), Pp. 305–318 (2013)**	**0.593**
30	Mode of gene action, heterosis and inbreeding depression for yield and its components in tomato (Solanum lycopersicum L.)	**Tarek A. Shalaby**	**Scientia Horticultura 164 (2013) 540–543**	**1.527**
31	Phytoremediation of bauxite-derived red mud by giant reed	T. Alshaal • E´ . Domokos-Szabolcsy •L. Ma´rton • M. Czako´ • J. Ka´tai • P. Balogh • N. Elhawat • **H. El-Ramady** • M. Fa´ri	**Environ Chem Lett, Received: 21 February 2013 / Accepted: 7 March 2013 _ Springer-Verlag Berlin Heidelberg 2013**	**1.881**
32	Restoring Soil Ecosystems and Biomass Production of Arundo donax L. under Microbial Communities-Depleted Soil	T. Alshaal & É. Domokos-Szabolcsy & L. Márton & M. Czakó & J. Kátai & P. Balogh & N. Elhawat & **H. El-Ramady** & A. Gerőcs & M. Fári	**Bioenergy Research ISSN 1939-1234,2013**	**4.250**
33	Evaluation of the reproductive toxicity of chlorpyrifos methyl, diazinon and profenofos pesticides in male rats.	**Nour El-Hoda A. Zidan**	**International Journal Of Pharmacology 5(1):51-57,2009**	**1.503**

34	Synergistic Effect of Feeding *Aspergillus Awamori* and *Saccharomyces Cerevisiae* on Growth Performance in Broiler Chickens; Promotion of Protein Metabolism and Modification of Fatty acid Profile in the Muscle	**Ahmed A. Saleh**, Kuniok Hayashi and Akira Ohtsuka3	**J. Poult. Sci., 50: 242-250, 2013**	**0.684**
35	The Effect of Dietary Linseed Oil and Organic Selenium on Growth Performance and Muscle Fatty Acids in Growing Rabbits	**Ahmed A. Saleh,** Tarek A. Ebeid and Yahya Z. Eid	**Pak Vet J, 33(4): 450-454. ISSN: 0253-8318 (PRINT), 2074-7764 (ONLINE**	**1.365**
36	Induction of Systemic Resistance against Cucumber mosaic virus in Arabidopsis thaliana by richoderma asperellum SKT-1	**Mohsen Mohamed Elsharkawy,** Masafumi Shimizu, Hideki Takahashi, Kouichi Ozaki and Mitsuro Hyakumachi	**Plant Pathol. J. 29(2) : 193-200 (2013), Issn 2093-9280**	**0.667**
37	Optimization of methyl parathion biodegradation and detoxification by cells in suspension or mobilized on tezontle expressing the opd gene	**Mohamed Abdel-Razek Saleh Abdel-Razek**, Jorge. Folch-Mallol, Lucía Perezgasg-Ciscomani, Enrique Sánchez-Salinas , Maria. Castrejón-Godínez & M. Laura Ortiz-Hernández	**Journal Of Environmental Science And Health, Part B (2013) 48, 449–461, ISSN: 0360-1234**	**1.211**
38	MPPT techniques for photovoltaic applications	**Mohamed A. Eltawil,** Zhengming Zhao	**Renewable And Sustainable Energy Reviews 25 (2013) 793–813**	**6.018**

FACULTY OF VETERINARY MEDICINE				
39	Expression and Sequence of CYP1A1 in Camel	Wageh SOBHY DARWISH, Alaa Eldin MORSHDY, Yoshinori IKENAKA, **Zein Shaban Ibrahim**, Shoichi FUJITA and Mayumi ISHIZUKA.	**The Journal Of Veterinary Medical Science Accepted Date: 15 Sep 2009**	**0.876**
40	Association of Vitamin D Receptors Genes Polymorphism (*apa 1, and Taq 1)* with type 1 diabetes in Saudi Arabia (KSA)	El-Sayed El-Badrawy, **Zein S.Ibrahim**, Amal Abedel Aziz, Mohamed M. Kamel, Gaber M Shehab, and Ayman Kamal	**Life Science Journal 2013; 10 (3)**	**0.165**
41	Primary Isolation And Characterization Of Spring Viremia Of Carp Virus (Svcv) From Cultured Fish In Kafr El-Shikh Governorate	**M.S.M. Gado** ; Talaat T. Saad and Amira Alaa El-Dein	**Virus Research 117 (2010) 66–75**	**2.941**
42	Detection of Genetic Diversity in Campylobacter jejuni Isolated from a Commercial Turkey Flock Using flaA Typing, MLST Analysis and Microarray Assay	**Hosny El-Adawy,** Helmut Hotzel, Herbert Tomaso, Heinrich Neubauer, Eduardo N. Taboada, Ralf Ehricht, Hafez M. Hafez	**Plos One February 2013, Volume 8, Issue 2 ,E51582**	**4.092**
43	Determination of Antimicrobial Sensitivities of *Campylobacter jejuni* Isolated from Commercial Turkey Farms in Germany	**Hosny El-Adawy,** Helmut Hotzel, Sabine Düpre, Herbert Tomaso, Heinrich Neubauer, and Hafez M. Hafez	**Avian Diseases 56(4):685-692. 2012**	**1.734**
44	Morphologic identification of a new *Sarcocystis* sp. in the common moorhen (*Gallinula chloropus*) (Aves: Gruiformes: Rallidae) from Brolos Lake, Egypt	Ahmed El-Morsey, **Mahmoud El-Seify,** Abdel-Razik Y. Desouky, Mohamed M. Abdel-Aziz, Hiroki Sakai, Tokuma Yanai	**Parasitology Research January 2014, Volume 113, Issue 1, Pp 391-397**	**2.852**
45	Molecular characterization of antimicrobial resistance in Gram-negative bacteria isolated from bovine mastitis in Egypt	**Ashraf M. Ahmed** and Tadashi Shimamoto	***Microbiol Immunol* 2011; 55: 318–327**	**1.545**
46	Genetic analysis of multiple antimicrobial resistance in *Salmonella* isolated from diseased broilers in Egypt	**Ashraf M. Ahmed** and Tadashi Shimamoto	***Microbiol Immunol* 2012; 56: 254–26**	**1.545**
47	Molecular characterization of multidrug-resistant avian pathogenic Escherichia coli isolated from septicemic broilers	**Ashraf M. Ahmed**, Toshi Shimamoto, Tadashi Shimamoto,	**International Journal Of Medical Microbiology 303 (2013) 475– 483**	**4.537**

48	A Novel Retron of *Vibrio parahaemolyticus* Is Closely Related to Retron-Vc95 of *Vibrio cholerae*	Toshi Shimamoto, **Ashraf M. Ahmed**, and Tadashi Shimamoto	**Journal of Microbiology (2013) Vol.51, NO. 3,pp.323-328**	**1.276**
49	Isolation and molecular characterization of Salmonella enterica,Escherichia coli O157:H7 and Shigella spp. from meat and dairy products in Egypt	**Ashraf M. Ahmed** , Tadashi Shimamoto ,	**International Journal of Food Microbiology 168–169 (2014) 57–62**	**3.425**
50	Bmp4 regulates chick Ebf2 and Ebf3 gene expression in somite development	**Mohammed A. El-Magd**, Steve Allen, Imelda McGonnell, Anthony Otto and Ketan Patel	**Development, Growth & Differentiation Volume 55, Issue 8, pages 710–722, October 2013**	**2.397**
51	Novel polymorphisms of the IGF1R gene and their association with average daily gain in Egyptian buffalo (Bubalus bubalis)	**M.A. El-Magd** , H.E. Abbas, A.M. El-kattawy, A. Mokhbatly	**Domestic Animal Endocrinology 45 (2013) 105–110**	**2.377**
52	Antifungal action of *Pichia anomala* against aflatoxigenic *Aspergillus flavus* and its application as a feed supplement	Ahmed A Tayel, **Wael F El-Tras**, Shaaban H.Moussaa, andMoustafa A El-Agamy.	**J Sci Food Agric ,Volume 93, Issue 13, pages 3259–3263, October 2013**	**1.759**
53	Middle East Respiratory Syndrome (MERS) coronavirus eroprevalence in domestic livestock in Saudi Arabia, 2010 to 2013	**M G Hemida**, R A Perera, P Wang, M A Alhammadi, L Y Siu, M Li, L L Poon, L Saif, A Alnaeem , M Peiris	**Eurosurveillance ,2013: Volume 18/ Issue 50 Article 5**	**6.153**
54	Histopathological findings of the kidney Trematoda *Paratanaisia* spp. (Digenea: Eucotylidae) in cattle egret (*Bubulcus ibis*)	**Walied Abdo;** Khaled Sultan	**Rev. Bras. Parasitol. Vet., Jaboticabal, v. 22, n. 2, p. 312-313, abr.-jun. 2013**	**0.722**
55	Carbocyclic thymidine derivatives efficiently inhibit Plasmodium falciparum thymidylate kinase (PfTMK)	Aya Kato , Yuri Yasuda , Yoshiaki Kitamur **, Mahmoud Kandeel** , Yukio Kitad	**Parasitology International 61 (2012) 501–503**	**2.302**

56	Macromolecular interactions of spectinomycin with Bovine serum albumin	**Mahmoud Kandeel** • Mohamed Nabih • Yukio Kitade	**J Therm Anal Calorim (2013) 111:1737–1741**	**1.982**
57	The Binding Interactions of the Macrolide Endectocide Ivermectin with the Antibiotics Ampicillin, Chloramphenicol and Tetracycline HCl	**M. Kandeel,** W. Elgazar, And Y. Kitade.	**Indian Journal Of Pharmaceutical Sciences, ISSN 0250_474X, NOVEMBER_DECEMBER 2012, 74_6_: 487_598**	**0.338**
58	Computational Analysis of siRNA Recognition by the Ago2 PAZ Domain and Identification of the Determinants of RNA-Induced Gene Silencing	**Mahmoud Kandeel,** Yukio Kitade.	**Plos One February 2013 ,Volume 8 , Issue 2 ,**	**4.092**
59	Synthesis of carbocyclic pyrimidine nucleosides and their inhibitory activities against Plasmodium falciparum thymidylate kinase	Yoshihiro Noguchi , Yuri Yasuda , Makoto Tashiro , Tadashi Kataoka , Yoshiaki Kitamura , **Mahmoud Kandeel** , Yukio Kitade	**Parasitology International 62 (2013) 368–371**	**2.302**
60	Current And Future Asthma Therapies	**M. Kandeel**, M. Balaha, N. Inagaki and Yukio Kitade.	**Drugs Of Today 2013, 49(5): 325-339**	**1.277**
61	In silico molecular docking analysis of the human Argonaute 2 PAZ domain reveals insights into RNA interference	**Mahmoud Kandeel** • Yukio Kitade	**J Comput Aided Mol Des (2013) 27:605–614**	**3.386**
62	Chelating efficiency and mechanisms of interaction of some toxic and biologically important cations with EDTA by isothermal titration calorimetry	**Mahmoud Kandeel,** Tarek Yosef, Mohammed Al-Julaifi, Abdulwahed AL-Rizki and Yukio Kitade	**Life Science Journal 2013;10(4)**	**0.165**
63	Thermodynamics and molecular bases of the interaction of ampicillin and streptomycin at their binding sites of bovine serum albumin	Mahmoud Kandeel • Remi Nakashima • Yoshiaki Kitamura • Mohamed Balaha • **Magdy Abdelaziz** • Yukio Kitade	**J. Therm Anal Calorim (2013) 112:945–952**	**1.982**

FACULTY OF ENGINEERINGY				
64	Swirling gas–solid flow through pneumatic conveying dryer	K.A. Ibrahim , **Mofreh H. Hamed ,** W.A. El-Askary , Samy M. El-Behery	**Powder Technology 235 (2013) 500–515**	**2.024**
65	Eulerian–Lagrangian Simulation and Experimental Validation of Pneumatic Conveying Dryer	Samy M. El-Behery , W. A. El-Askary , **Mofreh H. Hamed** & K. A. Ibrahim	***Drying Technology, 31: 1374–1387, 2013***	**1.814**
66	FEA of electromagnetic forming using a new coupling algorithm	Ali M. Abdelhafeeza,, **M.M. Nemat-Allab** and M.G. El-Sebaiea	**International Journal Of Applied Electromagnetics And Mechanics 42 (2013) 157–169**	**0.384**
67	The Performance of Different Sand Beds Solar Stills	**Z. M. Omara** & A. E. Kabeel	***International Journal Of Green Energy*, 11: 240–254, 2014**	**2.069**
68	A new hybrid desalination system using wicks/solar still and evacuated solar water heater	**Z.M. Omara ,** Mohamed A. Eltawil , ElSayed A. ElNashar	**Desalination 325 (2013) 56–64**	**3.041**
69	Hybrid of solar dish concentrator, new boiler and simple solar collector for brackish water desalination	**Z.M. Omara ,** Mohamed A. Eltawil	**Desalination 326 (2013) 62–68**	**3.041**
70	Enhancing the stepped solar still performance using internal reflectors	**Z.M. Omara,** A.E. Kabeel ,M.M. Younes	**Desalination 314 (2013) 67–72**	**3.041**
71	Enhancing the stepped solar still performance using internal and external reflectors	**Z.M. Omara,** A.E. Kabeel , M.M. Younes	**Energy Conversion And Management,78(2014)876-881**	**2.775**
72	Enhancement of modified solar still integrated with external condenser using nanofluids: An experimental approach	Kabeel, A.E. Omara, Z.M.**; Essa, F.A.**	**Energy Coversion And Management Volume 78,February 2014,Pages 493-498**	**2.775**

73	Multiobjective Real-Coded Genetic Algorithm for Economic/Environmental Dispatch Problem	**Ragab A. El Sehiemy** Mostafa Abdelkhalik El-Hosseini, Abou Ella Hassanien	**Studies In Informatics And Control, ISSN 1220-1766, Vol. 22 (2), Pp. 113-122, 2013.**	**0.578**
74	Multi-objective fuzzy-based procedure for enhancing reactive power management	**El Sehiemy, R.** ; Abou El-Ela, A. ; Shaheen, A	**Generation, Transmission & Distribution, Volume:7 , 1453 – 1460, 2013**	**1.414**
75	Wide-area Automatic Voltage Regulators Controller for Damping Oscillations Based on Inter-area Modes	**Hany A. Abdelsalam** And Almoataz Y. Abdelaziz	**Electric Power Components And Systems, 41:912–925, 2013**	**0.650**
76	Mapping the resonance wavelengths of MWCNT as an optical nanoantenna	**Sh. G. El-sherbiny** · S. Wageh ·S. M. Elhalafawy · A. A. Sharshar	**Opt Quant Electron, Received: 28 May 2013 / Accepted: 3 October 2013**	**0.987**
77	Performance Improvement of a Photovoltaic Pumping System Using a Synchronous Reluctance Motor	**M. NABIL**, S. M. ALLAM, and E. M. RASHAD	**Electric Power Components And Systems, 41:447–464, 2013, ISSN: 1532-5008 Print/1532-5016 Online**	**0.650**
78	Formation of an amorphous phase and its crystallization in the immiscible Nb–Zr system by mechanical alloying	Al-Aqeeli, N. Suryanarayana, C. ; **Hussein, M.A.**	**Journal Of Applied Physics, (Volume:114 , Issue: 15, Page(S): 153512 - 153512-4 0021-8979**	**2.210**
FACULTY OF SCIENCE				
79	Nano structured mesoporous Au/TiO2 for photocatalytic degradation of a textile dye: the effect of size similarity of the deposited Au with that of TiO2 pores	Ali Bumajdad Metwally, Madkour Yasser Abdel-Moneam and **Maged El-Kemary**	**J Mater Sci (2014) 49:1743–1754**	**2.163**
80	Lagoons of the Nile delta, Egypt, heavy metal sink: With a special reference to the Yangtze estuary of China	Jiawei Gu, **Alaa Salem,** Zhongyuan Chen	**Estuarine, Coastal And Shelf Science 117 (2013) 282e292**	**2.324**
81	Spectroscopic and Solution Studies of Some Transition Metal Complexes of New 4-Hydroxy Coumarin Semi- and Thiosemicarbazone Complexes	Aisha . Mosa • **Mohamed M. Ibrahim** • Sharah A. Aldhlmani	**J Solution Chem (2013) 42:2364–2383**	**1.415**

82	Syntheses, characterization, and SOD activity studies of barbital-based nickel(II) complexes with different chelating amines: The X-ray crystal structures of Barb-H and [Ni(Barb)2(en)2] (Barb = 5,5-diethylbarbiturate)	**Mohamed M. Ibrahim** , Gaber A.M. Mersal , Salih Al-Juaid, Samir A. El-Shazly .	**Journal of Molecular Structure 1056–1057 (2014) 166–175**	**1.634**
83	Investigation of Cationic Surfactants and Sulfonamides and Their Nanoparticles as Biocides Against Sulfur Reducing Bacteria in the Petroleum Industry	Salwa M. I. Morsyand **Mohamed M. Ibrahim**	**Synthesis And Reactivity In Inorganic, Metal-Organic, And Nano-Metal Chemistry, 44:530–536, 2014**	**0.521**
84	Spectroscopic, electrochemical, and alkylation reactions: tert-Butyl N-(2-mercaptoethyl)carbamate copper(II) and nickel(II) complexes as structural mimics for the active site of thiolate-alkylating enzymes	**Mohamed M. Ibrahim** , Gaber A.M. Mersal , Nagi El-Shafai , Abdel-Motaleb M. Ramadan , Mohamed M. Youssef	**Spectrochimica Acta Part A: Molecular And Biomolecular Spectroscopy,Vol.,120.P p.574-584,2014.**	**1.977**
85	Spectroscopic, Electroanalytical, and Hydrolytic-Like Activities of Bis(2-picoly)Glycine-Based Zinc(II) and Copper(II) Complexes	**Mohamed M. Ibrahim**, *and Gaber A. M. Mersal*	**Int. J. Electrochem. Sci., 8 (2013) 1328 - 1339**	**3.729**
86	Voltammetric Studies of Lead at a New Carbon Paste Microelectrode Modified with N(2-isopropylphenyl)-2-thioimidazole and its Trace Determination in Water by Square Wave Voltammetry	Gaber A. M. Mersal, and **M. M. Ibrahim**	**Int. J. Electrochem. Sci., 8 (2013) 5944 - 5960**	**3.729**
87	LS model on electro–magneto–thermoelastic response of an infinite functionally graded cylinder	Ibrahim A. Abbas , **Ashraf M. Zenkour** •	**Composite Structures 96 (2013) 89–96**	**2.240**
88	Bending Of Fgm Plates By A Simplified Four-Unknown Shear And Normal Deformations Theory	**Ashraf M. Zenkour**	**International Journal Of Applied Mechanics Vol. 5, No. 2 (2013) 1350020 (15 Pages)**	**1.483**
89	Thermoelastic Bending Response Of Angel-Ply Composite Plates Resting On Elastic Foundations	**Ashraf M. Zenkour** and Ibrahim A. Abbas.	***Advanced Composites Letters, Vol. 22, Iss. 2, 2013***	**0.432**
90	On the simple and mixed first-order theories for functionally graded plates resting on elastic foundations	**A.M. Zenkour** • A.F. Radwan	**Meccanica (2013) 48:1501–1516**	**1.747**
91	Axiomatic/asymptotic evaluation of multilayered plate theories by using single and multi-points error criteria	Daoud S. Mashat, Erasmo Carrera , **Ashraf M. Zenkour**, Sadah A. Al Khateeb	**Composite Structures 106 (2013) 393–406**	**2.231**

92	Bending of cross-ply laminated plates resting on elastic foundations under thermo-mechanical loading	**A. M. Zenkour** • M. N. M. Allam • A. F. Radwan	**Int J Mech Mater Des (2013) 9:239–251**	**0.517**
93	A simple four-unknown refined theory for bending analysis of functionally graded plates	**Ashraf M. Zenkour**	**Applied Mathematical Modelling 37 (2013) 9041–9051**	**1.706**
94	The effect of fractional thermo elasticity on a two dimensional problem of a mode I crack in a rotating fiber-reinforced Thermo elastic medium	Ahmed E. Abou elregal and **Ashraf M. Zenkour**	**Chin. Phys. B Vol. 22, No. 10 (2013) 108102**	**1.376**
95	Analysis of Sandwich Plates by Generalized Differential Quadrature Method	A. J. M. Ferreira, E. Viola, F. Tornabene, N. Fantuzzi**, and A.M. Zenkour**	**Hindawi Publishing Corporation Mathematical Problems In Engineering Volume 2013, Article Id 964367, 12 Pages**	**1.383**
96	Natural Frequencies of Shear Deformable Plates by Polyharmonic Splines	A. J. M. Ferreiraand **A.M. Zenkour**	**Hindawi Publishing Corporation Journal Of Applied Mathematics Volume 2013, Articleid 284208, 7 Pages**	**0.834**
97	Bending analysis of functionally graded sandwich plates using a simple four-unknown shear and normal deformations theory	**Ashraf M Zenkour**	**Journal Of Sandwich Structures And Materials 15(6) 629–656**	**0.561**
98	Analysis of Laminated Shells by Murakami's Zig-Zag Theory and Radial Basis Functions Collocation	D. A. Maturi,1 A. J. M. Ferreira, **A. M. Zenkour, and** D. S. Mashat	**Hindawi Publishing Corporation Journal Of Applied Mathematics Volume 2013, Article Id 123465, 14 Pages**	**0.834**
99	Charge Dynamics in A Donor–Acceptor Covalent Organic Framework with Periodically Ordered Bicontinuous Heterojunctions	Shangbin Jin, Xuesong Ding, Xiao Feng, Mustafa Supur, Ko Furukawa, Seiya Takahashi, Matthew Addicoat, **Mohamed E. El-Khouly,** Toshikazu Nakamura, Stephan Irle, Shunichi Fukuzumi, Atsushi Nagai, and Donglin Jiang	**Angew. Chem. Int. Ed. 2013, 52, 2017 – 2021**	**13.734**

100	Photosynthetic Antenna-Reaction Center Mimicry with a Covalently Linked Monostyryl Boron-Dipyrromethene–Aza-Boron-Dipyrromethene–C60 Triad	Wen-Jing Shi, **Mohamed E. El-Khouly**, Kei Ohkubo, Shunichi Fukuzumi, and Dennis K. P. Ng.	**Chem. Eur. J. 2013, 19, 11332 – 11341**	**5.925**
101	A Charge-Stabilizing, Multimodular, Ferrocene–Bis (triphenylamine)–Zincporphyrin–Fullerene Polyad	Channa A. Wijesingh, **Mohamed E. El-Khouly**, Melvin E. Zandler, Shunichi Fukuzumi, and Francis D_Souza	**Chem. Eur. J. 2013, 19, 9629 – 9638**	**5.925**
102	Excitation-Wavelength-Dependent, Ultrafast Photoinduced Electron Transfer in Bisferrocene/BF2-Chelated-Azadipyrromethene/Fullerene Tetrads	Venugopal Bandi,,**Mohamed E. El-Khouly**, Kei Ohkubo,Vladimir N. Nesterov, Melvin E. Zandler, ShunichiFukuzumi, and Francis D_Souza	**Chem. Eur. J. 2013, 19, 7221 – 7230**	**5.831**
103	Synthesis and fast electron-transfer reactions of fullerene–carbazole dendrimers with short linkages	**Mohamed E. El-Khouly**, Sang-Ho Lee,b Kwang-Yol Kay and Shunichi Fukuzumi	***New J. Chem.*, 2013, 37, 3252--3260**	**2.920**
104	Silicon phthalocyanine-azobenzene-[60]fullerene light harvesting pentad: synthesis, characterization and electron transfer reaction studied by laser flash photolysis	**Mohamed E. El-Khouly**, Jong-Hyung Kimb, Kwang-Yol Kay and Shunichi Fukuzumi	***J. Porphyrins Phthalocyanines* 2013; 17: 1055–1063**	**1.433**
105	Effect of Dual Fullerenes on Lifetimes of Charge-Separated States of Subphthalocyanine-Triphenylamine-Fullerene Molecular Systems	**Mohamed E. El-Khouly**, Sun Hee Shim,§ Yasuyuki Araki, Osamu Ito, and Kwang-Yol Kay	***J. Phys. Chem. B* 2008, *112*, 3910-3917**	**3.696**
106	Photoinduced Processes of Subphthalocyanine–Diazobenzene–Fullerene Triad as an Efficient Excited Energy Transfer System	Jong-Hyung Kim, **Mohamed E. El-Khouly**, Yasuyuki Araki, Osamu Ito, and Kwang-Yol Kay	**Chemistry Letters Vol.37, No.5 (2008)**	**1.594**
107	Solution-Processed Bulk Heterojunction Solar Cells with Silyl End-Capped Sexithiophene	Jung Hei Choi, **Mohamed E. El-Khouly**, Taehee Kim, Youn-Su Kim, Ung Chan Yoon,Shunichi Fukuzumi, and Kyungkon Kim.	**Hindawi Publishing Corporation International Journal Of Photoenergy Volume 2013, Article Id 843615, 9 Pages**	**2.663**

108	The use of mercury as a supplementary inner shielding material for low-background gamma-ray spectrometry	A. Al-Sharkawy, **T. Sharshar** and H.M. Badran	**Journal Of Instrumention Received: March 15, 2013 Revised: May 15, 2013 Accepted: June 20, 2013 Published: July 19, 2013**	**1.869**
109	Evaluation of some pollutant levels in environmental samples collected from the area of the new campus of Taif University	**Taher Sharshar**, H. Ebrahim Hassan,, Hassan A. Aridad,, Abdulkadir Aydarous, Salih A. Bazaid and Mamdouh A. Ahmed	**Isotopes In Environmental And Health Studies, 2013 Vol. 49, No. 1, 132–151**	**0.900**
110	Study of transport properties and conduction mechanism of pure and compositeresorcinol formaldehyde aerogel doped with Co-ferrite	S.M. Attiaa, **T. Sharshar, A.R**. Abd-Elwahed, A. Tawfikd	**Materials Science And Engineering B 178 (2013) 897– 910**	**1.846**
111	Physicochemical impact studies of gamma rays on ‘‘aspirin’’ analgesics drug and its metal complexes in solid form: Synthesis, spectroscopic and biological assessment of Ca(II), Mg(II), Sr(II) and Ba(II) aspirinate complexes	Moamen S. Refat **T. Sharshar**, Khaled M. Elsabawy, Zein K. Heiba	**Journal Of Molecular Structure 1047 (2013) 37–47**	**1.634**
112	Effect of c-rays irradiation on Mn–Ni ferrites: Structure, magnetic properties and positron annihilation studies	H.E. Hassan , **T. Sharshar,** M.M. Hessien, O.M. Hemeda	**Nuclear Instruments And Methods In Physics Research B 304 (2013) 72–79**	**1.266**
113	Chemical and Physical Studies on the Reaction Mechanism of Charge-Transfer Complexes Between Narcotic Drugs and Electronic Acceptors	Abdel Majid A. Adam, Mahmoud Salman, **T. Sharshar**, Moamen S. Refat	**Int. J. Electrochem. Sci., 8 (2013) 1274 - 1294**	**3.729**
114	Scattering from Layered-Structures with Rough Boundaries	Samira Tadros Bishay , **Osama M. Abo-Seida** & Hanan Shehata Shoeib	**Electromagnetics, 33:491–506, 2013, Issn: 0272-6343 Print/1532-527x Online**	**0.789**
115	Wave propagation in air from a vertical magnetic dipole located in three roughlayered structures	S. T. Bishay , **O. M. Abo-Seida** & H. S. Shoeib	**Journal of Electromagnetic Waves and Applications, 2013**	**2.965**

116	Synthesis and characterization of low bandgap p-conjugated copolymers incorporating 4,7-bis(3,30/4,40-hexylthiophene-2-yl) benzo[c] [2,1,3] thiadiazole units for photovoltaic application	Nabiha I. Abdo, abd Jamin Ku, **Ashraf A. El-Shehawy**, Hee-Sang Shim, Joon-Keun Min, Ahmed A. El-Barbary,d Yun Hee Jang and Jae-Suk Lee	**J. Mater. Chem. A, 2013, 1, 10306–10317**	**6.108**
117	Nickel oxide nanoparticles: Synthesis and spectral studies of interactions with glucose	M. El-Kemary n, N.Nagy,**I.El-Mehasseb**	**Materialsscienceinsemiconductorprocessing16(2013)1747–1752**	**1.338**
118	Antifungal activity of prenylated flavonoids isolated from Tephrosia apollinea L. against four phytopathogenic fungi	Mohamed I. Ammar, **Gomah E. Nenaah,** Abul Hamed H. Mohamed	**Crop Protection 49 (2013) 21e25**	**1.402**
119	Antimicrobial activity of Calotropis procera Ait. (Asclepiadaceae) and isolation of four flavonoid glycosides as the active constituents	**Gomah Nenaah**	**World J Microbiol Biotechnol (2013) 29:1255–1262**	**1.532**
120	Potential of using flavonoids, latex and extracts from Calotropis procera (Ait.)as grain protectants against two coleopteran pests of stored rice	**Gomah E. Nenaah**	**Industrial Crops And Products 45 (2013) 327– 334**	**2.468**
121	Molecular diagnostic alterations in squamous cell carcinoma of the head and neck and potential diagnostic applications	Jennifer L Hunt, Leon Barnes, James S Lewis, **Magdy E Mahfouz,** Pieter J Slootweg, Lester D R Thompson, Antonio Cardesa, Kenneth O Devaney	**Eur Arch Otorhinolaryngol,2013 Published Online 07 March**	**1.458**
122	Prevalence and characterization of Cryptosporidium spp. in dairy cattle in Nile River delta provinces, Egypt	**Said Amer**, Shereif Zidan, Haileeyesus Adamu, Jianbin Ye, Dawn Roellig, Lihua Xiao, Yaoyu Feng	**Experimental Parasitology 135 (2013) 518–523**	**2.154**
123	Periparturient transmission of Cryptosporidium xiaoi from ewes to lambs	Jianbin Ye, Lihua Xiao, Yuanfei Wanga, Lin Wang, **Said Amer,** Dawn Roellig, Yaqiong Guo, Yaoyu Feng	***Veterinary Parasitology 197 (2013) 627– 633***	**2.579**
124	Occurrence of human-pathogenic Enterocytozoon bieneusi, Giardia duodenalis and Cryptosporidium genotypes in laboratory macaques in Guangxi, China	Ye J, Xiao L, Li J, Huang W, **Amer S,** Guo Y, Roellig D, Feng Y.	**Parasitology International 2013 Oct 21.**	**2.302**

125	Patterns of polymorphism and divergence in the VP1 gene of enterovirus 71 circulating in the Asia-Pacific region between 1994 and 2013	Jun-Song Wu, Na Zhao, Hao Pan, Cheng-Min Wang, Bin Wub, Hong-Mei Zhang, Hong-Xuan Heb, Dan Liub, **Said Amer,** She-Lan Liuf	**Journal Of Virological Methods 193 (2013) 713– 728**	**1.900**
126	Epidemiological, clinical and viral characteristics of fatal cases of human avian influenza A (H7N9) virus in Zhejiang Province, China	Shelan Liu, Jimin Sun, Jian Caia, Ziping Miao, Miaogui Lu, Shuwen Qin, Xiaoxiao Wang, Huakun Lv, Zhao Yu, **Said Amer,** Chengliang Chaia	**Journal Of Infection (2013) 67(6):595-605.**	**4.126**
127	Protective efficacy of PLGA microspheres loaded with divalent DNA vaccine encoding the ompA gene of Aeromonas veronii and the hly gene of Aeromonas hydrophila in mice	Shanshan Gaoa, N Zhaoa, **Said Amer,** Mingming Qian, Mengxi Lv,Yuliang Zhao, Xin Su, Jieying Caoa, Hongxuan He, Baohu Zhao	**Vaccine 31 (2013) 5754– 5759**	**3.766**
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130	Buckling and free vibration of exponentially graded sandwich plates resting on elastic foundations under various boundary conditions	**Mohammed Sobhy**	**Composite Structures 99 (2013) 76–87**	**2.240**
131	Dynamic bending response of thermoelastic functionally graded plates resting on elastic foundations	A.M. Zenkour, **Mohammed Sobhy**	**Aerospace Science And Technology 29 (2013) 7–17**	**0.983**
132	Nonlocal elasticity theory for thermal buckling of nanoplates lying on Winkler– Pasternak elastic substrate medium	A.M.Zenkour , **Mohammed Sobhy**	**Physicae53(2013)251–259**	**1.532**

133	Small scale effect on hygro-thermo-mechanical bending of nanoplates embedded in an elastic medium	Ebraheem O. Alzahrani , Ashraf M. Zenkour ,**Mohammed Sobhy**	**Composite Structures 105 (2013) 163–172**	**2.240**
134	Thermo mechanical bending and free vibration of single-layered graphene sheets embedded in an elastic medium	**Mohammed Sobhy**	**Physica E 56 (2014) 400–409**	**1.533**
135	Decomposition dynamics of Phragmites australis litter in Lake Burullus, Egypt	**Ebrahem M. Eid,** Kamal H. Shaltout And Yassin M. Al-Sodany	**Plant Species Biology (2014) 29, 47–56**	**1.283**
136	Demography of *Ipomoea carnea*: An Invasive Species in the Nile Delta, Egypt	Yassin M. Al-Sodany, Kamal H. Shaltout And **Ebrahim M. Eid**	**International Journal Of Agriculture & Biology Issn Print: 1560–8530; Issn Online: 1814–9596**	**0.940**
137	Covering – based rough fuzzy setys and binary relation	A.M.Kozae, S.A. El-Sheikh and **R. Mareay**	**Journal Of Intelligent & Fuzzy Systems 26,(2014) 1031-1038**	**0.788**
138	Mineralogy, geochemistry and origin of Mn in the high-Mn iron ores, Bahariya Oasis, Egypt	Hassan M. Baioumy , **Mohamed Z. Khedr** , Ahmed H. Ahmed	**Ore Geology Reviews 53 (2013) 63–76**	**2.417**
139	Petrology and chemistry of basal lherzolites above the metamorphic sole from Wadi Sarami central Oman ophiolite	**Mohamed Zaki Khedr,** Shoji Arai and Marie Python	***Journal Of* Mineralogical And Petrological Science, Volume:108,Page: 13:24,2013**	**0.607**
140	Micro- strucure and corrosion Behavior of $Ni_{52-x}Co_x$ Shape Memory Alloys in 1.0M HCI Solution	**Hanaa Shokry**	**Int. J. Electrochem. Sci., 8(2013) 1246-1261**	**3.729**
141	Corrosion ans Electrochemical Behavior of $Ni_{51}Fe_{22-x}Ga_{27}Ti_x$ Management shape Memory Alloys in 0.1 M NaCI Solution at Different TEmperature	**Hanaa Shokry**	**INt. J. Electrochem. Sci., 8(2013), 2791-2805**	**3.729**

Faculty of Commerce				
142	Separation and Lack of Separation of Subpopulation in the Mixed Distributions	**W. M. AFIFY**	**Communications In Statistics ,Simulation And Computation R , 43: 417–427, 2014**	**0.387**
Faculty of Specific Education				
143	Abrogation By Trifolium Alexandrinum Root Extract On Hepatotoxicity Induced By Acetaminophen In Rats	Mohamed . Sakeran, **Nahla Zidan,** Hasibur Rehman, A Thbiani Aziz,Shalini Saggu	**Redox Report 2013, Vol. 5 No. 13.**	**1.732**
Faculty of Pharmacy				
144	Hepatic somatostatin receptor 2expression during premalignant stages of hepatocellular carcinoma	**N.M.Abdel-Hamed**.O.M.Mohafez .S.Zakaria.K.Thabet	**Thmor Biol. Published Online 2013**	**2.518**

Faculty of Agriculture

1

AMA-AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 44, No. 3, 2013

IMPACT FACTOR=0.062

MODIFICATION AND PERFORMANCE EVALUATION OF A RECIPROCATING MACHINE FOR SHELLING PEANUT

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ABSTRACT

A reciprocating peanut sheller was fabricated as a multi-crop sheller to shell peanut, soybean, bean, etc. (Helmy, 2001). It was constructed at the Agricultural Engineering Workshop, Faculty of Agriculture, Kafr Elsheikh Governorate and modified at the workshop of Rice Mechanization Center, Meet Eldeeba, Kafr Elsheikh Governorate, Egypt throughout the year of 2006. The present study was mainly carried out to evaluate the performance of a reciprocating peanut sheller before and after modification by supplying the sheller with feeding mechanism (conveyor belt), increasing the friction area of shelling box, and using rubber for enhancing shelling process. The experimental results showed that, the performance of a reciprocating peanut sheller after modification is better than, that before modification. Where, the value of shelling efficiency after modification was of 98.85%, damaged seeds of 1.36%, unshelled seeds of 1.15%, total losses of 2.51%, sheller productivity of 155.98 × 10^{-3}Mg/ h, unit energy consumption of 2.87kW·h/Mg, cleaning efficiency of 99.06% and criterion cost of 42.17LE/Mg at feed rate of 160kg/h, box speed of 1.4m/s, moisture content about 17.12% w.b. and air velocity of 8.37m/s. But before modification shelling efficiency was of 95.32%, damaged seeds of 6.12%, unshelled seeds of 4.68%, total losses of 10.8%, sheller productivity of 89.20 × 10^{-3}Mg/h, unit energy consumption of 3.47kW·h/Mg, cleaning efficiency of 98.88%, and criterion cost of 84.93LE/Mg at feed rate of 100kg/ h and the other studied operating conditions.

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AMA-AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 44, No 4, 2013

IMPACT FACTOR=0.062

INFLUENCE OF PAD CONFIGURATION ON EVAPORATIVE COOLING SYSTEM EFFECTIVENESS INSIDE A WIND TUNNEL

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ABSTRACT

The investigation has been conducted to study the influence of pad configuration on the evaporative cooling effectiveness inside a wind tunnel. Three different configurations of pad were designed and these were expressed in terms of vertical, horizontal and multi horizontal. As well as, the influence of both pad thickness and pad-face air velocity was investigated. A developed wind tunnel was employed as pad fan evaporative cooling system to fulfill the objectives of study. The experimental results revealed that the multi horizontal pad configuration has achieved the highest values of cooling potential if it is compared with the other two pad configurations during the whole period of operation. The highest average cooled air temperature inside the wind tunnel was found at pad thickness of 15cm and pad-face air velocity of 1m/s for the multi-horizontal pad configuration. For multi-horizontal pad configuration and 1m/s pad face air velocity, the mean cooling potential was raised from 7.46 to 11.78ºC (+57.91%) by increasing pad thickness from 3 to 15cm. The highest mean values of cooling potential were found at pad thickness of 15cm and pad-face air velocity of 1m/s for the multi-horizontal pad configuration. Saturation efficiency was dramatically raised by increasing the thickness of pad especially for multi-horizontal pad configuration. The required airflow rate was raised by increasing both of pad thickness and pad-face air velocity for all configurations of pad. It has been reached its maximum values when applying the multi-horizontal pad configuration because of the rapid fluctuations taken place in airflow resistance. By increasing pad thickness from 3 to 15cm, for multi-horizontal pad configuration and pad-face air velocity of 1m/s, the static pressure drop across the pad was raised from 31.39 to 70.63Pa (+125%).

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CATENA Volume 113, February 2014, Pages 70–78

IMPACT FACTOR=1.889

SPATIAL VARIATION OF SOIL CARBON AND NITROGEN POOLS BY USING ORDINARY KRIGING METHOD IN AN AREA OF NORTH NILE DELTA, EGYPT

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ABSTRACT

Nile Delta includes part of the most fertile and populated lands in the world. However, there is no accurate and reliable database about C and N pools of this region; in addition there are no published data in this regard. Spatial variation of soil C and N poolswas studied based on Ordinary Kriging (OK) as a geostatisticalmethod. This method was used for converting sampled soil C and N data to continuous maps of C and N pools in Northern part on Nile Delta, Egypt. The data revealed different levels of variability of C and N pools in the study area. The total C pool (TCP) ranged between 1.6 and 122.7Mg/ha; while total N pool (TNP) ranged between 0.3 and 7.6Mg/ha. Soil organic carbon pool (SOCP) ranged between 0.3 and 76.4 Mg/ha, whereas soil inorganic carbon pool (SICP) ranged between 1.2 and 90.5Mg/ha. Soil C and N pools are the lowest in the Northern part in the study area which is close to Mediterranean Sea coast because of low organic matter inputs in addition to salinity and alkalinity

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IMPACT FACTOR=0.159

MODE OF ACTION OF BACILLUS PUMILUS IN SUPPRESSING PSEUDOPERONOSPORA CUBENSIS (BERK AND CURT) ROSTOW, THE PATHOGEN OF DOWNY MILDEW OF CUCUMBER

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ABSTRACT

Microscopic examinations (light and scanning electron microscopy) of the cucumber downy mildew lesions treated by liquid culture of *Bacillus pumilus* showed direct effects that appeared as loss in turger and osmolysis of sporangia and hyphae of *Pseudoperonospora cubensis*. The surface activity of *B. pumilus* culture filtrate was verified on the red blood cells. The spectrum of Gas Chromatography of the metabolites excreted by *B. pumilus* included various bands which mostly represent different antibiotic and surface-active compounds. Increasing of peroxidase and polyphenoloxidase in leaves newly emerging on previously treated plants confirms induction of resistance against the downy mildew disease.

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Brazilian J. of Microbiology 44,1,225-234(2013

IMPACT FACTOR = 0.896

BIOETHANOL PRODUCTION FROM RICE STRAW RESIDUES

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ABSTRACT

rice straw - cellulose utilizing mold was isolated from rotted rice straw residues. The efficient rice straw degrading microorganism was identified as *Trichoderma reesei.* The results showed that different carbon sources in liquid culture such as rice straw, carboxymethyl cellulose, filter paper, sugar cane bagasse, cotton stalk and banana stalk induced *T. reesei* cellulase production whereas glucose or Potato Dextrose repressed the synthesis of cellulase. *T. reesei* cellulase was produced by the solid state culture on rice straw medium. The optimal pH and temperature for *T. reesei* cellulase production were 6 and 25 °C, respectively. Rice straw exhibited different susceptibilities towards cellulose to their conversion to reducing sugars. The present study showed also that, the general trend of rice straw bioconversion with cellulase was more than the general trend by *T. reesei*. This enzyme effectively led to enzymatic conversion of acid, alkali and ultrasonic pretreated cellulose from rice straw into glucose, followed by fermentation into ethanol. The combined method of acid pretreatment with ultrasound and subsequent enzyme treatment resulted the highest conversion of lignocellulose in rice straw to sugar and consequently, highest ethanol concentration after 7 days fermentation with *S. cerevisae* yeast. The ethanol yield in this study was about 10 and 11 g.L-1.

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African Journal of Microbiology Research, Vol. 7(21), pp. 2574-2588, 21

IMPACT FACTOR = 0.539

BIOREMEDIATION OF PENDIMETHALIN-CONTAMINATED SOIL

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ABSTRACT

One strain of microorganisms was isolated from soil previously treated with pendimethalin using enrichment technique and identified using 16S rDNA as *Pseudomonas putida* (E15). The effect of pH and temperature on the growth ability of the tested strain was investigated. The results show that the optimum pH and temperature for the growth of pendimethalin dissipating strain were 7 and 30°C, respectively. *P. putida* was used to dissipate pendimethalin from mineral liquid medium with half-live of 5.46 days. Pendimethalin half-live was 51.9 days in untreated mineral liquid medium. *P. putida* and compost were also evaluated for detoxification of pendimethalin in clay soil. *P. putida* and compost were effective in pendimethalin dissipation in soil with half-live of 4.67 and 5 days, respectively. Pendimethalin half-live was 62.43 days in untreated soil. Pendimethalin treatment affected analysis of the microbial population growing in *P. putida* or compost treating soil leachates showed an overall increase in the population of microorganisms. There is no toxicity of pendimethalin detected in soil on cucumber plants after treatment with *P. putida* or compost. Pendimethalin significantly decreased germination and increased cucumber seedlings mortality rate. *P. putida* and compost treatments increased the growth parameters. Moreover, no significant difference was observed in the most growth parameters between *P. putida* and compost treatments. Abnormal development of xylem tissue was observed in pendimethalin contaminated soil as a result of phytotoxicity. The results suggest that bioremediation by *P. putida* and compost was considered to be effective method for detoxification of pendimethalin in soil.

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Environ. Protection Engineering ol. 34 No3,

IMPACT FACTOR= 0.423

REMEDIATION TECHNOLOGIES OF DIAZINON AND MALATHION RESIDUES IN AQUATIC SYSTEM

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ABSTRACT

The study was carried out to evaluate the efficiencies of various remediation technologies (advanced oxidation processes and bioremediation) for removing diazinon and malathion residues from water. Nano photo-Fenton reagent (Fe^0(nano)/H2O2/UV) was the most effective treatment for diazinon and malathion removal while ultraviolet alone was the least effective one. Bioremediation of diazinon and malathion by effective microorganisms (EMs) removed about 100% of their initial concentration. There was no remaining toxicity in contaminated water after remediation except for ultraviolet alone on treated rats. Advanced oxidation processes with nanomaterials and bioremediation with effective microorganisms can be regarded as safe and effective remediation technologies.

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Ann Microbiol (2013) 63:1579-1589

IMPACT FACTOR=1.549

BIOLOGICAL AND FUNGICIDAL ANTAGONISM OF *SCLEROTIUM CEPIVORUM* FOR CONTROLLING ONION WHITE ROT DISEASE

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ABSTRACT

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The action of some microbial isolates and Topsin- M against the most pathogenic isolate (Sc2) of Sclerotium cepivorum causing onion white rot was tested. Bacillus subtilis B4, B. subtilis B5, Trichoderma koningii and Trichoderma harzianum were the most antagonistic isolates of the causal fungus. Mycelia of sclerotial germination of S. cepivorum (Sc2) were completely inhibited in vitro by application of 2.0 g L−1 Topsin M. In pots, disease incidence was decreased to 8.33 % by the use of Topsin-M followed by T. koningii (29.17 %) compared with 95.83 % for the control, i.e., a remarkable reduction in severity was obtained. Under field conditions, disease incidence was decreased to 2.78%by Topsin-M and to 11.11 % by T. harzianum. Both agents caused a sharp reduction in disease severity, reaching 1.39%and 9.72 %, respectively, with 11.80%being achieved by T. koningii and B. subtilis B5. A close link between the biological action and enhancement of the enzyme activities of polyphenol oxidase and peroxidase with ability of onion to resist S. cepivorum was found, indicating induction of systemic acquired resistance. Accordingly, chlorophyll, root and foliage lengths, foliar, bulb dry matter and bulb productivity were also enhanced upon application of this biological control strategy.

Pakistan Veterinary Journal , 33(1):23-26, 2013.

IMPACT FACTOR=1.365

EFFECT OF MILK YIELD ON ECONOMIC PROFITABILITY OF HOLSTEIN FRIESIAN COWS UNDER INTENSIVE PRODUCTION SYSTEM IN EGYPT

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ABSTRACT

Data of productive and reproductive traits of 1961 of lactation records that obtained from 763 Dutch Friesian cows grew up at Wadi El-Sharkia farm, El-Salheia, Egypt. These data were analyzed to empirical comparison between the profitability of three herds under intensive production system in Egypt. The second herd (H_2) produced average milk yield 8619 kg/lactation, followed by first herd (H_1) (5138 kg/lactation) which decreased than the H_2 by at least one standard deviation (SD = 2935 kg). The third herd (H_3) produced high milk yield equal the average of H_2 plus at least one standard deviation. Traits Studied were milk yield per day (M/D, kg), total milk yield (TMY, kg), lactation period (LP, day), dry period (DP, day), annual milk yield (AMY, kg), days open (DO, day), number of services per conception (NSPC), calving interval (CI, day), number of lactation completed (NLC) and age at first calving (AFC). Least squares analysis of variance showed highly significant ($P<0.01$) effects of all factors on all traits studied except the effect of month and year of calving on NSPC that have non significant. For comparing between the three herds, the deterministic model was used to estimate the annual gross margin and benefit/cost ratio as economic parameters. Price of inputs and outputs were based on market and farm gate prices during the period from 1998 to 2007. DO, CI and NSPC were increased in H_3 vs. H_2 and H_1, indicating poorer reproductive efficiency of high yielding herd. Moreover, H_3 gave 1.03 and 1.5 parity less for each cow than that of H_2 and H_1, respectively.Economic evaluations indicated that the annual variable cost were (L.E) (Egyptian pound = 0.17 USD and = 0.13 EUR) 5136, 6910 and 7845 of H_1, H_2 and H_3, respectively. However, the annual gross margin of H_3 was higher than that of H_1 and H_2 by 79% and 24 %, respectively, and the benefit/cost ratio of H_3 are LE 1.90 relative to 1.63 and 1.68 for H_1 and H_2, respectively. The profit per cow during the lifetime production of H_3 was 72% and 19.04% more than of H_1 and H_2, respectively. It concluded that under intensive production system, extension of calving interval for high yielding herds seem more profitable than the herds that have shorter calving interval and lactation period.

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The Sientific World Journal, Vol. 2012, 9 Pages

IMPACT FACTOR=1.730

EFFICACY OF SOME BOTINICAL EXTRACTS AGAINST TROGODERMA GRANARIUM IN WHEAT GRAINS WITH TOXICITY EVALUATION

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ABSTRACT

In an attempt to find alternative control methods for stored products insects, extracts of seven plant species (*Cassia senna*, *Caesalpinia gilliesii*, *Thespesia populnea var. acutiloba*, *Chrysanthemum frutescens*, *Euonymus japonicus*, *Bauhinia purpurea*, and *Cassia fistula*) were evaluated under laboratory conditions for their ability to protect wheat (*Triticum* spp.) grains against *Trogoderma granarium* insect. Moreover, gas chromatography-mass spectrometry (GC-MS) analysis was carried to identify the chemical components of the most effective plant extract against *T. granarium*. Furthermore, the safety of the most effective plant extract was evaluated with respect to biochemical and histological changes in treated rats relative to control. The results revealed that, the tested botanical extracts showed high efficiency against *T. granarium* with respect tomortality and progeny of the adults. *C. senna* was the most effective botanical extract against *T. granarium*. The GC-MS analysis of the most effective plant extract showed the presence of different bioactive compounds that is known by its insecticidal activity. The most effective plant extract showed no toxicity on treated rats relative to control with respect to biochemical and histological changes. The results suggest the ability of using these plant extracts for wheat grains protection as a safe alternative to insecticides.

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Polish Journal of Chemical Technology, 15,3,25-34

IMPACT FACTOR=0.444

MONITORING OF ORGANOPHOSPHORUS PESTIVIDES AND REMEDIATION TECHNOLOGIES OF THE FREQUENTLY DETECTED (CHLORPYRIFOS) IN DRINKING WATER

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ABSTRACT

studies on the currently used organophosphorus insecticides with respect to their environmental levels and effective remediation technologies for their residues in water have been considered as a source of major concern. This study was carried out to monitor the presence of organophosphorus in drinking water plants (Kafr-El-Shiekh, Ebshan, Elhamoul, Mehalt Aboali, Fowa, Balteem and Metobess) in Kafr-El-Shiekh Governorate, Egypt. Furthermore, it was carried out to evaluate the efficiency of different remediation technologies (advanced oxidation processes and bioremediation) for removing chlorpyrifos in drinking water. The results showed the presence of several organophosphorus pesticides in water sampling sites. Chlorpyrifos was detected with high frequency relative to other compounds in drinking water. Nano photo-Fenton like reagent (Fe_2O_3(nano)/H_2O_2/UV) was the most effective treatment for chlorpyrifos removal in drinking water followed by ZnO(nano)/H_2O_2/UV, Fe^{3+}/H_2O_2/UV and ZnO/H_2O_2/ UV, respectively. Bioremediation of chlorpyrifos by effective microorganisms (EMs) removed 100% of the chlorpyrifos initial concentration after 23 days of treatment. There is no remaining toxicity in chlorpyrifos contaminated-water after remediation on treated rats with respect to cholinesterase activity and histological changes in kidney and liver relative to control. Advanced oxidation processes especially with nanomaterials and bioremediation with effective microorganisms can be regarded as safe and effective remediation technologies for chlorpyrifos in drinking water.

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Communications in Soil Science and Plant Analysis, 44:1-4, 89-103

IMPACT FACTOR=0.420

PHOSPHORUS SORPTION AND AVAILABILITY TO CANOLA GROWN IN AN ALFISOL AMENDED WITH VARIOUS SOIL AMENDMENTS

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ABSTRACT

The Aim Of This Study Was To Examine The Influence Of Various Soil Amendments On Sorption And Availability Of Phosphorus (P) In A Biosolid-Amended Alfisol Planted With Canola. For This Purpose A Greenhouse Pot Experiment Was Established In An Acidic Greek Alfisol Amended Once With Sewage Sludge (300 T Ha−1) 13 Years Ago. Five Kg From This Soil Was Thoroughly Mixed With 0 Or 50 G Of Zeolite (Z), Coal Fly Ash (Fa), Sugar Beet Factory Lime (Sbfl), And Compost From Olive Oil–Processing Wastes (Ow) And Cultivated With Canola (Brassica Napus). Additionally, A Non-Biosolid-Amended Soil From An Adjacent Field Was Used As Control. Two Months After Planting, Soil And Plant Samples Were Selected And Analyzed For Available And Total P. Phosphorus Sorption Isotherms Were Prepared On Soil Samples After Plants Were Harvested, And Adjusted To The Freundlich Equation. Phosphorus Distribution Coefficient (Kd) Values Were Obtained By The Same Batch Equilibrium Experiments. Results Showed That 13 Years After Application Of High-Dose Biosolids, Soil Ph Increased From 5.19 To 6.92, Canola Biomass Yield Increased From 1.96 To 5.3 G Pot−1, Olsen P Increased From 25.5 To 57.7 Mg Kg−1, And Plant Tissue P Concentration Increased From 1162 To 2881 Mg Kg−1. Application Of Fa, Z, Sbfl, And Ow To The Biosolid-Amended Soils Increased Soil Ph From 6.92 To 8.05, 7.07, 7.72, And 7.19, Canola Biomass Yield From 5.3 To 8.6, 7.5, 7.6, And 5.4 G Pot−1, And Olsen P From 57.7 To 110.5, 61.2, 80.5, And 64.5 Mg Kg−1respectively. Application Of Z, Sbfl, And Ow To The Biosolid-Amended Soil Increased Plant Tissue P From 2881 To 3048, 3320, AND 3523 Mg Kg−1, Respectively, Whereas Fa Application Decreased It To 2696 Mg Kg−1. Application Of The High Dose Of Biosolids To The Acidic Alfisol Decreased P_Kd From 23.3 To 12.9 L Kg−1. Application Of Fa, Z, And Sbfl To The Biosolid-Amended Soil Increased P_Kd From 12.9 To 23.19, 13.83, And 14.48 L Kg−1, Respectively, Whereas Ow Application Decreased It To 12.82 L Kg−1.Values Of Kd Decreased As The Concentration Of The Added P Increased In The Test Solution In The Case Of Non-Biosolid-Amended Soil And Fly Ash Treatment But It Relatively Increased As The Concentration Of The Added P Increased In The Test Solution In The Biosolid-Amended Soil And Z, Sbfl,&OTreatments

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Pedosphere 20(4): 436{445, 2010
ISSN 1002-0160

IMPACT FACTOR=1.232

INFUENCE OF FLY ASH AND SEWAGE SLUDGE APPLICATION ON CADMIUM AND LEAD SORPTION BY AN ACIDIC ALFSOL

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ABSTRACT

The safe recycling of °y ash (FA) and sewage sludge (SS) in the agricultural processes comprises an important environmental technology on waste management. Soils amended with FA and SS may change their ability to adsorb heavy metals due to either increase of soil pH or decomposition of sludge-borne organic matter. Thus, Cd and Pb sorption was investigated by 1-month incubation under soil moisture content at ¯eld capacity and room temperature with an acidic Typic Haploxeroalf from central Greece amended with varying amounts of FA and SS. Batch experiments were conducted by equilibrating the soil samples with CaCl2 solutions containing 0{400 mg Pb L¡1 or 0{100 mg Cd L¡1. The results showed that the Freundlich equation described well the Cd and Pb sorption. Distribution coe±cient (*K*d) values of Pb were higher than those of Cd in all the treatments of this study. Application of FA increased *K*d values for Cd and Pb to 8.2 and 2.3 times more than the controls, respectively. Simultaneous applications of FA and SS caused a *K*d increase of 3.8 and 2.1 times compared to the treatments that received only SS for Cd and Pb, respectively. Treatment of SS alone did not signi¯cantly change Cd and Pb sorption compared to the controls. The sorption reactions seemed to be mainly a®ected by soil pH, which was revealed by the signi¯cant correlations of Cd and Pb sorption with soil pH. These suggested that °y ash was very useful as a low-cost adsorbent for Cd and Pb and could be used as an ameliorant for biosolid-amended acidic soils

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Communications in Soil Science and Plant Analysis, 44:243–258, 2013

IMPACT FACTOR=0.420

UTILIZATION OF BIOSOLIDS IN PRODUCTION OF BIOENERGY CROPS I: IMPACT OF APPLICATION RATE ON CANOLA BIOMASS, SOIL PROPERTIES, AND NUTRIENT AVAILABILITY

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ABSTRACT

Amendment of agricultural soils with municipal sewage sludge (SS) or biosolids may provide a valuable source of plant nutrients and organic matter. Utilization of SS in cultivation of oil- and biofuel-producing crops such as canola (Barassica napus) has not been adequately studied. The aim of this study was to compare the influence of biosolid application rates on biomass production of canola and on soil properties and nutrient availability measured both by conventional methods and a new technique involving plant root simulators (PRS probes). For this purpose, a greenhouse pot experiment was established in a Typic Xerfluvent (5 kg) from central Greece amended with various rates of SS [0 Mg ha−1 (C) 20 Mg ha−1 (SS1), 50 Mg ha−1 (SS2), and 100 Mg ha−1 (SS3)] and cultivated with canola. After a 2-month planting period, the whole plants and soils were removed from the pots. One kg of the soils was selected for analyses, and the rest of the soil was cultivated again for 2 more months with the same crop. Bioavailability of phosphorus (P) and potassium (K) was measured using the conventional methods (Olsen and ammonium acetate method respectively) as well as by PRS probes. Results showed that application of SS significantly increased canola biomass only in the treatment SS1 compared to the control in the first planting period. However, in the second period, SS application significantly increased canola biomass in the treatments SS2 and SS3 compared to the control and SS1. Soil pH decreased significantly from 7.9 in the control treatment to 6.9 in the treatment SS3. Furthermore, soil organic matter, nitrate nitrogen, and hot water–extractable boron were significantly increased with increasing SS application rate. Olsen P increased significantly with SS application in both planting periods but its increase was greater in the second planting period compared to the first one. Phosphorus-supplyrate (PSR) as assessed by the PRS probes increased significantly with SS application rate in both planting periods but it decreased significantly in the second planting period as compared to the first one. Plant tissue concentration P showed a trend similar to P supply rate (PSR). A strong relationship was recorded between PSR and Olsen P while plant tissues P concentration was strongly correlated with PSR and Olsen P (R2 0.93*** and 0.87*** respectively), indicating that probe method estimates better bioavailability of P to the grown plants compared to the Olsen method. Application of SS decreased significantly available K and potassium– supply rate (KSR) compared to the control, especially in the second planting period. Potassium-supplying rate decreased significantly in the second period compared to the

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ADVANCES IN COLLOID AND INTERFACE SCIENCE
201–202 (2013) 43–56

IMPACT FACTOR=8.120

A REVIEW OF THE DISTRIBUTION COEFFICIENTS OF TRACE ELEMENTS IN SOILS: INFLUENCE OF SORPTION SYSTEM, ELEMENT CHARACTERISTICS, AND SOIL COLLOIDAL PROPERTIES

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ABSTRACT

Knowledge about the behavior and reactions of separate soil components with trace elements (TEs) and their distribution coefficients (Kds) in soils is a key issue in assessing the mobility and retention of TEs. Thus, the fate of TEs and the toxic risk they pose depend crucially on their Kd in soil. This article reviews the Kd of TEs in soils as affected by the sorption system, element characteristics, and soil colloidal properties. The sorption mechanism, determining factors, favorable conditions, and competitive ions on the sorption and Kd of TEs are also discussed here. This review demonstrates that the Kd value of TEs does not only depend on inorganic and organic soil constituents, but also on the nature and characteristics of the elements involved as well as on their competition for sorption sites. The Kd value of TEs is mainly affected by individual or competitive sorption systems. Generally, the sorption in competitive systems is lower than in mono-metal sorption systems. More strongly sorbed elements, such as Pb and Cu, are less affected by competition than mobile elements, such as Cd, Ni, and Zn. The sorption preference exhibited by soils for elements over others may be due to: (i) the hydrolysis constant, (ii) the atomic weight, (iii) the ionic radius, and subsequently the hydrated radius, and (iv) its Misono softness value.Moreover, element concentrations in the test solution mainly affect the Kd values. Mostly, values of Kd decrease as the concentration of the included cation increases in the test solution. Additionally, the Kd of TEs is controlled by the sorption characteristics of soils, such as pH, clay minerals, soil organic matter, Fe and Mn oxides, and calcium carbonate. However, more research is required to verify the practical utilization of studying Kd of TEs in soils as a reliable indicator for assessing the remediation process of toxic metals in soils

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Journal of Environmental Management 128 (2013)

IMPACT FACTOR=3.245

HEAVY METALS REMOVAL FROM AQUEOUS SOLUTIONS AND WASTEWATERS BY USING VARIOUS BY PRODUCTS

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ABSTRACT

Water contamination with heavy metals (HM) represents a potential threat to humans, animals and plants, and thus removal of these metals from contaminated waters has received increasing attention. The present study aimed to assess the efficiency of some low cost sorbents i.e., chitosan (CH), egg shell (ES), humate potassium (HK), and sugar beet factory lime (SBFL) for removal of cadmium (Cd), copper (Cu), lead (Pb) and zinc (Zn) from wastewaters. For this purpose batch equilibrium experiments were conducted with aqueous solutions containing various concentrations of the metalsm and sorbents in a mono-metal and competitive sorption system. Sorption isotherms were developed, and sorption parameters were determined. The potential applicability of the tested sorbents in the removal of Cd, Cu, and Zn from contaminated wastewaters was also investigated by equilibrating different sorbents and water ratios. Chitosan expressed the highest affinity for the metals followed by SBFL, ES, and HK. Nearly 100% of the metals were removed from aqueous solutions with the lowest initial metal concentrations by the sorbents especially CH and SBFL. However, the sorption efficiency decreased as the initial metal concentrations increased. Competition among the four metals changed significantly their distribution coefficient (Kd) values with the sorbents. The selectivity sequence of the metals was: Pb > Cu > Zn > Cd. The metal removal from the wastewaters varied from 72, 69, and 60 to nearly 100% for Cd, Cu and Zn, respectively. The efficiency of the studied byproducts in removing metals from the wastewaters differed based on the source of contamination and metal concentrations. Cadmium removal percentages by HK and CH were higher than SBFL and ES. The HK and CH exhibited the highest removal percentage of Cu from water with high concentrations. The SBFL and ES revealed the highest removal percentage of Zn from water with high concentrations. The result , demonstrate a high potential of CH, SBFL, HK, and ES for the remediation of HM contaminated astewaters

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Communications in Soil Science and Plant Analysis, 44:1-4, 259-274

IMPACT FACTOR= 0.420

UTILIZATION OF BIOSOLIDS IN PRODUCTION OF BIOENERGY CROPS II: IMPACT OF APPLICATION RATE ON BIOAVAILABILITY AND UPTAKE OF TRACE ELEMENTS BY CANOLA

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ABSTRACT

Amendment of agricultural soils with municipal sewage sludge (SS) provides a valuable source of plant nutrients and organic matter but it may create a risk of trace element pollution of the environment. Utilization of SS in cultivation of oil- and biofuel-producing crops such as canola (Brassica napus) may be useful for safe management of biosolids. The aim of this study was to examine the influence of SS application rate on bioavailability and phytoextraction of trace elements by canola. To achieve this goal, a greenhouse pot experiment was established in a Typic Xerfluvent from Greece amended with various rates of sewage sludge: 20 Mg ha−1 (SS1), 50 Mg ha−1 (SS2), and 100 Mg ha−1 (SS3). Furthermore, a soil sample without any amendment was cultivated and used as a control (C). After a planting period of 2 months, the whole plants and soils were removed from the pots. One kg from the soils was selected for analyses and the rest of the soil was cultivated again for 2 more months with the same crop. Soil samples were analyzed for total and available forms of trace elements [iron (Fe), manganese (Mn), copper (Cu), zinc (Zn), nickel (Ni), lead (Pb), and cadmium (Cd)] and the same elements were measured in plant tissue. The results showed that increasing SS application rate increased significantly the total amounts of all the studied trace elements compared to the control except for Fe and Ni. However, the total concentrations of all the studied elements were less than the critical concentrations in soils. Diethylenetriaminepentaacetic acid (DTPA)–extractable element concentrations increased significantly with increasing the biosolid application rate, especially in the case of SS3. However, no significant differences were recorded between control and SS1 for Fe, Mn, Pb, Ni, and Cd. Plant tissue element concentrations for all elements except for Fe increased significantly compared to the control with increasing sewage sludge application rate, especially with SS3, whereas no significant differences were found between the control and SS1 in the cases of Cu and Pb. Iron showed the opposite trend, where it decreased significantly with increasing SS rate. The ability of canola in phytoextraction of the studied elements was measured by bioconcentration ratios (BCR) (plant tissues concentration / DTPA-extractable elements). Values of BCR differed widely between the elements. Iron and Zn BCR values decreased significantly with increasing the SS application rate in both planting periods. The BCR values of Cd, Cu, Mn, Ni, and Pb increased in the SS-treated soil compared to the control with a relative increase in SS1 and SS2 treatments compared to SS3. Data from this result convinced

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Soil Science , Volume 175, Number 11, November 2010

IMPACT FACTOR=1.144

DISTRIBUTION OF TOTAL AND AMMONIUM BICARBONATE-DTPA-EXTRACTABLE SOIL VANADIUM FROM GREECE AND EGYPT AND THEIR CORRELATION TO SOIL PROPERTIES

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ABSTRACT

Vanadium (V) is a trace element involved in soil pollution, originating from either soil parent material or anthropogenic sources. The aim of this study was to investigate the distribution of total and ammonium bimerbonate-TPA-extractable (AB-DTPA) V in soil profiles of representative Greek and Egyptian soils and their relationships to soil properties. Twenty-one soil profiles from Egypt and Greece (representing the main soil orders, that is, Entisols (developed on fluvial, lacus3tine, and marine deposits) and Aridisols for Egyptian soils and to the soil orders Entisols, Alfisols, Inceptisols, Vertisols, Mollisols, and Histosols for Greek soils) were sampled and analyzed for total and ABDTPA-- extactable V, and the relationship of V levels to soil properties were examined, Total V concentrations ranged from 23 mg **kg-1** in the marine deposits to 179 mg **kg-1** in the lacustrine deposits. Total V levels significantly positively correlated to clay and silt content, cation exchange capacity, and free iron and manganese oxides and were negatively correlated to sand, organic matter, and calcium carbonate content. The AB-DTPA-extractable V varied from 0.55 mg kg- t in the Greek Entisol to 4.4 rmg ***kg7l*** in the Egyptian lacustrine deposits and were significantly positively correlated with total V concentration, soil pH, clay and silt content, and cation exchange capacity (positively) and negatively correlated with sand content. Distribution of total and AB-DTPAextractable V related mainly to particle size distribution, sesquioxides content, and soil **pH.** These results suggest that V could be a concern for many of the soils studied because in a large number of samples, V concentration values exceeded the international regulatory standards fbr remediation.

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Egyptian Journal of Biological Pest Control,23(1),2013,125-132

IMPACT FACTOR= 0.159

ROLE OF REACTIVE OXYGEN SPECIES IN SUPPRESSION OF THE BARLEY POWDERY FUNGUS, *BLUMERIA GRAMINIS* F.SP. *HORDEI* WITH BENZOTHIADIAZOLE AND RIBOFLAVIN

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ABSTRACT

Under the influence of riboflavin L-methionine (RF) and benzothiadiazole (BTH), susceptible barley plants exhibited resistance that decreased disease severity of the barley powdery mildew fungus, *Blumeria graminis* f. sp. *hordei* (*Bgh*). At this experiment, leaves were treated twice with 266 uM RF, 6 hours before inoculation and directly after inoculation with *Bgh*. It was treated also with 0.6 mM BTH one day before inoculation. As a result, disease severity was significantlty reduced to 43 and 35%, respectively compared with the control (92%). RF and BTH increased significantly the level of endogenous reactive oxygen species (ROS) such as superoxide ($O_2^{\cdot-}$) and hydrogen peroxide (H_2O_2) early 6, 12 and 24 hours after inoculation (hai) which are considered to play a critical role in plant disease resistance. This early induction of ROS decreased activities of catalase (CAT) and dehydroascorbate reductase (DHAR) during the first day after inoculation then increased significantly 2, 3 and 4 days after inoculation (dai). Gene expression level of DHAR was significantly increased 3 dai using RT-PCR technique. The induction of ROS endegenously showed dual role of resistance, first was direct inhibition of fungal growth early, second was the immunization of plants by increasing the antioxidants activities. These results indicated that RF and BTH could be recommended as alternatives to fungicides.

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Egyptian Journal of Biological Pest Control,23(1),2013,137-144

IMPACT FACTOR=0.159

NON-TRADITIONAL METHODS TO CONTROL CHOCLATE SPOT OF FABA BEAN CAUSED BY BOTRYTIS FABAE SARD UNDER GREENHOUSE CONDITION

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ABSTRACT

study was carried out to evaluate the efficacy of some non-traditional methods, alone and in combination with recommended fungicides, for controlling Botrytis fabae Sard, the causal agent choclate spot of faba bean under laboratory and greenhouse conditions. Accumulation of reactive oxygen species (O 2 ·-and H 2 O 2) which induce oxidative stress in plants was determined. Moreover, protein analysis of faba bean infected leaves was carried out to investigate the mechanism of disease reduction in different treatments. Results showed that all the tested materials were effective against B. fabae under laboratory conditions relative to control while in greenhouse experiments tested fungicides were the most effective ones, followed by microorganisms and nanosilver, respectively. Moreover, the mixtures of tested fungicides with nanosilver improved their efficacy against choclate spot disease of faba bean rather than using each separately. The endogenous superoxide and hydrogen peroxide levels increased significantly in treated leaves relative to untreated control. Data of protein analysis showed differences in faba bean leaves protein under the tested treatments which implied different gene(s) expression and different response of faba bean to the disease severity of the choclate spot. Effective microorganisms and nanosilver are promising alternatives to fungicides for controlling choclate spot of faba bean. Also, this study suggests the possibility of mixing nanosilver with some fungicides to minimize health risk and environmental pollution.

AGROCHIMICA. VOL. LV1-N.4-5,2012

IMPACT FACTOR= 1.506

FORTIFICATION OF RABBIT DIETS WITH VITAMIN E OR SELENIUM AFFECTS GROWTH PERFORMANCE, LIPID PEROXIDATION, OXIDATIVE STATUS AND IMMUNE RESPONSE IN GROWING RABBITS

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ABSTRACT

The objective of the present study was to examine the effects of supplemental dietary vitamin E (vit.E), organic selenium (Se) or vit.E+Se on growth performance, carcass characteristics, lipid peroxidation, antioxidative status and immune response in growing rabbits and to investigate their potential synergism on storage stability of rabbit meat. A total of 80 six weeks old male Californian rabbits were randomly divided into four experimental treatments (20 each): (1) control (basal diet without any supplementation of vit.E or Se); (2) vit.E (basal diet +250 mg α-tocopherol acetate/kg diet); (3) Se (basal diet +0.3 mg organic Se/kg diet); and (4) vit.E+Se (basal diet +250 mg α-tocopherol acetate/ kg diet +0.3 mg organic Se/kg diet). All experimental treatments were provided from 6 to 12 weeks of age. Animals were provided with feed and water ad lib. Supplemental dietary vit.E, organic Se and vit.E+Se increased the final body weight, daily gain, hot carcass weight and dressing percentage, while feed conversion ratio was reduced in the growing rabbits. Dietary supplementation with vit.E and organic Se increased the content of vit.E and Se in raw rabbit meat by more than three –to five-folds, respectively ($P \leq 0.05$). Interestingly, dietary treatments decreased the index of lipid oxidation (thiobarbituric acid reactive substance, TBARS, values) in raw meat at 1, 3 and 6 days postmortem ($P \leq 0.05$). Also, the inclusion of vit.E plus organic Se in the rabbit diet markedly enhanced the serum glutathione peroxidase (GSH-Px) activity and total antioxidant capacity significantly being three times greater than the corresponding value of controls and, simultaneously, reduced the TBARS concentration in plasma to about 19% of the controls. The inclusion of vit.E, Se, or vit.E+Se in the growing rabbits' diets improved the humoral immune response compared to the controls ($P \leq 0.05$). Serum total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides, total protein and albumen were not significantly affected by dietary treatments while serum globulins were significantly elevated. In conclusion, supplemental dietary vit.E, Se, or vit.E+Se enhanced growth performance, vit.E and Se content in raw meat, meat oxidative stability, serum antioxidative status and immune responsiveness in growing rabbits.

The ScientificWorld Journal
Volume 2012, Article ID 893204, 8 pages

IMPACT FACTOR = 1.730

IDENTIFICATION ANDMECHANISM OF ECHINOCHLOA CRUS-GALLIRESISTANCE TO FENOXAPROP-P-ETHYL WITH RESPECT TO PHYSIOLOGICALAND ANATOMICAL DIFFERENCES

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ABSTRACT

Identification and mechanism of *Echinochloa crus-galli* (L.) resistance to fenoxaprop-p-ethyl via physiological and anatomical differences between susceptible and resistant were investigated. The physiological and anatomical differences that were take into account were growth reduction, chlorophyll content reduction, lamina thickness, and xylem vessel diameter in both susceptible and resistant biotypes of *E. crus-galli*. The results showed that the growth reduction fifty (GR50) of resistant biotype was 12.07-times higher than that of the susceptible biotype of *E. crus-galli* treated with fenoxaprop-p-ethyl. The chlorophyll content was highly reduced in the susceptible biotype relative to the resistant one of *E. crus-galli* treated with fenoxaprop-p-ethyl. An anatomical test showed significant differences in the cytology of susceptible and resistant biotypes of *E. crus-galli* treated with fenoxaprop-p-ethyl with respect to lamina thickness and xylem vessel diameter. The resistance of *E. crus-galli* to fenoxaprop-p-ethyl may be due to the faster metabolism of fenoxaprop-p-ethyl below the physiologically active concentration or the insensitivity of its target enzyme (Acetyl-CoA carboxylase

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Egyptian Journal of Biological Pest Control.23(1).2013.87-93

IMPACT FACTOR= 0.159

NON- TRADITIONAL METHODS FOR CONTROLLING MAIZE LATE WILT DISEASE CAUSED BY CEPHALOSPORIUM MAYDIS

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ABSTRACT

In an attempt to search for alternative control methods to pesticides, certain bio-control formulations (Bacillus subtilis 1, B. ubtilis 3, B. pumilus, Pseudomonas fluorescens and Epicoccum nigrum), bentocide, zinc oxide nanoparticles and nanosilica were tested against Cephalosporium maydis, the causative fungus of late wilt disease of maize, under field conditions of Kafr El-Sheikh Governorate, Egypt in 2011 and 2012 growing seasons. Results showed that the bio-control formulations were the most effective treatments against the disease, followed by nanosilica, bentocide and nanozinc oxide, descendingly in both growing seasons, with respect of pre-emergence damping off, disease incidence and crop yield. As well, the bio-control formulations showed the highest level of defense enzymes activity in maize post treatment, followed by nanosilica, nanoznic oxide and bentocide, descendingly in both seasons. Assayed materials represented potential effective alternatives to fungicides for controlling late wilt of maize

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IMPACT FACTOR= 2.041

GENETIC DIVERSITY ANALYSIS OF SOME BARLEY GENOTYPES FOR SALT TOLERANCE USING SSR MARKERS

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ABSTRACT

The aim of the present work was to evaluate the performance of 20 barley genotypes and find out the genetic diversity of these genotypes for salt tolerance using simple sequence repeats during two consecutive seasons; 2009/2010 and 2010/2011. Twenty barley genotypes differed in their tolerance potentiality against salinity were planted in two screening field experiments at two locations; Sakha, North Egypt (as a control) and El-Serw (as saline site) to detect their tolerance to salt stress. They were planted in a randomized complete block design with three replicates. Results revealed that the Egyptian barley cultivars Giza 123, California Mariout and genotype no.12 (line 12 from Cyprus) were salt tolerant besides genotype no.9 (Saiko) giving a moderate salt tolerance response and they all exhibited the highest mean values for some traits such as heading date and plant height under saline condition. Out of ten primers used, only six primers (Bmac0209, Bmac0316, Scssr03907, Bmag770, HVM67 and HVHOTRI) generated clear patterns with high polymorphism. This six discriminatory primer pairs were used to evaluate the genetic diversity of salt tolerance in the 20 barley genotypes. Based on phylogenic trees the data from the dendrogram constructed with SSR markers showed four clusters. All the salt tolerant genotypes and some moderately salt tolerant genotypes were found in two closely related clusters, while all the sensitive genotypes and moderate ones were closely related in the other two clusters. It was concluded that those barley genotypes which showed salt tolerance could serve as potentially novel germplasm that could be exploited for the development of new breeding lines with high level of salinity tolerance and to accelerate genetic advancement in barley and better cost efficient compared to conventional and tedious screening procedures under saline field

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Journal of Testing and Evaluation, Vol. 41, No. 5, 2013

IMPACT FACTOR= 0.384

IMPACT OF LEAF/BUNCH RATIO AND TIME OF APPLICATION ON YIELD AND FRUIT QUALITY OF BARHI DATE PALM TREES (PHOENIX DACTYLIFERA L.) UNDER SAUDI ARABIAN CONDITIONS

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ABSTRACT

Our research was conducted at the Agricultural Experimental and Research Station (Deyrab), College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia in the 2011 and 2012 seasons. Twenty-one date palm females were selected, introduced into a randomized complete block design (RCBD), and subjected to three pruning treatments concerning the leaf/bunch ratio, whereas eight bunches were left on each experimental tree. The tested treatments, after two applications (after fruit harvesting and fruit setting), were: T1¼8 leaves/bunch, first week in November, T2¼10 leaves/bunch, first week in November, T3¼12 leaves/bunch, first week in November, T4¼8 leaves/bunch, first week in May, T5¼10 leaves/bunch, first week in May, T6¼12 leaves/bunch, first week in May, and T7¼control, without pruning. Control pruning treatment resulted in clear reduction in the yield/tree, whereas T5 (10 leaves/bunch, first week in May) gave the highest yield/tree. T5 led in most physical and chemical properties in both seasons. Fruits of T5 and T6 treatments revealed significant increments in fruit moisture percentage, as compared with the control. Generally, yield and fruit quality of Barhi date palm cultivar growing in Riyadh, Saudi Arabia, had improved leaf/bunch ratios and it was found that 10 leaves/bunch was sufficient to obtain a suitable yield of good quality fruits in the first week of

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Biological Agriculture & Horticulture, Accepted: 25 Aug 2013,pages 42-51, Volume 30, Issue 1, 2014

IMPACT FACTOR=0.381

STORABILITY AND QUALITY IMPROVEMENT OF WASHINGTON NAVEL ORANGE FRUIT (CITRUSSINENSIS OSBECK) BY SAFE PRE-HARVEST TREATMENTS

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ABSTRACT

Organic sources have received much attention from growers and researchers during the last two decades. Field and laboratory trials suggest that these organic substances have the potential to provide the plant with necessary nutrients, and to improve soil physical and chemical properties as well as to suppress plant disease pathogens and particularly fungal infections. This study was carried out during 2010 and 2011 at Kafr El-Sheikh, Egypt. The effects of pre-harvest foliar sprays with compost tea (CT) or filtered biogas slurry liquid (BSL) at 50% and 100% on storability of Washington Navel orange fruits at room temperature [21 ^ 28C, 65–75% relative humidity (RH)] for 45 days and refrigerated (78C, 90–95% RH) for 75 days were studied. Most of the four organic spray treatments had a significant effect at most sampling times in reducing fruit decay and weight loss, and maintaining fruit quality. The most effective treatment(s) and the significance of differences between spray treatments varied with parameter measures, season, and storage conditions and time. However, at room temperature, CT 100% was most frequently statistically the best or one of the best treatments followed in order by BSL 100%, CT 50% and BSL 50%. In cold storage, the difference between the organic spray treatments was less clear with all four treatments being statistically the best or equal best for several parameter/season/storage time combinations. Generally, using CT and BSL as natural components to maintain fruit quality and extend storability o Washington Navel orange is more favourable to the consumer.

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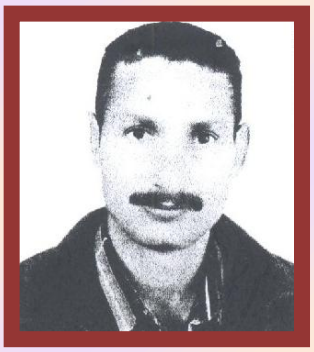
Plant Cell Rep (2013) 32:663–674,ISSN:0721-7714

IMPACT FACTOR=2.509



ENHANCED TOLERANCE TO DROUGHT AND SALT STRESSES IN TRANSGENIC FABA BEAN (VICIA FABA L.) PLANTS BY HETEROLOGOUS EXPRESSION OF THE PR10A GENE FROM POTATO

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ABSTRACT

Key message We report for the first time that expression of potato PR10a gene in faba bean causes enhanced tolerance to drought and salinity. Abstract Grain legumes such as soybean (Glycine max L. Merrill), pea (Pisum sativum L.) and faba bean (Vicia faba L.) are staple sources of protein for human and animal nutrition. Among grain legumes, faba bean is particularly sensitive to abiotic stress (in particular osmotic stress due to lack of water or enhanced soil salinity) and often suffers from severe yield losses. Many stress responsive genes have been reported with an effect on improving stress tolerance in model plants. Pathogenesis-related proteins are expressed by all plants in response to pathogen infection and, in many cases, in response to abiotic stresses as well. The PR10a gene isolated from the potato cultivar Desiree was selected for this study due to its role in enhancing salt and/or drought tolerance in potato, and transferred into faba bean cultivar Tattoo by Agrobacterium tumefaciens-mediated transformation system based upon direct shoot regeneration after transformation of meristematic cells derived from embryo axes. The transgene was under the control of the constitutive mannopine synthase promoter (p-MAS) in a dicistronic binary vector, which also contained luciferase (Luc) gene as scorable marker linked by internal ribosome entry site elements. Fertile transgenic faba bean plants were recovered. Inheritance and expression of the foreign genes were demonstrated by PCR, RTPCR, Southern blot and monitoring of Luciferase activity. Under drought condition, after withholding water for 3 weeks, the leaves of transgenic plants were still green, while non-transgenic plants (WT) wilted and turned brown. Twenty-four hours after re-watering, the leaves of transgenic plants remained green, while WT plants did not recover. Moreover, the transgenic lines displayed higher tolerance to NaCl stress. Our results suggested that introducing a novel PR10a gene into faba bean could be a promising approach to improve its drought and salt tolerance ability, and that MAS promoter is not only constitutive, but also wound-, auxin/cytokinin- as well as stressinducible.

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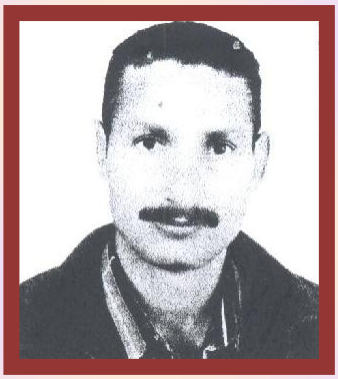
IMPACT FACTOR=1.691



MOLECULAR AND HORTICULTURAL CHARACTERISTICS OF *IN VITRO* INDUCED TOMATO MUTANTS

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ABSTRACT

In addition to the traditional breeding approaches, genetic variability in tomato can be induced also by means of mutagenesis. The objective of this study was to develop an *In vitro* technique suitable for mutation induction on tomato and characterize them by RAPD and SSR markers as well as horticultural characteristics. The influence of various concentrations (0, 0.07, 0.14 and 0.25%) of the chemical mutagen, Ethyl Methane Sulfonate (EMS), on the *in vitro* shoot formation from cotyledon explants of two tomato cultivars was studied. The percentage of responding explants ranged from 45.2 to 95% in dependence on genotype and EMS concentrations. Two PCR-based techniques, RAPD and SSR, were used for analysis of genetic variations in regenerated plants from *in vitro* cultures combined with EMS treatment (0.25%). The percentage of polymorphism detected by RAPD and SSR primers reached 25.64%. Grouping of the original cultivar and their mutants indicated the genetic distinctness as they are placed in different clusters/groups far from each other. Mutants regenerated from the wide cultivate cultivar in Egypt (Super strain B) were evaluated with their origin cultivar in a field experiment for yield potential and fruit quality. The results revealed that the mutants were differed in number of branches, early and total yield, average fruit weight, fruit firmness and TSS content. Moreover, mutant lines S1, S3, S6 and S13 had some desirable horticultural traits and could be used in improving tomato crop by breeding programs or they could be considered as new breeding lines.

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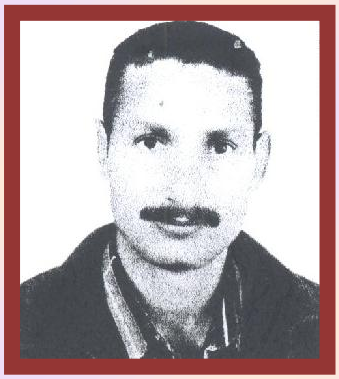
Acta Biologica Hungarica 64(3), Pp. 305–318 (2013)

IMPACT FACTOR=0.593



STEM FASCIATION IN CACTI AND SUCCULENT SPECIES – TISSUE ANATOMY, PROTEIN PATTERN AND RAPD POLYMORPHISMS

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ABSTRACT

Fasciated and normal stem segments of *Opuntia microdasys, Opuntia cylindrica, Huernia primulina* and *Euphorbia lactea* were collected from the same plant and compared for their anatomy, water relations and genetic variations. Anatomical differences in terms of thickness of cuticle, vascular bundle, xylem and phloem were analyzed in both normal and fasciated stems. The mucilage cells were higher in the fascinated form of *Opuntia microdasys* than that in the normal form. Water status in terms of total water content (TWC), water deficit and relative water content (RWC) was influenced by fasciation. Genetic variations were tested in normal and fasciated stems using randomly amplified polymorphic DNA (RAPD) fingerprints and SDS-PAGE of soluble protein extracts. SDS-PAGE protein and RAPD analysis confirmed that normal and fasciated tissues were genetically different. Polymerase chain reaction (PCR) yielded different polymorphic banding patterns that were unique to each primer and distinguishable over all samples. The PCR results of normal and fasciated samples were significantly different in cases of primers P1, P2 and P3. These results indicate that occurrence of fasciation in *Opuntia microdasys, Opuntia cylindrica, Huernia primulina* and *Euphorbia lactea* is an epigenetic mutation of tissues.

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Scientia Horticultura 164 (2013) 540–543

IMPACT FACTOR=1.527

MODE OF GENE ACTION, HETEROSIS AND INBREEDING DEPRESSION FOR YIELDAND ITS COMPONENTS IN TOMATO (SOLANUM LYCOPERSICUM L.)

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ABSTRACT

The objectives of this study were to determine heterosis and the type of gene action controlling someeconomical traits of tomato. Six populations of the cross CastleRock × CLN 2498E (P1, P2, F1, F2, BC1andBC2) were used to study the genetic parameters of tomato traits. Means of the six populations were widelydiffered for most of the studied traits. One or more of the three scaling tests (A, B and C) were significantfor some studied traits indicating that additive dominance model was inadequate to know the role of thetype of gene action in the inheritance of these traits. Additive gene effects were found to be importantin the inheritance of average fruit weight. Dominance and dominance × dominance gene effects wereimportant in the inheritance of plant height, number of branches per plant fruit firmness and early yield.Heterosis relative to better parent was present for number of branches per plant, early yield, total yieldand fruit firmness. The heritability estimates in broad sense were high for early yield, total yield, averagefruit weight, fruit firmness and TSS content. However, heritability estimates in narrow sense were highfor early yield and average fruit weight and moderate for TSS content. The estimated potence ratio (P)was larger than one for all studied traits except for average fruit weight and TSS content

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IMPACT FACTOR=1.881

PHYTOREMEDIATION OF BAUXITE-DERIVED RED MUD BY GIANT REED

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ABSTRACT

In 2010 the pond dam of an aluminium manufacturing plant in Hungary broke and flooded many towns with toxic red mud. At least 10 people were dead and over 150 hospitalized. Bauxite residue is often referred as red mud due to the colour of the bauxite ore and iron oxides. Red mud is separated during the refining process. The production of 1 t of alumina generally results in the creation of 1–1.5 t of red mud. Red mud is toxic for the environment due to high alkalinity, salinity and trace metals. Here, we used the plant Arundo donax L. (giant reed) to uptake trace metals and decrease salinity and pH of red mud. We measured plant toxicity, trace metal availability and biomass production. Results show a 25 % decrease in electrical conductivity of red mud and a 6 % decrease in electrical conductivity of mud-polluted soil. Giant reed cultivation decreases available Cd, Pb, Co, Ni and Fe. Biomass of giant reed seedlings in red mud and mud/control soil mixture was increased by 40.4 and 47.2 %, respectively, comparing with control soil. Our findings show that giant reed is promising to decontaminate soils contaminated by red mud.

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BioEnergy Research , March 2014, Volume 7, Issue 1, pp 268-278

IMPACT FACTOR=4.250

RESTORING SOIL ECOSYSTEMS AND BIOMASS PRODUCTION OF ARUNDO DONAX L. UNDER MICROBIAL COMMUNITIES-DEPLETED SOIL

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ABSTRACT

In recent years, giant reed (Arundo donax L) has received considerable attention as a promising plant for energy production. Giant reed is able to grow in a range of environments, including wetlands and marginal soils, and has shown promise in phytoremediation efforts. A pot experiment was carried out to investigate the ability of giant reed to restore ecosystems of different soils, including bauxite-derived red mud-amended soil and pure red mud (red mud—a waste generated by the Bayer process in the aluminum industry—is strongly alkaline and has a high salt content and electrical conductivity (EC) dominated by sodium). Samples were exposed to high temperatures, which simulate the effects of bushfires. Selected soil properties that were measured included soil dehydrogenase, alkaline phosphatase, urease and catalase activities, soil organic carbon, soil pH, EC, available soil macronutrients NPK, and above- and below-ground plant biomass yield. The results showed that giant reed reduced EC in all autoclaved soils and red mud-contaminated soils by 24–82 %. Significantly, available N was increased, and a slight increase was recorded for available K. The presence of giant reed enhanced the soils' enzyme activities to recover in all tested autoclaved soils and red mud-contaminated soils; specifically, dehydrogenase activity increased by 262 and 705 % in nonautoclaved and autoclaved soils, respectively, and urease and catalase activities increased by 591 and 385 % in autoclaved soils, respectively. Total bacterial and fungal counts were higher in autoclaved soils than non-autoclaved soils after cultivating giant reed for 12 weeks. Autoclaved soils enabled higher biomass production for giant reed than non-autoclaved soils. These results demonstrate that giant reed is not only able to survive on soil that has lost its microbial community as a result of heat, but can also yield significant amounts of biomass while assisting recovering soil ecosystems after bushfires.

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International Journal of Pharmacology 5(1):51-57,2009

IMPACT FACTOR=1.503

EVALUATION OF THE REPRODUCTIVE TOXICITY OF CHLORPYRIFOS METHYL, DIAZINON AND PROFENOFOS PESTICIDES IN MALE RATS.

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ABSTRACT

The toxic effects of organophosphorus pesticides (i.e. chlorpyrifos methyl, diazinon and profenofos) on male reproductive system of rats were evaluated. Rats received pesticides mixed with powdered feed at concentrations of 5 and 50 ppm of each pesticide for 65 successive days. Sex organs weight, semen picture, concentrations of the hormones [i.e. testosterone, luteinizing hormone (LH), and follicle stimulating hormone (FSH)], activities of acetylcholinesterase (AChE) and histopathological changes in testes were the criteria used to evaluate the reproductive toxicity of the treated rats. Results showed that the effect of all tested pesticides on testes and seminal vesicles weights was dose-dependent since all tested pesticides at 50 ppm significantly decreased their weights. Serum AChE activity was inhibited with all tested pesticides. Both the concentrations of the tested pesticides decreased sperm count associated with increase in the number of morphologically abnormal spermatozoa of treated rats; however sperm motility was significantly decreased with the highest concentration of the tested pesticides. A decrease in the serum testosterone was observed in all treated groups; however LH and FSH levels were decreased with the highest concentration of the tested pesticides. Tissues of treated rat's testes showed slight alterations when histopathologically examined especially with the higher concentrations

34

J. Poult. Sci., 50: 242-250, 2013

IMPACT FACTOR= 0.684

SYNERGISTIC EFFECT OF FEEDING *ASPERGILLUS AWAMORI* AND *SACCHAROMYCES CEREVISIAE* ON GROWTH PERFORMANCE IN BROILER CHICKENS; PROMOTION OF PROTEIN METABOLISM AND MODIFICATION OF FATTY ACID PROFILE IN THE MUSCLE

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ABSTRACT

This study was conducted to examine the effects of a combined in-feed supplementation of *Aspergillus awamori* and *Saccharomyces cerevisiae* on growth and muscle protein metabolism and fatty acid profiles in broilers. Chicks (15 d old) were fed a basal diet as control, diets supplemented with 0.05% *A. awamori*, 0.10% *S. cerevisiae*, or a combination of both (7 birds/group) for 12 days. Growth of the birds was promoted by all treatments. Synergistic effects of *A. awamori* and *S. cerevisiae* were observed on body weight gain and feed conversion, breast muscle weight, and digestibility of dietary protein. Plasma 3 methylhistidine concentrations were decreased by *A. awamori* and *S. cerevisiae*, and synergistically by the combination. Gene expressions of proteolysis-related factors in muscle were reduced by all treatments. Conversely, mRNA expressions of myosin and actin were synergistically increased by the combination. Abdominal fat and plasma triglycerides were decreased by *A. awamori* and the combination, but not by *S. cerevisiae*, while muscle fat content was increased by all treatments. Interestingly, there was a decrease in saturated fatty acids and an increase in unsaturated fatty acids in muscle in all treatment groups. This change in fatty acid profile was partially related to mRNA expression of delta-6 fatty acid desaturase in the muscle. In conclusion, the combined supplementation of *A. awamori* and *S. cerevisiae* synergistically improves growth performance by promoting muscle protein metabolism. In addition, *A. awamori* and *S. cerevisiae* modify the muscle fatty acid profile.

35

Pak Vet J, 33(4): 450-454,2013.

IMPACT FACTOR=1.365

THE EFFECT OF DIETARY LINSEED OIL AND ORGANIC SELENIUM ON GROWTH PERFORMANCE AND MUSCLE FATTY ACIDS IN GROWING RABBITS

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ABSTRACT

The present study was conducted to evaluate the effect of a combined in-feed of linseed oil and organic selenium on growth performance and muscle fatty acid profiles in growing rabbits. A total of 4-week-old sixty male growing New Zealand white rabbits (average weight 531±5g) were collected and equally divided into 3 groups. The control group was fed on a control diet, whereas the treatment groups were fed on diets contained 2.5% linseed oil with or without 0.3 ppm organic selenium. All experimental treatments were provided from 4 to 10 weeks of age. Although feed intake was decreased significantly ($P<0.05$) by the dietary linseed oil and organic selenium, body weight gain was significantly ($P<0.05$) increased. Both plasma and muscle total cholesterol decreased with the decrease of abdominal fat. However, plasma concentrations of HDL-cholesterol and glutathione peroxidase were increased significantly ($P<0.05$) by dietary supplementation of linseed oil and organic selenium. Furthermore, in the muscles, saturated fatty acids were decreased; meanwhile, unsaturated fatty acids were increased that may refer to the use of linseed oil and organic selenium. In conclusion, the present study clearly shows that growth performance was improved. Muscle lipid profile could be modified by a combined in-feed of linseed oil and organic selenium to the growing rabbit's diet.

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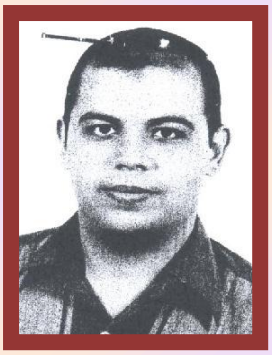
Plant Pathol. J. 29(2) : 193-200 (2013), ISSN 2093-9280

IMPACT FACTOR=0.667



INDUCTION OF SYSTEMIC RESISTANCE AGAINST CUCUMBER MOSAIC VIRUS IN ARABIDOPSIS THALIANA BY RICHODERMA ASPERELLUM SKT-1

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ABSTRACT

Trichoderma asperellum SKT-1 is a microbial pesticide that is very effective against various diseases. Our study was undertaken to evaluate T. asperellum SKT-1 for induction of resistance against yellow strain of Cucumber mosaic virus (CMV-Y) in Arabidopsis plants. Disease severity was rated at 2 weeks post inoculation (WPI). CMV titre in Arabidopsis leaves was determined by indirect enzyme-linked immunosorbent assay (ELISA) at 2 WPI. Our results demonstrated that among all Arabidopsis plants treated with barley grain inoculum (BGI) of SKT-1 NahG and npr1 plants showed no significant reduction in disease severity and CMV titre as compared with control plants. In contrast, disease severity and CMV titre were significantly reduced in all Arabidopsis plants treated with culture filtrate (CF) of SKT-1 as compared with control plants. RT-PCR results showed increased expression levels of SA-inducible genes, but not JA/ET-inducible genes, in leaves of BGI treated plants. Moreover, expression levels of SA- and JA/ETinducible genes were increased in leaves of CF treated plants. In conclusion, BGI treatment induced systemic resistance against CMV through SA signaling cascade in Arabidopsis plants. While, treatment with CF of SKT- 1 mediated the expression of a majority of the various pathogen related genes, which led to the increased defense mechanism against CMV infection

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Journal of Environmental Science and Health, Part B (2013) 48. 449–461. ISSN: 0360-1234

IMPACT FACTOR=1.211

OPTIMIZATION OF METHYL PARATHION BIODEGRADATION AN DETOXIFICATION BY CELLS IN SUSPENSION OR MOBILIZED ON TEZONTLE EXPRESSING THE OPD GENE

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ABSTRACT

The goal of this study was to optimizemethyl parathion (*O,O-dimethyl-O-4-p-nitrophenyl phosphorothioate*) degradation using a strain of *Escherichia coli DH5α* expressing the *opd* gene. Our results indicate that this strain had lower enzymatic activity compared to the *Flavobacterium* sp. ATCC 27551 strain from which the *opd* gene was derived. Both strains were assessed for their ability to degrade methyl parathion (MP) in a mineral salt medium with or without the addition of glucose either as suspended cells or immobilized on tezontle, a volcanic rock. MP was degraded by both strains with similar efficiencies, but immobilized cells degraded MP more efficiently than cells in suspension. However, the viability of *E. coli* cells was much higher than that of the *Flavobacterium sp.* We confirmed the decrease in toxicity from the treated effluents through acetylcholinesterase activity tests, indicating the potential of this method for the treatment of solutions containing MP.

38

Renewable and Sustainable Energy Reviews 25 (2013) 793–813

IMPACT FACTOR=6.018

MPPT TECHNIQUES FOR PHOTOVOLTAIC APPLICATIONS

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ABSTRACT

The photovoltaic (PV) system is one of the renewable energies that attract the attention of researchers in the recent decades. The PV generators exhibit nonlinear I–V and P–V characteristics. The maximum power produced varies with both irradiance and temperature. Since the conversion efficiency of PV arrays is very low, it requires maximum power point tracking (MPPT) control techniques. The maximum power point tracking (MPPT) is the automatic control algorithm to adjust the power interfaces and achieve the greatest possible power harvest, during moment to moment variations of light level, shading, temperature, and photovoltaic module characteristics. The purpose of the MPPT is to adjust the solar operating voltage close to the MPP under changing atmospheric conditions. It has become an essential component to evaluate the design performance of PV power systems. This investigation aims to assess different MPPT techniques, provide background knowledge, implementation topology, grid interconnection of PV and solar microinverter requirements presented in the literature, doing depth comparisons between them with a brief discussion. The MPPT merits, demerits and classification, which can be used as a reference for future research related to optimizing the solar powe generation, are also discussed. Conventional methods are easy to implement but they suffer from oscillations at MPP and tracking speed is less due to fixed perturb step. Intelligentmethods are efficient; oscillations are lesser at MPP in steady state and tracked quickly in comparison to conventional methods

Faculty of Veterinary Medicine

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The Journal of Veterinary Medical Science
Accepted Date: 15 Sep 2009

IMPACT FACOR= 0.876

EXPRESSION AND SEQUENCE OF CYP1A1 IN CAMEL

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ABSTRACT

In this study, we determined the CYP1A1 partial sequence in camel and its phylogenetic position. The deduced amino acid sequence of camel CYP1A1 showed the highest identity with that of sheep and cattle CYP1A1 at 94%. In the phylogenetic analysis, the camel CYP1A1 isoform was located beside sheep and cattle CYP1A1. When we studied the distribution of camel CYP1A1 mRNA in different tissues, we found that this isoform was expressed in all tissues except the hump. Interestingly, lung of all camels and tongue from two of three animals showed high expression of CYP1A1 mRNA, and this may indicate exposure to ligands of aryl hydrocarbon receptor such as environmental pollutants or flavonoids.

Life Science Journal 2013; 10 (3)

IMPACT FACTOR=0.165

ASSOCIATION OF VITAMIN D RECEPTORS GENES POLYMORPHISM (*APA 1, AND TAQ 1)* WITH TYPE 1 DIABETES IN SAUDI ARABIA (KSA)

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ABSTRACT

Type 1 diabetes mellitus (TIDM) results from an immune-mediated destruction of insulin-producing-cells in the pancreatic islets of Langerhans. There are clear differences in immunogenetic predisposition to type1 diabetes among countries. Studies have indicated that vitamin D supplementation in early childhood decreases the risk of TIDM. Vitamin D exerts its action via the nuclear vitamin D receptor (VDR), which shows an extensive polymorphism. VDR gene polymorphisms have been associated with altered gene expression or gene function. Four single nucleotide polymorphisms (SNPs) in the VDR gene produce variation in four recognition sites. These recognition sites variants include *Fok* I, *Bsm* I, *Apa* I and *Taq* I. This study was conducted to investigate the relationship between VDR gene polymorphisms and the incidence of TIDM in Saudi people living in Taif region. *Apa* I recognition site was found in low frequency in diabetic patient (7/37)18.9% while, its frequency was high (8/14) 57.1% among normal children. *Taq* I has two recognition sites. The first was found at nucleotide number 293 that was found in a frequency of (1/14) 7.1% in normal non-diabetic individuals while it was detected in (7/37) 18.9% in diabetic patients. The second *Taq* I recognition site was found at nucleotide number 494 without any differences between diabetic and normal individuals. This study indicates that there is an association between VDR genetic polymorphism and incidence of TIDM in Saudi people live in Taif region. **[**El-Sayed El-Badrawy, Zein S. Ibrahim, AmalAbedel Aziz, Mahmoud M Kamel, Gaber M Shehaband, Ayman Kamal. Association of Vitamin D Receptors Genes Polymorphism (*Apa I,* and *Taq I*) with type 1 diabetes in Saudi Arabia (KSA).

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Virus Research 117 (2010) 66–75

IMPACT FACTOR=2.941

PRIMARY ISOLATION AND CHARACTERIZATION OF SPRING VIREMIA OF CARP VIRUS (SVCV) FROM CULTURED Fish IN KAFR EL-SHIKH GOVERNORATE

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ABSTRACT

In the present study, Spring viremia of carp virus (SVCV) was identified from cultured common carp (*Cyprinus carpio*), silver carp (*Hypophthalmixis molitrix*) and ***O. niloticus*** during disease out-break in a private fish farm in Egypt. The electron microscope was used to describe the viruse and determine their shape and form. Specific immunohistochemistery test was carried out using monoclonal antibody of SVCV and antimouse immunoglobulin to verify the presence of the SVCV. Histopathological investigation of the infected fishes was also carried out. The results revealed the presence of bullet-shape *Rhabdovirus*. The specificity of the isolated SVCV to antibody was proved. The clinical signs of infected fish included skin darkening, tail and fin rot, ulceration, hemorrhage on the abdomen, ascites and redness of isthmus and head region. Postmortem lesions were congestion of all internal organs, distended gall bladder, hemorrhagic gas bladder, exophthalmia and swelling of the anal opening. Histopathological examination of the infected organs by the described virus revealed degenerative changes and focal necrosis in the involved cells of the internal organs. Polymerase chain reaction is good prognosis of the virus presence. The present results indicated that the virus infection was likely the cause the infection and was responsible for the mortalities and lesions during the outbreak. This result may be the first report on spring viremia among cultured fishes in Egypt but it needs further studies for specification and characterization of the virus.

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Plos One, February 2013, Volume 8, Issue 2 ,e51582

IMPACT FACTOR=4.092

Detection of Genetic Diversity in Campylobacter jejuni Isolated from a Commercial Turkey Flock Using flaA Typing, MLST Analysis and Microarray Assay

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ABSTRACT

Campylobacter is genetically highly diverse and undergoes frequent intraspecific recombination. Turkeys have been identified as an important reservoir for Campylobacter jejuni which is of public health significance. The assessment of the genetic diversity among Campylobacter population is critical for our understanding of the epidemiology of this bacterium. The genetic profiles were different according to the molecular typing methods used. The performance of established flaA genotyping, multilocus sequencing typing (MLST) and DNA microarray assay based on the ArrayTubeTM technology was evaluated using 14 Campylobacter jejuni isolated from a commercial turkey flock. The flaA typing was performed using PCRRFLP with restriction enzymes Sau3AI, AluI, a 'composite' flaA analysis of AluI and Sau3AI and DdeI. The 14 isolates were differentiated into 3, 5, 7 and 9 genotypes, respectively. Entire flaA gene and short variable region (SVR) sequences were analysed. Sequencing of the entire flaA provided 11 different genotypes. flaA-SVR sequence analysis detected 8 flaA alleles and 4 flaA peptides. One new flaA allele type (528) was identified. MLST analysis represented 10 different sequence types (STs) and 5 clonal complexes (CCs). The microarray assay recognised 14 different genotypes. The discriminatory indices were 0.560, 0.802, 0.857, and 0.912 for flaA-RFLP depending on the used enzymes, 0.890 for flaA-SVR, 0.967 for entire flaA sequencing, 0.945 for MLST and 1.00 for the DNA microarray assay. The flaA gene was genetically stable over 20 passages on blood agar. In conclusion, the different typing tools demonstrated a high level of genetic heterogeneity of Campylobacter jejuni in a turkey flock, indicating that a single flock can be infected by multiple genotypes within one rearing cycle. DNA microarray-based assays had the highest discriminatory power when compared with other genotyping tools.

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Avian Diseases 56(4):685-692. 2012

IMPACT FACTOR=1.734

DETERMINATION OF ANTIMICROBIAL SENSITIVITIES OF *CAMPYLOBACTER JEJUNI* ISOLATED FROM COMMERCIAL TURKEY FARMS IN GERMANY

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ABSTRACT

The emergence of antimicrobial resistance among Campylobacter isolates recovered from turkeys has increased dramatically. Monitoring the progress of this resistance becomes a growing public health issue. The aim of the present study was to provide information of the current status of antibiotic resistance patterns in Campylobacter jejuni from turkeys. Seventy six C. jejuni isolates were recovered from 67 epidemiologically unrelated meat turkey flocks in different regions of Germany in 2010 and 2011. The isolates were typed by flaA genotyping and were investigated for antimicrobial susceptibility against 12 antibiotics by using a broth microdilution test as well as testing the genetic determination of ciprofloxacin, tetracycline, and erythromycin resistance. All isolates (n = 76) were sensitive to gentamicin and chloramphenicol. The numbers of isolates that were sensitive to streptomycin, erythromycin, neomycin, and amoxicillin were 69 (90.8%), 61 (80.2%), 58 (76.4%), and 44 (57.9%), respectively. Only one isolate was sensitive to all tested antibiotics. The emergence of a high resistance rate and multidrug resistance to three or more classes of antimicrobial agents were observed. The resistance against sulphamethoxazole/trimethoprim, metronidazole, ciprofloxacin, naladixic acid, and tetracycline was 58 (76.3%), 58 (76.3%), 53 (69.7%), 51 (67.1%), and 42 (55.3%), respectively. None of the isolates was resistant to all antibiotics. Multidrug resistance to three or more classes of antimicrobial agents was found and ranged from 3.9% to 40.8%. Replacement of the Thr-86-->Ile in gyrA gene and detection of the tet(O) gene were the main resistance mechanisms for fluoroquinolones and tetracycline, respectively, while the lack of mutation in position 2074 and 2075 on the 23S rRNA gene was responsible for macrolide resistance. The phenotypic and genotypic resistance profiles were compatible in the case of ciprofloxacin and tetracycline but were not completely congruent with respect to erythromycin.

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Parasitology Research January 2014, Volume 113, Issue 1, Pp 391-397

IMPACT FACTOR=2.852

MORPHOLOGIC IDENTIFICATION OF A NEW *SARCOCYSTIS* SP. IN THE COMMON MOORHEN (*GALLINULA CHLOROPUS*) (AVES: GRUIFORMES: RALLIDAE) FROM BROLOS LAKE, EGYPT

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ABSTRACT

Sarcocystis species are among the most common and widespread protozoan parasites of mammals and birds. The current study provides the first record of infection with Sarcocystis species in the common moorhens from Brolos Lake, KafrElsheikh province, Egypt. Morphology of the parasite cysts was described using light and transmission electron microscopy. Out of 25 examined birds, sarcocysts were found in neck, thigh, and legs muscles of two birds. The cysts were microscopic and measured 150–650 μm in length×45– 185 μm in width. Histologically, the sarcocyst wall appeared striated and characterized by the presence of radial spines. Ultrastructurally, it measured 2–4.5 μm in thickness and had irregularly shaped crowded finger-like villar protrusions that measured 1.5–4 μm in length and up to 0.4–2 μm in width with the presence of dense electron ground substance of 200– 750 nm thick. Several septa derived from the ground substance were present and divided the cyst into compartments containing both bradyzoites and metrocytes. The bradyzoites were banana shaped and measured 6–12×1–2 μm with centrally or posteriorly located nuclei. The ultrastructural features of the cyst wall belonged to type 10 cyst wall according the classification of Dubey et al. (1989) and Dubey and Odening (2001).

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Microbiol Immunol 2011; 55: 318–327

IMPACT FACTOR= 1.545

MOLECULAR CHARACTERIZATION OF ANTIMICROBIAL RESISTANCE IN GRAM-NEGATIVE BACTERIA ISOLATED FROM BOVINE MASTITIS IN EGYPT

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33516, Egypt, and 2Laboratory of Food Microbiology and Hygiene, Graduate School of Biosphere Science, Hiroshima University, 1-4-4 Kagamiyama,
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ABSTRACT

The aim of this study was to characterize the genetic basis of multidrug resistance in Gram-negative bacteria isolated from bovine mastitis cases in Egypt. Multidrug resistance phenotypes were found in 34 of 112 (30.4%) Gram-negative bacterial isolates, which harbored at least one antimicrobial resistance gene. Themost prevalentmultidrug-resistant (MDR) species were *Enterobacter cloacae* (8 isolates, 7.1%), *Klebsiella pneumoniae* (7 isolates, 6.3%), *Klebsiella oxytoca* (7 isolates, 6.3%), *Escherichia coli* (5 isolates, 4.5%), and *Citrobacter freundii* (3 isolates, 2.7%). The most commonly observed resistance phenotypeswere against ampicillin (97.0%), streptomycin (94.1%), tetracycline (91.2%), trimethoprim– sulfamethoxazole (88.2%), nalidixic acid (85.3%), and chloramphenicol (76.5%). Class 1 integrons were detected in 28 (25.0%) isolates. The gene cassettes within class 1 integrons included those encoding resistance to trimethoprim (*dfrA1*, *dfrA5*, *dfrA7*, *dfrA12*, *dfrA15*, *dfrA17*, and *dfrA25*), aminoglycosides (*aadA1*, *aadA2*, *aadA5*, *aadA7*, *aadA12*, *aadA22*, and *aac(3)-Id*), chloramphenicol (*cmlA*), erythromycin (*ereA2*), and rifampicin (*arr-3*). Class 2 integrons were identified in 6 isolates (5.4%) with three different profiles. Furthermore, the *β*-lactamase encoding genes, *bla*TEM, *bla*SHV, *bla*CTX−M, and *bla*OXA, the plasmid-mediated quinolone resistance genes, *qnr* and *aac(6)-Ib-cr*, and the florfenicol resistance gene, *floR*, were also identified. To the best of our knowledge, the results identified class 2 integrons, *qnr* and *aac(6)-Ib-cr* from cases ofmastitis for the first time. This is the first report ofmolecular characterization for antimicrobial resistance in Gram-negative bacteria isolated from bovine mastitis in Africa.

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Microbiol Immunol 2012; 56: 254–26

IMPACT FACTOR=1.545

GENETIC ANALYSIS OF MULTIPLE ANTIMICROBIAL RESISTANCE IN *SALMONELLA* ISOLATED FROM DISEASED BROILERS IN EGYPT

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ABSTRACT

To date, no information has been available on the molecular bases of antimicrobial resistance in *Salmonella* spp. from poultry in Egypt or even in Africa. Therefore, the objective of this study was to analyze, at themolecular level, themechanisms ofmultidrug-resistance in isolates of *Salmonella* recovered from diseased broilers in Egypt. Twenty-one *Salmonella* isolates were identified; 13 of these isolates were *Salmonella enterica* serovar Enteritidis and eight *Salmonella enterica* serovar Typhimurium. 17 (81%). *Salmonella* isolates displayedmultidrug resistance phenotypes, particularly against ampicillin, streptomycin, spectinomycin, kanamycin, tetracycline, chloramphenicol, and trimethoprim/sulfamethoxazole. PCR and DNA sequencing identified class 1 integrons in nine (42.9%) isolates and class 2 integrons in three (14.3%) isolates. The identified resistance genes within class 1 integrons were aminoglycoside adenyltransferase type A, *aadA1*, *aadA2* and *aadA5* and dihydrofolate reductase type A, *dfrA1*, *dfrA5*, *dfrA12*, *dfrA15* and *dfrA17*. The *β*-lactamase encoding genes *bla*TEM-1 and *bla*CMY-2 and florfenicol resistance gene *floR* were also identified. Furthermore, the tetracycline resistance gene *tet*(A) was identified in 14 (66.7%) *Salmonella* isolates. To the best of our knowledge, this is the first report of the molecular basis of antimicrobial resistance in *Salmonella* spp. isolated from poultry in Africa.

International Journal of Medical Microbiology 303 (2013) 475– 483

IMPACT FACTOR=4.537

MOLECULAR CHARACTERIZATION OF MULTIDRUG-RESISTANT AVIAN PATHOGENIC ESCHERICHIA COLI ISOLATED FROM SEPTICEMIC BROILERS

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ABSTRACT

Avian pathogenic Escherichia coli (APEC) causes extensive mortality in poultry flocks, leading to extensiveeconomic losses. To date, little information is available on the molecular basis of antimicrobial resistancein APEC in Africa. Therefore, the objective of this study was to characterize the virulence and antimicrobialresistance of multidrug-resistant APEC isolated from septicemic broilers in Egypt at the molecular level.Among 91 non-repetitive E. coli isolates, 73 (80.2%) carried three or more of the APEC virulence genes iroN,ompT, iss, iutA, and hlyF. All 73 APEC isolates showed multidrug resistance phenotypes, particularly againstampicillin, tetracycline, spectinomycin, streptomycin, kanamycin, and trimethoprim/sulfamethoxazole.PCR and DNA sequencing identified class 1 and class 2 integrons in 34 (46.6%) and seven (9.6%) iso-lates, respectively. The _-lactamase-encoding genes, blaTEM-1, blaTEM-104, blaCMY-2, blaOXA-30, blaCTX-M-15,and blaSHV-2; tetracycline resistance genes, tet(A), tet(B), tet(C), tet(D), and tet(E); the plasmid-mediatedquinolone resistance genes, qnrA1, qnrB2, qnrS1, and aac(6_)-Ib-cr, and florfenicol resistance gene, floR,were also identified in 69 (94.5%), 67 (91.8%), 47 (64.4%), and 13 (17.8%) isolates, respectively. To the bestof our knowledge, this is the first report of molecular characterization of antimicrobial resistance in APECstrains from Africa.

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Journal of Microbiology (2013) Vol.51, NO. 3,pp.323-328

IMPACT FACTOR=1.276

A NOVEL RETRON OF VIBRIO PARAHAEMOLYTICUS IS CLOSELY RELATED TO RETRON-VC95 OF VIBRIO CHOLERA

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ABSTRACT

Some bacteria produce a satellite RNA-DNA complex termed msDNA, multicopy single stranded DNA. In this report, msDNA from *Vibrio parahaemolyticus*, a cause of acute gastroenteritis, was identified and named msDNA-Vp96. The retron element containing the *ret* gene, encoding the reverse transcriptase (RT) that is responsible for msDNA production, was cloned and characterized. Comparison of msDNAVp96 and msDNA-Vc95, from *Vibrio cholerae*, showed a high level of sequence similarity. We exchanged the two *ret* genes to examine whether msDNA was produced by the RT from different sources. We found that RT Vp96 of *V. parahaemolyticus* was able to synthesize msDNA-Vc95 o *V. cholerae* and vice versa. To the best of our knowledge, this is the first report that RT from different bacterial species can synthesize msDNA.

49

International Journal of Food Microbiology 168–169 (2014) 57–62

IMPACT FACTOR= 3.425

ISOLATION AND MOLECULAR CHARACTERIZATION OF SALMONELLA ENTERICA,ESCHERICHIA COLI O157:H7 AND SHIGELLA SPP. FROM MEAT AND DAIRY PRODUCTS IN EGYPT

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ABSTRASCT

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Foodborne pathogens are a major threat to food safety, especially in developing countries where hygiene and sanitation facilities are often poor. Salmonella enterica, Escherichia coli O157:H7 and Shigella spp. are among the major causes of outbreaks of foodborne diseases. This large-scale study investigated the prevalence of these foodborne pathogens in meat (beef and chicken) and dairy products collected from street vendors, butchers, retail markets and slaughterhouses in Egypt. A total of 1600 food samples (800 meat products and 800 dairy products) were analyzed using culture and PCR based methods. S. enterica, E. coli O157:H7 and Shigella spp. Were detected in 69 (4.3%), 54 (3.4%) and 27 (1.7%) samples respectively. S. enterica serovar Typhimurium, S. enterica serovar Enteritidis, S. enterica serovar Infantis and non-typable serovarswere detected in 28 (1.8%), 22 (1.4%), 16 (1.0%) and 3 (0.1%) samples respectively. All E. coli O157:H7 isolates were positive for stx1 and/or stx2 virulence toxin genes. Shigella flexneri, Shigella sonnei and Shigella dysenteriae were detected in 18 (1.2%), 7 (0.4%) and 2 (0.1%) samples respectively. The incidences of S. enterica and Shigella spp. were higher in meat products (53; 6.6% and 16; 2.0%, respectively) than in dairy products (16; 2.0% and 11; 1.4%, respectively), while, E. coli O157:H7 was higher in dairy products (29; 3.6%) than in meat products (25; 3.1%). The incidence of foodborne pathogens in meat and dairy products was determined in a large-scale survey in Africa.

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Development, Growth & Differentiation
Volume 55, Issue 8, pages 710–722, October 2013

IMPACT FACTOR= 2.397

BMP4 REGULATES CHICK EBF2 AND EBF3 GENE EXPRESSION IN SOMITE DEVELOPMENT

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ABSTRACT

The chick Early B-cell Factor-2 and 3 (cEbf2 and cEbf3) genes are members of EBF family of helix loop helix transcription factors. The expression, regulation and importance of these genes have been extensively studied in lymphatic, nervous and muscular tissues. Recently, a new role for some members of EBF in bone development has been investigated. However, the expression profile and regulation in the axial skeleton precursor, the somite, have yet to be elucidated. Therefore, this study was aimed to investigate the expression and regulation of cEbf2 and cEbf3 genes in the developing chick embryo somite from HH4 to HH28. The spatiotemporal expression study revealed predominant localization of cEbf2 and cEbf3 in the lateral sclerotomal domains and later around vertebral cartilage anlagen of the arch and the proximal rib. Subsequently, microsurgeries, ectopic gene expression experiments were performed to analyze which tissues and factors regulate cEbf2 and cEbf3 expression. Lateral barriers experiments indicated the necessity for lateral signal(s) in the regulation of cEbf2 and cEbf3 genes. Results from tissue manipulations and ectopic gene expression experiments indicate that lateral plate-derived Bmp4 signals are necessary for the initiation and maintenance of cEbf2 and cEbf3 genes in somites. In conclusion, cEbf2 and cEbf3 genes are considered as lateral sclerotome markers which their expression is regulated by Bmp4 signals from the lateral plate mesoderm.

51

Domestic Animal Endocrinology 45 (2013) 105–110

IMPACT FACTOR= 2.377

NOVEL POLYMORPHISMS OF THE IGF1R GENE AND THEIR ASSOCIATION WITH AVERAGE DAILY GAIN IN EGYPTIAN BUFFALO (BUBALUS BUBALIS

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ABSTRACT

The objective of this study was to detect insulin-like growth factor 1 receptor (IGF1R) polymorphisms, their allele, and genotype frequencies and to determine associations between these polymorphisms and growth traits in Egyptian water buffalo. Three loci of the IGF1R coding region were amplified by RT-PCR and, subsequently, subjected to sequence analysis, followed by single-strand conformation polymorphism to identify different allelic patterns. A total of 11 novel polymorphisms were detected; 6 SNPs among Egyptian water buffaloes and 5 polymorphisms compared with Indian buffalo (Y12700). Three of those polymorphisms; GAG Indel polymorphism, C261G, and G263C SNPs, were nonsynonymous mutations. The GAG Indel polymorphism led to deletion of E (glutamic) amino acid (aa) in the IGF1R of Egyptian water buffaloes compared with Indian buffalo. However, C261G SNP, which replaced A (alanine) by G (glycine) aa, and G263C SNP, which changed A (alanine) to P (proline) aa, were detected among Egyptian water buffaloes. Three different single-strand conformation polymorphism patterns were observed in exon 21: CC/CC, GG/GG, and CG/GC with frequencies of 0.291, 0.253, and 0.556, respectively. The heterozygous animals (CG/GC) had a higher ADG than homozygous animals (CC/CC and GG/GG) from birth to 6 mo of age. We conclude that the heterozygous haplotype, C261G/ G263C, in exon 21 of the IGF1R gene is associated with the ADG during the early stages of life (from birth to 6 mo of age) and could be used as a genetic marker for selection of growth traits in Egyptian buffalo.

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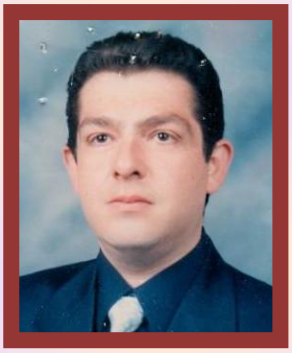
J Sci Food Agric,Volume 93, Issue 13, pages 3259–3263, October 2013

IMPACT FACTOR= 1.759



ANTIFUNGAL ACTION OF *PICHIA ANOMALA* AGAINST AFLATOXIGENIC *ASPERGILLUS FLAVUS* AND ITS APPLICATION AS A FEED SUPPLEMENT

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ABSTRACT

Thedisastrousproblemofanimalfeedcontaminationbymycotoxigenicfungicontinuestochallengeresearchers and health overseers worldwide.With the aim of preventing Aspergillus flavus growth in vitro and in corn feed, the yeast Pichia anomala was examined as a biocontrol agent. RESULTS: The yeast strain could efficiently prohibit the growth of A. flavus. P. anomala was able to produce exo-chitinase and β-1,3-glucanase which could be suggested as a mode of action for its antifungal activity. Scanning electron microscopy of cultured P. anomala with fungal hypha revealed that A. flavus was colonised by the biocontrol yeast which subsequently led to complete hyphal lysis and deterioration. The supplementation with of P. anomala cells, as a protein source, led to an obvious increase in animals' weight gain and protein content in feed grain. Moreover, after consumption of P. anomala supplemented feed, there was a remarkable decrease in the mortality rate among fed animals.

Eurosurveillance ,2013: Volume 18/ Issue 50 Article 5

IMPACT FACTOR=6.153

MIDDLE EAST RESPIRATORY SYNDROME (MERS) CORONAVIRUS EROPREVALENCE IN DOMESTIC LIVESTOCK IN SAUDI ARABIA, 2010 TO 2013

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ABSTRACT

In Saudi Arabia, including regions of Riyadh and Al Ahsa, pseudoparticle neutralisation (ppNT) and microneutralisation (MNT) tests detected no antibodies to Middle East Respiratory Syndrome coronavirus (MERS-CoV) in sheep (n= 100), goats (n= 45), cattle (n= 50) and chickens (n= 240). Dromedary camels however, had a high prevalence of MERS CoV antibodies. Bovine coronavirus (BCoV) infected sera from cattle had no cross-reactivity in MERS-CoV ppNT or MNT, while many dromedary camels' sera reacted to both BCoV and MERS-CoV. Some nevertheless displayed specific serologic reaction profiles to MERS-CoV.

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Rev. Bras. Parasitol. Vet., Jaboticabal, v. 22, n. 2, p. 312-313, abr.-jun. 2013

IMPACT FACTOR=0.722

HISTOPATHOLOGICAL FINDINGS OF THE KIDNEY TREMATODA *PARATANAISIA* SPP. (DIGENEA: EUCOTYLIDAE) IN CATTLE EGRET (*BUBULCUS IBIS*)

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ABSTRACT

Paratanaisia spp. was recorded from the right kidney of a cattle egret (*Bubulcus ibis*) in Kafr Elsheikh governorate, Nile Delta, Egypt. The bird showed marked emaciation and dissipation. Necropsy findings revealed marked enlargement and brownish discoloration of the kidney. Microscopic examination demonstrated marked dilatation of renal tubules with hyperplasia of lining epithelium due to presence of a trematode consistent with *Paratanaisia* spp. Eggs of this parasite were also noticed deeply within the interstitial tissue, surrounded with mononuclear cell infiltration, thus indicating their pathogenic potential. This result is the first report of trematodes of this genus parasitizing the kidneys of cattle egrets.

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Parasitology International 61 (2012) 501–503

IMPACT FACTOR=2.302

CARBOCYCLIC THYMIDINE DERIVATIVES EFFICIENTLY INHIBIT PLASMODIUM FALCIPARUM THYMIDYLATE KINASE (PFTMK)

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ABSTRACT

During the course of our research into new anti-malaria drugs, Plasmodium falciparum thymidylate kinase (PfTMK) has emerged as an important drug target because of its unique substrate specificity. Compared with human thymidylate kinase (HsTMK), PfTMK shows broader substrate specificity, which includes both purine and pyrimidine nucleotides. PfTMK accepts both 2′-deoxyguanosine monophosphate (dGMP) and thymidine monosphosphate (TMP) as substrates. We have evaluated the inhibitory activity of seven carbocyclic thymidine analogs and report the first structure activity relationship for these inhibitors against PfTMK. The 2′,3′ dideoxycarbocyclic derivative of thymidine showed the most potent inhibition of the enzyme. The Ki dTMP and Ki dGMP values were 20 and 7 μM respectively. Thus, further modifications of carbocyclic thymidine analogs represent a good strategy for developing more powerful thymidylate kinase inhibitors

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J Therm Anal Calorim (2013) 111:1737–1741

IMPACT FACTOR=1.982

MACROMOLECULAR INTERACTIONS OF SPECTINOMYCIN WITH ALBUMIN BOVINE SERUM

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ABSTRACT

Among the pharmacokinetic parameters of chemotherapeutics, serum albumin binding is a critical factor in determining drug distribution and bioavailability. In this study, the binding properties as well as the interaction of spectinomycin with Bovine serum albumin was investigated. Spectinomycin showed stronger binding with BSA at higher temperatures, which diminishes by decreasing the temperature. The binding constant of spectinomycin with BSA varied from 3.1 9 103 M-1 at 298 K to 6.3 9 103 M-1 at 313 K. By increasing the temperature, from 298 to 313 K, the binding affinity was increased b twofolds. Thermodynamic analysis indicated changes in albumin conformation and partial loss of folding during spectinomycin-albumin binding. The mild-moderate binding affinity of spectinomycin with BSA will be important in determining the drug–drug interactions at the binding sites of BSA. The presence of stronger binding ligand e.g., chloramphenicol, tetracyclines or diclofenac will compete with spectinomycin for its binding sites, therefore, lowering its serum albumin binding. The result of this study will be helpful in understanding of the binding properties and mechanisms of interaction of spectinomycin with bovine serum albumin.

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Indian Journal of Pharmaceutical Sciences, ISSN 0250_474X, NOVEMBER_DECEMBER 2012, 74_6_: 487_598

IMPACT FACTOR=0.338

THE BINDING INTERACTIONS OF THE MACROLIDE ENDECTOCIDE IVERMECTIN WITH THE ANTIBIOTICS AMPICILLIN, CHLORAMPHENICOL AND TETRACYCLINE HCL

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ABSTRACT

Ivermectin, chloramphenicol, ampicillin and tetracycline HCl are common drugs in human and veterinary practice. The purpose of this study is to investigate the possible binding interactions between ivermectin and the antibiotics chloramphenicol, ampicillin and tetracycline HCl. Isothermal titration calorimetry was used to determine the bindinginteractions between ivermectin and these antibiotics. Results indicated that, aboutthree molecules of ampicillin can bind to one molecule of ivermectin and about onemolecule of chloramphenicol with one molecule of ivermectin. However, no binding stoichiometry can be detected with tetracycline HCl-ivermectin titration. Furthermore, the binding interactions were accompanied by various biophysical and biochemical mechanisms. This is the first report of such interactions of ivermectin with chloramphenicol, ampicillin and tetracycline HCl. There are possible binding interactions of ivermectin with chloramphenicol and ampicillin. Further studies are required for detecting the impact of this binding on biological aspects of drug actions

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Plos one February 2013 ,Volume 8 , Issue 2 ,

IMPACT FACTOR= 4.092

COMPUTATIONAL ANALYSIS OF SIRNA RECOGNITION BY THE AGO2 PAZ DOMAIN AND IDENTIFICATION OF THE DETERMINANTS OF RNA-INDUCED GENE SILENCING

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ABSTRACT

RNA interference (RNAi) is a highly specialized process of protein-siRNA interaction that results in the regulation of gene expression and cleavage of target mRNA. The PAZ domain of the Argonaute proteins binds to the 3’ end of siRNA, and during RNAi the attaching end of the siRNA switches between binding and release from its binding pocket. This biphasic interaction of the 3’ end of siRNA with the PAZ domain is essential for RNAi activity; however, it remains unclear whether stronger or weaker binding with PAZ domain will facilitate or hinder the overall RNAi process. Here we report the correlation between the binding of modified siRNA 3’ overhang analogues and their in vivo RNAi efficacy. We found that higher RNAi efficacy was associated with the parameters of lower Ki value, lower total intermolecular energy, lower free energy, higher hydrogen bonding, smaller total surface of interaction and fewer van der Waals interactions. Electrostatic interaction was a minor contributor to compounds recognition, underscoring the presence of phosphate groups in the modified analogues. Thus, compounds with lower binding affinity are associated with better gene silencing. Lower binding strength along with the smaller interaction surface, higher hydrogen bonding and fewer van der Waals interactions were among the markers for favorable RNAi activity. Within the measured parameters, the interaction surface, van der Waals interactions and inhibition constant showed a statistically significant correlation with measured RNAi efficacy. The considerations provided in this report will be helpful in the design of new compounds with better gene silencing ability.

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Parasitology International 62 (2013) 368–371

IMPACT FACTOR=2.302

SYNTHESIS OF CARBOCYCLIC PYRIMIDINE NUCLEOSIDES AND THEIR INHIBITORY ACTIVITIES AGAINST PLASMODIUM FALCIPARUM THYMIDYLATE KINASE

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ABSTRACT

Plasmodium falciparum thymidylate kinase (PfTMK) is a promising antimalarial target due to its unique substrate specificity. Recently, we reported that 2′,3′-dideoxycarbocyclic thymidine showed moderate inhibitory activity and reported the related structure–activity relationship for inhibitors against PfTMK. In this study, we have designed and synthesized enantioselective 2′,3′-dideoxycarbocyclic pyrimidine nucleosides based on our previous results and screened them for inhibitory activity against PfTMK. The most potent inhibitor showed Ki TMP and Ki dGMP values of 14 and 20 μM, respectively. The fluorinated dideoxy derivative (-)-7, exhibited lower Ki TMP and higher Ki dGMP compared with that of the parent compound (Ki TMP, Ki dGMP equals 20 and 7 μM, respectively). The modification of carbocyclic pyrimidine nucleosides is a promising strategy for developing powerful PfTMK inhibitors

60

Drugs of Today 2013, 49(5): 325-339

IMPACT FACTOR= 1.277

CURRENT AND FUTURE ASTHMA THERAPIES

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ABSTRACT

Corticosteroids (CST) are the gold standard for asthma management and for several decades have been considered the cornerstone for asthma control. With the recent advent of genomic and structural analysis technologies, the molecular basis of the side effects, toxicity and resistance mechanisms of drug treatment are better understood. With respect to CST, there is consistent evidence that while CST therapy improves asthma symptoms, it does not alter the natural course of asthma or offer clear long-lasting improvement of respiratory performance. Therefore, the development of drugs capable of minimizing or avoiding CST side effects, toxicity and resistance could be the way forward for establishing new asthma therapies. This review summarizes the molecular basis of corticosteroid mechanisms of action and the related mechanisms influencing side effects and resistance. The future of CST adjunctive or replacement therapy is also briefly discussed.

61

J Comput Aided Mol Des (2013) 27:605–614

IMPACT FACTOR=3.386

IN SILICO MOLECULAR DOCKING ANALYSIS OF THE HUMAN ARGONAUTE 2 PAZ DOMAIN REVEALS INSIGHTS INTO RNA INTERFERENCE

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ABSTRACT

RNA interference (RNAi) is a critical cellular pathway activated by double stranded RNA and regulates the gene expression of target mRNA. During RNAi, the 30 end of siRNA binds with the PAZ domain, followed by release and rebinding in a cyclic manner, which deemed essential for proper gene silencing. Recently, we provided the forces underlying the recognition of small interfering RNA by PAZ in a computational study based on the structure of Drosophila Argonaute 2 (Ago2) PAZ domain. We have now reanalyzed these data within the view of the new available structures from human Argonauts. While the parameters of weak binding are correlated with higher (RNAi) in the Drosophila model, a different profile is predicted with the human Ago2 PAZ domain. On the basis of the human Ago2 PAZ models, the indicators of stronger binding as the total binding energy and the free energy were associated with better RNAi efficacy. This discrepancy might be attributable to differences in the binding site topology and the difference in the conformation of the bound nucleotide

62

Life Science Journal 2013;10(4)
(Issn: 1097-8135).

IMPACT FACTOR= 0.165

CHELATING EFFICIENCY AND MECHANISMS OF INTERACTION OF SOME TOXIC AND BIOLOGICALLY IMPORTANT CATIONS WITH EDTA BY ISOTHERMAL TITRATION CALORIMETRY

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ABSTRACT

Ethylene-diaminetetraacetic acid (EDTA) is the gold standard as a chelating agent in treatment of certain diseases as well as treatment of metal poisoning. Here, we used isothermal titration calorimetry (ITC) as a simple and rapid method for detecting the stoichiometry, binding affinities and mechanism of interactions of EDTA with several toxic and biologically important cations. The aspects of this work will clarify the differences in the interactions of various cations with EDTA. Mono-, bi- and trivalent cations were titrated into EDTA solution unde isothermic conditions by using ITC. Weak or no binding patterns were observed with mono- and trivalent cations. Divalent cations can be classified into two groups, high affinity cations as Ca2+, Mn2+, Co2+, Zn2+ and Pb2+and medium affinity cations as Ba2+ and Mg2+. All EDTA-bound cations showed the profiles of tight binding as favorable enthalpic and entropic terms. In contrast, Mg2+ showed a different profile by adopting unfavorable enthalpic binding conditions. IT allows graphical display of the EDTA-cations binding events, so that, the number of cations binding with EDTA, binding affinity and mechanism of interaction can be concluded by visual examination of the binding isotherms. By ITC, we show that EDTA adapts to the binding with cations under highly variable enthalpic and entropic conditions. The ITC experiment not only determines the number of cations interacting with one molecule of EDTA, but also, we can determine the mechanisms of interaction and full thermodynamic parameters in one experiment. [Mahmoud Kandeel, Tarek Yosef, Mohammed Al-Julaifi, Abdulwahed AL-Rizki a Yukio Kitade. Chelating efficiency and mechanisms of interaction of some toxic and biologically important cations with EDTA by isothermal titration calorimetry

63

J. Therm Anal Calorim (2013) 112:945–952

IMPACT FACTOR= 1.982

THERMODYNAMICS AND MOLECULAR BASES OF THE INTERACTION OF AMPICILLIN AND STREPTOMYCIN AT THEIR BINDING SITES OF BOVINE SERUM ALBUMIN

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ABSTRACT

Among the biological parameters of chemotherapeutics, serum albumin binding is a critical factor in determining drug distribution and bioavailability. In this study, the binding properties as well as the interaction of ampicillin and streptomycin at their binding sites of bovine serum albumin (BSA) were investigated. The binding constant varied from 3.2 9 103 M-1 at 298 K to 37.5 9 103 M-1 at 313 K for ampicillin, and from 10.7 9 103 M-1 at 298 K to 3.5 9 103 M-1 at 313 K for streptomycin. By increasing the temperature, from 298 to 313 K, the binding affinity decreased by about 11-fold for ampicillin. Conversely, streptomycin showed stronger binding at higher temperature, which is decreased by threefold at 298 K. Interestingly, the affinity of ampicillin with the free BSA was *4-fold higher than the binding with BSA/streptomycin complex. In contrast, the affinity of streptomycin with the free BSA was *6-fold lower than the binding with BSA/ampicillin complex. Mutual binding experiments indicate that ampicillin and streptomycin are sharing both of common and different binding sites on BSA. Dissection of the forces of interactions indicated that rigid body binding was the mode of binding of ampicillin and streptomycin with BSA with minor degree of conformational changes. Both of ampicillin and streptomycin can bind with free BSA. Furthermore, the binding of ampicillin with BSA improves the binding of streptomycin,= while the binding of streptomycin with BSA adversely affect the binding of ampicillin

Faculty of Engineering

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Powder Technology 235 (2013) 500–515

IMPACT FACTOR=2.024

SWIRLING GAS–SOLID FLOW THROUGH PNEUMATIC CONVEYING DRYER

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ABSTRACT

Numerical and experimental investigations of swirling pneumatic conveying dryer are performed. In the numerical study, the Eulerian–Lagrangian model is used to simulate the two-phases. The gas phase is simulated based on Reynolds Averaged Navier–Stokes equations (RANS) employing four turbulence models, namely: standard k–ε model, RNG-based k–ε model, extended k–ε model and low-Reynolds number k–ε model. Meanwhile 3-dimensional particle tracking procedure is used for the solid phase. The model takes into account the lift and drag forces and the effect of particle rotation as well as the particles dispersion by turbulence effect. The effects of inter-particles collisions and turbulence modulation by the solid particles, i.e. four-way coupling, are also included in the model. The experimental study is carried out on a pilot scale vertical pneumatic transport system. The swirl is imparted to the flow by axially rotating pipe of the same diameter as the drying pipe. Crushed limestone of different sizes is used to represent the solid phase. Measurements of pressure and temperature distributions along the dryer are performed at different inlet conditions. Comparisons between present model predictions and experimental results show a good agreement. The results indicate that the RNG-based k–ε model gives better results compared with other tested turbulence models. In addition, it is found that the pressure drop of swirling flow is higher than that of non-swirling one and the swirl enhances the drying process.

65

Drying Technology, 31: 1374–1387, 2013

IMPACT FACTOR=1.814

EULERIAN–LAGRANGIAN SIMULATION AND EXPERIMENTAL VALIDATION OF PNEUMATIC CONVEYING DRYER

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Faculty of Engineering, Islamic University in Madinah , Madinah , Saudi Arabia Published online: 26 Aug 2013.

ABSTRACT

This paper explores numerical and experimental studies on the performance of a pneumatic conveying dryer. The four-way coupling Eulerian–Lagrangian approach is utilized in the numerical study and the experimental study is carried out in a pilot-scale vertical pneumatic conveying dryer of diameter 8.1 cm and 4.5m length. The effects of Reynolds number, particle size, solid mass flow rate, and inlet gas temperature on the dryer performance are investigated. It is found that the present model predictions agree well with the experimental data. Generally, it is concluded that the drying rate increases as the Reynolds number increases, while increasing the particle size or the solid mass flow rate decreases the drying rate.

International Journal of Applied Electromagnetics and Mechanics 42 (2013) 157–169

IMPACT FACTOR=0.384

FEA OF ELECTROMAGNETIC FORMING USING A NEW COUPLING ALGORITHM

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ABSTRACT

Finite element modeling of electromagnetic forming includes modeling of mechanical aspects, modeling of electromagnetic aspects, and a coupling method between the two models. The electromagnetic problem is to determine the magnetic pressure and its temporal and spatial distribution. Whereas the mechanical problem is to find out workpiece deformation resulting from the magnetic pressure applied on this workpiece. Nonetheless complications in the simulation exist due to pressure variation with workpiece deformation. These difficulties can be resolved by using one of the known coupling algorithms; loose coupling, or strong coupling. But these coupling strategies either have low accuracy of results or take long simulation time. The current research introduces an enhanced loose coupling algorithm for simulation of electromagnetic sheet metals bulging. The proposed coupling strategy takes into account deformation effects on pressure without the need for solving the updated electromagnetic model every new time step. Comparison between present simulation results and experimental results of other researchers showed good agreement. Effective plastic strain, and effective plastic strain rate distribution and evolution were presented in addition to thickness and deflection evolution of the workpiece.

67

International Journal of Green Energy, 11: 240–254, 2014

IMPACT FACTOR=2.069

THE PERFORMANCE OF DIFFERENT SAND BEDS SOLAR STILLS

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ABSTRACT

The amount of distillate water from a solar still depends on different parameters. The heat storage bed and water depth are the most effective parameters. In this work, different sandy beds solar still has been studied experimentally. The influences of sandy bed height (1, 2,3 and 5 cm), type of sand (black and yellow sand) and the water height above the sandy bed level (0, 1, 2 and 3 cm) on the solar still performance have been investigated. The performance of developed sandy bed stills was compared with the conventional solar still. Results showed that, the heat storage bed (sandy layer) enhances the solar still productivity. The maximum increase in daily productivity of sandy solar still was achieved at sandy bed height of 1 cm and zero height of saline water above the sand beds level as compared to conventional still. A theoretical analysis has also been carried out, in which the results coincided with experimental results.

68

Desalination 325 (2013) 56–64

IMPACT FACTOR= 3.041

A NEW HYBRID DESALINATION SYSTEM USING WICKS/SOLAR STILL AND EVACUATED SOLAR WATER HEATER

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ABSTRACT

This paper presents a new hybrid desalination approach comprising of evacuated solar water heater, jut geotextile and solar still. An evacuated solar water heater is integrated with the desalination stills to evaluate the continuity production of distillate. Two identical portable solar wick and one basin solar stills were designed to evaluate the systems performance. Jut linen woven fabrics were stitched to the plane wick (lengthwise and crosswise) and integrated with solar still. The jut fabrics were used to reduce the rate of water flow to the appropriate rate. The following variables are studied: Single and double layers wick; plane wick, lengthwise and crosswise linen; feeding hot water during night; two base slope angles of wick still (20 and 30°); and with and without tracking the sun. Theoretical analysis is verified through experiments. Water productivity increased by 114% and 139% over conventional still, when the system was due south and tracked the sun, respectively for double layer square wick (DLSW) solar still at 30° base slope angle. During experimentation, the productivity increased by 215% when hot brackish water was fed during night time. The daily average efficiency of DLSW was 65% and 70% for south facing and tracking mode, respectively.

69

Desalination 326 (2013) 62–68

IMPACT FACTOR= 3.041

HYBRID OF SOLAR DISH CONCENTRATOR, NEW BOILER AND SIMPLE SOLAR COLLECTOR FOR BRACKISH WATER DESALINATION

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ABSTRACT

This work presents a design and installation of solar dish concentrator (SDC), simple solar collector and modified boiler for brackish water desalination. The design of two axes tracking system is performed using an open loop control based on programmable logic controllers (PLC). Glass mirrors are used as reflective surface for dish concentrator. A coiled black rubber hose is used to preheat brackish water before feeding to the boiler. A mini single slope- air tight solar still is designed and installed at the focus of dish concentrator which used as a boiler. The automatic tracking system, new boiler design; and with and without preheating of brackish water are investigated. The developed desalination system is evaluated and compared with the conventional solar still (CSS). The results indicated that, the daily average of distillate water was 6.7 l/m^2/day for SDC with preheating of brackish water, while the distillate productivity was 1.5 $l/0.5m^2$/day for CSS. In the present study, the daily average efficiency of SDC and CSS was 68 and 34%, respectively. The increase in distillate production for SDC is about 244% and 347% higher than that of CSS without and with preheating, respectively.

70

Desalination 314 (2013) 67–72

IMPACT FACTOR=3.041

ENHANCING THE STEPPED SOLAR STILL PERFORMANCE USING INTERNAL REFLECTORS

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ABSTRACT

This paper presents a modification of stepped solar still through internal reflectors. A comparison study between modified stepped solar still with trays (5 mm depth x 120 mm width) and conventional solar still was carried out to evaluate the developed desalination system performance under the same climate conditions. The effect of installing a reflecting mirrors on the vertical sides of the steps of stepped still on the distillate productivity was investigated. An experimental as well as theoretical investigation is carried out. The results indicate that, during experimentation the productivity of the modified stepped solar still with and without internal reflectors is higher than that for conventional still approximately by 75% and 57 % respectively. Also the daily efficiency for modified stepped still with and without internal reflectors and conventional solar still is approximately 56%, 53% and 34% respectively.

71

Energy Conversion and Management,78(2014)876-881

IMPACT FACTOR=2.775

ENHANCING THE STEPPED SOLAR STILL PERFORMANCE USING INTERNAL AND EXTERNAL REFLECTORS

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ABSTRACT

The performance of stepped solar still with internal and external reflectors have been investigated in the current study. The reflectors are used to enhance energy input to the stepped still. The influence of internal and external (top and bottom) reflectors on the performance of the stepped solar still is investigated. A comparison between modified stepped solar still and conventional solar still is carried out to evaluate the developed desalination system performance under the same climate conditions. The results indicated that, during experimentation the productivity of the modified stepped solar still with internal and external (top and bottom) reflectors is higher than that for conventional still approximately by 125%. In this case the estimated cost of 1 l of distillate for stepped still with reflectors and conventional solar stills is approximately 0.031$ and 0.049$, respectively.

72

Energy Coversion And Management Volume 78,February 2014,Pages 493-498

IMPACT FACTOR=2.775

ENHANCEMENT OF MODIFIED SOLAR STILL INTEGRATED WITH EXTERNAL CONDENSER USING NANOFLUIDS: AN EXPERIMENTAL APPROACH

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ABSTRACT

This paper presents a modification of stepped solar still through internal reflectors. A comparison study between modified stepped solar still with trays (5 mm depth x 120 mm width) and conventional solar still was carried out to evaluate the developed desalination system performance under the same climate conditions. The effect of installing a reflecting mirrors on the vertical sides of the steps of stepped still on the distillate productivity was investigated. An experimental as well as theoretical investigation is carried out. The results indicate that, during experimentation the productivity of the modified stepped solar still with and without internal reflectors is higher than that for conventional still approximately by 75% and 57 % respectively. Also the daily efficiency for modified stepped still with and without internal reflectors and conventional solar still is approximately 56%, 53% and 34% respectively.

73

Studies in Informatics and Control, ISSN 1220-1766, vol. 22 (2), pp. 113-122, 2013

IMPACT FACTOR=0.578

MULTIOBJECTIVE REAL-CODED GENETIC ALGORITHM FOR ECONOMIC/ENVIRONMENTAL DISPATCH PROBLEM

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ABSTRACT

This paper outlines the optimization problem of nonlinear constrained multi-objective economic/environmental dispatch (EED) problems of thermal generators in power systems and presents novel improved real-coded genetic optimization (MO-RCGA) algorithm for solving EED problems. The considered problem minimizes environmental emission and non-smooth fuel cost simultaneously while fulfilling the system operating constraints. The proposed MO-RCGA technique evolves a multi-objective version of GA by proposing redefinition of global best and local best individuals in multi-objective optimization domain. The performance of the proposed MO-RCGA enhanced with biased Initialization, dynamic parameter setting, and elitism is carried out. The validity and effectiveness of the proposed MO-RCGA is verified by means of several optimization runs accomplished at different population sizes on standard IEEE 30-bus test system. Simulation results demonstrated the capabilities of the proposed MO-RCGA algorithm to obtain feasible set of effective well-distributed solutions.

74

Generation, Transmission & Distribution, Volume:7 , 1453 – 1460, 2013

IMPACT FACTOR=1.414

MULTI-OBJECTIVE FUZZY-BASED PROCEDURE FOR ENHANCING REACTIVE POWER MANAGEMENT

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ABSTRACT

This study proposes a multi-objective fuzzy-based procedure for solving reactive power management in competitive environment. The proposed procedure incorporates both economical and technical aspects of reactive power support. The economical aspect aims to minimise the total costs of reactive power purchase from service providers as primary objective function, whereas the technical aspect is taken care of through the secondary objective function that minimises the total transmission losses. The proposed procedure achieves security constraints such as the bus voltage limits, reactive power capability limits and transmission line reactive transfer limits. The proposed procedure is applied to the west-delta region system as a part of the Egyptian Unified network. The numerical results show that the proposed procedure achieves a minimum real power loss with maximal reactive reserve for power systems for different operating conditions.

75

Electric Power Components and Systems, 41:912–925, 2013

IMPACT FACTOR=0.650

WIDE-AREA AUTOMATIC VOLTAGE REGULATORS CONTROLLER FOR DAMPING OSCILLATIONS BASED ON INTER-AREA MODES

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ABSTRACT

This article presents a wide-area controller for automatic voltage regulators. The controller is designed for damping the power system inter-area oscillations. A centralized wide-area controller is designed considering the time delay of both the remote measurements and control signals. The controller design is based on the disturbed state space model with reduction of the disturbances to a vector that excites the inter-area modes of oscillation. The controller design is achieved using the H1 linear matrix inequality control method, which guarantees the robustness of the controller to system disturbances. The wide-area controller is designed and tested for the 16-machine 5-area study system.

76

Opt Quant Electron, Received: 28 May 2013 / Accepted: 3 October 2013

IMPACT FACTOR=0.987

MAPPING THE RESONANCE WAVELENGTHS OF MWCNT AS AN OPTICAL NANOANTENNA

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ABSTRACT

We investigated the surface plasmon resonances of multi-wall carbon nanotube (MWCNT) for applications as the optical antenna. We calculated the near-field and far-field response of MWCNT using finite integral technique. In addition, the effect of shape and dimensions on the optical response of MWCNT was studied. Also, the dielectric properties of MWCNTobtained from the experimental results in the literature were fitted with a Drude– Lorentz model. Finally, a full mapping of the geometry (length and radius) dependence for MWCNT was presented and discussed.

77

Electric Power Components and Systems, 41:447–464, 2013, ISSN: 1532-5008 print/1532-5016 online

IMPACT FACTOR=0.650

PERFORMANCE IMPROVEMENT OF A PHOTOVOLTAIC PUMPIN SYSTEM USING A SYNCHRONOUS RELUCTANCE MOTOR

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ABSTRACT

This article presents a simple control strategy to improve the performance of a synchronous reluctance motor drive system fed by a photovoltaic source. The photovoltaic generator parameters are selected based on maintaining the system operating point at the maximum output power of the photovoltaic generator at an average insolation level of 0.5 kW/m2. The proposed control strategy has three main functions; ensuring successful motor starting, maintaining the motor voltage within a permissible range, and forcing the photovoltaic array to operate at the maximum power point possible. Two modes of operation are studied for the proposed system depending upon the level of insolation compared with a critical value, which is the level below which the synchronous reluctancemotor cannot work synchronously under the given pumping load. A sample of simulation results is introduced to confirm the effectiveness of the suggested strategy. It has been found that, using the proposed control strategy, the pump flow rate has been increased compared with an uncontrolled system.

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Journal of Applied Physics, (Volume:114 , Issue: 15, Page(s):153512 - 153512-4 0021-8979

IMPACT FACTOR=2.210

FORMATION OF AN AMORPHOUS PHASE AND ITS CRYSTALLIZATION IN THE IMMISCIBLE NB–ZR SYSTEM BY MECHANICAL ALLOYING

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ABSTRACT

Mechanical alloying of binary Nb-Zr powder mixtures was carried out to evaluate the formation of metastable phases in this immiscible system. The milled powders were characterized for their constitution and structure by X-ray diffraction and transmission electron microscopy methods. It was shown that an amorphous phase had formed on milling the binary powder mixture for about 10 h and that it had crystallized on subsequent milling up to 50–70 h, referred to as mechanical crystallization. Thermodynamic and structural arguments have been presented to explain the formation of the amorphous phase and its subsequent crystallization

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Faculty of Science

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J Mater Sci (2014) 49:1743–1754

IMPACT FACTOR=2.163

NANO STRUCTURED MESOPOROUS AU/TIO2 FOR PHOTOCATALYTIC DEGRADATION OF A TEXTILE DYE: THE EFFECT OF SIZE SIMILARITY OF THE DEPOSITED AU WITH THAT OF TIO2 PORES

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ABSTRACT

Mesoporous Au/TiO2 nanocomposites with different Au particle size (7.3–11.8 nm) were synthesized via deposition–precipitation method. The synthesized nanocomposites have been characterized by XRD, TEM, XPS, DLS, ICP-OES, N2 sorpometry, and UV–Vis spectroscopy. Au/TiO2 showed higher quantum yield and greater photocatalytic efficiency compared to pure TiO2 under both ultraviolet and sunlight illumination. The increase of the photocatalytic efficiency of TiO2 upon deposition with gold nanoparticles, Au NPs, is due to the interface electron transfer from Au nanoparticles to TiO2 under visible light illumination and from TiO2 to Au nanoparticles under UV illumination. For the first time, the effect of Au particle sizes when it is very similar to the interparticles pores of TiO2 has been investigated. The highest reaction rate (5.7 9 10-2 min-1) and degradation efficiency of Safranin-O (SO) dye (97 %) were observed when the deposited gold nanoparticles are the smallest among the studied samples (sAu/TiO2). In spite of blocking a high percentage of the TiO2 pores, the sAu/TiO2 sample demonstrated a complete degradation of SO dye in 50 min which is more efficient than any other reported catalysts in the literature.

80

Estuarine, Coastal and Shelf Science 117 (2013) 282e292

IMPACT FACTOR=2.324

LAGOONS OF THE NILE DELTA, EGYPT, HEAVY METAL SINK: WITH A SPECIAL REFERENCE TO THE YANGTZE ESTUARY OF CHINA

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ABSTRACT

Lagoons of the Nile delta are a vital aquacultural base for millions of people in Egypt. Since the 1960s, when the Aswan High Dam was completed, the estuary has changed from high to low turbidity and this has dramatically altered the eco-hydrological environment. In this study we attempt to explore the spatial and temporal distribution of heavy metals (Al, Cd, Cr, Cu, Fe, Mn, Ni, Pb and Zn) based on 6 short sediment cores recovered from Manzala, Burullus and Edku lagoons on the Nile delta. Radiometric dating indicates that the upper 10-15 cm of the core sediment is post-Aswan Dam. Manzala on the eastern delta coast is severely polluted by almost all metals analyzed in the present study, especially Mn, Pb, Zn and Cd, due to its connection to the city of Cairo, and the direct human input from neighboring megacities, where the petro-chemical industry is thought to be a major source. Although Burullus on the central delta coast has the lowest concentrations of Mn and Pb, there is an increasing trend, implying a linkage to local agricultural sources, and the recently expanding megacities in the central delta plain. Edku on western delta coast seems remote from any major pollution sources, but higher Mn, Pb, and Zn in the upper portion of the lake sediment suggest human influences from Alexandria to the west via the littoral current. The horse-saddle distribution pattern of polluted metals along the Nile coast, as evidenced by the Enrichment Factor (EF), is closely associated with the regulated runoff to the lower delta plain and coast, where extremely low precipitation occurs. This physical setting is certainly prone to concentrating anthropogenic heavy metals in the lagoons. The opposite example is the intensivelycultivated Yangtze estuary in China, where monsoonal precipitation flushes out a huge amount of metals as manifested by the lower EF than that of the Nile.

81

J Solution Chem (2013) 42:2364–2383

IMPACT FACTOR=1.415

SPECTROSCOPIC AND SOLUTION STUDIES OF SOME TRANSITION METAL COMPLEXES OF NEW 4-HYDROXY COUMARIN SEMI- AND THIOSEMICARBAZONE COMPLEXES

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ABSTRACT

Two new ligands, 4-hydroxy coumarin-3-thiosemicarbazone (H2L1) and 4-hydroxy coumarin-3-semicarbazone (H2L2) were synthesized and used for the preparation of a series of transition metal complexes (Cr3?, Co2?, Ni2?, Cu2?, and Fe3?), derived from these ligands. These complexes have the forms [ML1Cl2]!nX (1–5) and [ML2Cl]!Nx (6 9) (X = H2O or ethanol). The structures of these complexes were elucidated by elemental analyses, IR, UV–Vis, and electrical conductivity, as well as magnetic susceptibility measurements and thermal analyses. IR spectral data indicates that in all complexes, the ligands act as monobasic tridentate, coordinated through keto oxygen or sulfur, azomethine nitrogen and deprotonated phenolic oxygen atom. On the basis of other physicochemical investigations, tetrahedral or square planar geometries are assigned for Cu2? complexes in monomeric structures. In the case of the Co2?, Ni2? and Fe3? complexes, octahedral stereochemistries in monomeric structures are suggested. The dissociation constants of the ligands and the stability constants of their Cu(II), Co(II), Ni(II), and Fe(III) complexes have been also determined using potentiometric pH-metric titration in mixed solvents of dioxane: H2O and DMF: H2O with different ratios and different temperatures.

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Journal of Molecular Structure 1056–1057 (2014) 166–175

IMPACT FACTOR=1.634

SYNTHESES, CHARACTERIZATION, AND SOD ACTIVITY STUDIES OF BARBITAL-BASED NICKEL(II) COMPLEXES WITH DIFFERE CHELATING AMINES: THE X-RAY CRYSTAL STRUCTURES OF BARB-H AND [NI(BARB)2(EN)2] (BARB = 5,5-DIETHYLBARBITURATE

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ABSTRACT

Four new mixed ligand nickel(II) complexes, viz., [Ni(Barb)2(H2O)4] 1, [Ni(Barb)2(en)2] 2, [Ni(Barb)2(pn)2] 3, and [Ni(Barb)2(BPA)(H2O)] 4 (Barb = 5,5 diethylbarbiturate, en = ethylenediamine, pn = propylenediamine, and BPA = bis(2 picolyl)amine) have been synthesized and characterized by means of elemental analysis, spectroscopic (FT-IR, Raman, and UV–Vis), and thermal analysis measurements. The spectral techniques suggest that all the nickel(II) complexes (1–4) exhibit octahedral geometry. The very low electrical conductance of the complexes supports their neutral nature. The monomeric nature of the complexes was assessed from their electronic spectra. X-ray diffraction studies were performed for the drug Barb-H and its nickel(II) complex 2. Complex 2 crystallizes in monoclinic space group P21/c with Z = 2. The barbital drug is N-coordinated and the en molecules act as bichelating ligands, leading to an NiN6 octahedral coordination. Molecules of complex 2 are connected via NAH_ _ _O hydrogen bonds, involving hydrogen atoms of both Barb and en ligands. The redox behavior of all complexes was investigated by cyclic voltammetry. Superoxide dismutase activity of these complexes has also been measured

83

Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry, 44:530–536, 2014

IMPACT FACTOR=0.521

INVESTIGATION OF CATIONIC SURFACTANTS AND SULFONAMIDES AND THEIR NANOPARTICLES AS BIOCIDES AGAINST SULFUR REDUCING BACTERIA IN THE PETROLEUM INDUSTRY

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ABSTRACT

A series of cationic ammonium surfactants (1–3) and sulfonamides (4–5) were synthesized and characterized using elemental analysis and FT-IR spectroscopy. The nanostructures of the synthesized surfactants and sulfonamides as silver and zinc nanoparticles (Ag/ZnNPs) were prepared and characterized using transmission electron microscope. The TEM image of AgN-1–3 is a spherical shape with narrow diameter, whereas ZnN-4–6 composites are roughly spherical. The size analysis demonstrated the average diameter of 50–55 nm for the composite. The antimicrobial activity of the synthesized surfactants and sulfonamides as well as their nanostructures were investigated as potential biocides against sulfur reducing bacteria. The values of the inhibition zone diameters are gradually increased by increasing the concentration of the tested biocides and the maximum inhibition diameters for all biocides are obtained at 5 mg/mL. The results also showed that the sulfonamides and their nanocomposites have higher biocidal activities than those of the cationic ammonium surfactants biocides and their nanoparticles.

84

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy,Vol.,120.Pp.574-*584,2014.*

IMPACT FACTOR=1.977

SPECTROSCOPIC, ELECTROCHEMICAL, AND ALKYLATION REACTIONS: TERT-BUTYL N-(2-MERCAPTOETHYL)CARBAMATE COPPER(II) AND NICKEL(II) COMPLEXES AS STRUCTURAL MIMICS FOR THE ACTIVE SITE OF THIOLATE-ALKYLATING ENZYMES

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Department Of Chemistry, Faculty Of Science, South Valley University, Qena, Egypt
Department Of Chemistry, Faculty Of Science, Cairo University, Egypt

ABSTRACT

Two new dithiolate copper(II) and nickel(II) complexes with the ligand tert-butyl N-(2-mercaptoethyl)- carbamate (Boc-SH) were prepared. Their structures were established to be [(Boc-S)2M], where M = Cu (1) and Ni (2) by using elemental analysis, thermal analysis, molar conductivity, FT-IR, Raman, UV/VIS, and ESR as well as EI-mass spectroscopic methods. The X-ray structure of the ligand Boc-SH was also determined. Spectral data showed that the carbamate ligand act as anioinic bidentate through one immine nitrogen and one thiolate sulfur donor atoms. The spectral techniques suggest that both complexes appear to have square planar geometries. The very low electrical conductance of the two complexes supports their neutral nature. The redox behaviors of the obtained complexes were also investigated by cyclic voltammetry. The monomeric nature of both complexes was assessed from their magnetic susceptibility values. The thermoanalytical data evidence that complex (2) is stable up to 165 _C and undergo complete decomposition, resulting in NiO as a residual product. The TEM image

85

Int. J. Electrochem. Sci., 8 (2013) 5944 - 5960

IMPACT FACTOR=3.729

VOLTAMMETRIC STUDIES OF LEAD AT A NEW CARBON PASTE MICROELECTRODE MODIFIED WITH N(2-ISOPROPYLPHENYL)-2-THIOIMIDAZOLE AND ITS TRACE DETERMINATION IN WATER BY SQUARE WAVE VOLTAMMETRY

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ABSTRACT

The electrocataylic oxidation of lead(II) was investigated on a novel carbon paste microelectrode modified with a thione-containing ligand namely, N(2-isopropylphenyl)-2-thioimidazole (Hmim). The carbon paste electrode modified with N(2-isopropylphenyl)-2-thioimidazole (CPME-Hmim) was characterized using scanning electron microscope (SEM) and cyclic voltammetry (CV). The electrochemical behavior of lead(II) ions at the modified electrode surface showed one anodic peak at - 0.43 V and one cathodic peak at -0.55 V with a separation peak potential of 120 mV. The anodic and cathodic peak current heights of lead(II) ions in the case of CPME-Hmim was much higher than that in the case of the unmodified one, CPE. This is due to the accumulation of lead(II) ions at the surface of CPME-Hmim, forming the monomeric lead(II) complex [(Hmim)2Pb(NO3)2]. Square wave voltammetry was used for the electrochemical determination of lead(II) ions at CPME-Hmim with optimum conditions and calibration curve (analytical equation: y = -2.129×10-5 + 1.847x). The obtained results showed a recovery ranged between 98.67-106.11%. The lead(II) ions was determined in different water samples and the obtained results were compared with the data obtained from the ICP-AES instrument.

86

Int. J. Electrochem. Sci., 8 (2013) 5944 - 5960

IMPACT FACTOR=3.729

SPECTROSCOPIC, ELECTROANALYTICAL, AND HYDROLYTIC-LIKE ACTIVITIES OF BIS(2-PICOLY)GLYCINE-BASED ZINC(II) AND COPPER(II) COMPLEXES

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ABSTRACT

Complex formation of the tetradentate ligand bis(2-picolyl)glycine, BPG, with both Zn(II) and Cu(II) ions in aqueous solution was investigated spectroscopically by using 1H NMR and UV-visible titrations as well as electrochemically by using cyclic voltammetry. Analysis of the titration data indicated that the aqua complexes [BPG-Zn(OH2)2]+ **1** and [BPG-Cu(OH2)2]+ **2** deprotonate at pH = 10.6 and 9.7. The catalytic hydrolysis of the activated phosphate ester tris(*p*-nitrophenyl) phosphate (TNPP) by using these model complexes was examined and the released phenolate anions were determined by using electroanalytical technique. The kinetic results indicate that copper(II) complex **2** is more active hydrolytic catalyst than zinc(II) complex **1**, presumably a reflection of the effective electron-withdrawing as well as the greatest electrophilicity of copper(II) ion

87

Composite Structures 96 (2013) 89–96

IMPACT FACTOR=2.240

LS MODEL ON ELECTRO–MAGNETO–THERMOELASTIC RESPONSE OF AN INFINITE FUNCTIONALLY GRADED CYLINDER

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ABSTRACT

This article presents the electro–magneto–thermoelastic analysis problem of an infinite functionally graded material (FGM) hollow cylinder based upon Lord and Shulman's (LS) theory. Material properties of the cylinder are assumed to be graded in the radial direction according to a novel power-law distribution in terms of the volume fractions of the metal and ceramic constituents. The inner surface of the FGM cylinder is pure metal whereas the outer surface is pure ceramic. The governing second-order differential equations are derived passed on the equations of motion and the heat-conduction equation. A finite element scheme is presented to obtain numerical solutions with high accuracy. The system of differential equations is solved numerically and some plots for displacement, radial stress, and temperature are presented. A comparison example with the available results is presented. The radial displacement, stresses and temperature are all investigated along the radial direction of the infinite cylinder.

88

International Journal of Applied Mechanics
Vol. 5, No. 2 (2013) 1350020 (15 pages

IMPACT FACTOR=1.483

BENDING OF FGM PLATES BY A SIMPLIFIED FOUR-UNKNOWN SHEAR AND NORMAL DEFORMATIONS THEORY

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ABSTRACT

The bending response of FGM plates is presented based upon a simplified shear and normal deformations theory. The present simplified theory is accounted for an adequate distribution of transverse shear strains through the plate thickness and tangential stressfree on the plate surfaces. The effect of transverse normal strain is also included. The number of unknown functions involved here is only four as against six in case of other shear and normal deformations theories. The principle of virtual work is employed to derive the governing equations. A comparison with the corresponding results is made to check the accuracy and efficiency of the present theory. Additional results for all stresses are investigated through-the-thickness of the FGM plate.

89

Advanced Composites Letters, Vol. 22, Iss. 2, 2013

IMPACT FACTOR= 0.432

THERMOELASTIC BENDING RESPONSE OF ANGEL-PLY COMPOSITE PLATES RESTING ON ELASTIC FOUNDATIONS

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ABSTRACT

Different plate theories are presented to study the thermoelastic response of a multilayered angle-ply composite plate. The plate is subjected to a sinusoidal temperature and resting on different types of elastic foundations. The effects due to thermal loads and elastic foundations parameters as well as the variation of lamination angle are studied. Numerical results suggest that Pasternak's model should be used for such plates resting on elastic foundations

90

Meccanica (2013) 48:1501–1516

IMPACT FACTOR= 1.747

ON THE SIMPLE AND MIXED FIRST-ORDER THEORIES FOR FUNCTIONALLY GRADED PLATES RESTING ON ELASTIC FOUNDATIONS

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ABSTRACT

In this article, the bending response of a functionally graded plate resting on elastic foundations and subjected to a transverse mechanical load is investigated. An accurate solution for the functionally graded plate with simply supported edges resting on elastic foundations is presented. The interaction between the plate and the elastic foundations is considered and included in the equilibrium equations. Pasternak's model is used to describe the two-parameter elastic foundations, and get a special case of Winkler's model by considering one-parameter of elastic foundation. A relationship between the simple and mixed first-order transverse shear deformation theories is presented. Numerical results for deflections and stresses of functionally graded plates are investigated. Comparisons between the results of the simple and mixed first-order theories are made, and appropriate conclusion is formulated. Additional boundary conditions at the edges of the present plates are investigated

91

Composite Structures 106 (2013) 393–406

IMPACT FACTOR=2.231

AXIOMATIC/ASYMPTOTIC EVALUATION OF MULTILAYERED PLATE THEORIES BY USING SINGLE AND MULTI-POINTS ERROR CRITERIA

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ABSTRACT

This paper deals with refined theories for multilayered composites plates. Layer-Wise (LW) and Equivalent Single Layer (ESL) theories are evaluated by means of axiomatic asymptotic approach. Theories with forth order displacement fields in the thickness layer/plate direction z are implemented by referring to the Unified Formulation by Carrera. The effectiveness of each term of the made expansion is evaluated by comparing the related theories with a reference solution. As a result a reduced model is obtained which preserve the accuracy of the full-model (model that include the whole terms of the z-expansion) but it removes the not-significant terms in the same expansion (those terms that do no improve the results according to a given error criteria). Various single-point and multi-point error criteria have been analyzed and compared in order to establish such an effectiveness: error localized in an assigned point along z, error localized at each interface, error located at the z-value corresponding to the maximum value of the considered variables, etc. Applications are given in case of closed form solutions of orthotropic cross-ply, rectangular, simply supported plates loaded by bisinusoidal distribution of transverse pressure. Symmetrically and unsymmetrical laminated cases are considered along with sandwich plates. It is found the reduced model is strongly influenced by the used localized error and that in same case the reduced model which is obtained by of single point criteria can be very much improved by the use of multi-point criteri

92

Int J Mech Mater Des (2013) 9:239–251

IMPACT FACTOR=0.517

BENDING OF CROSS-PLY LAMINATED PLATES RESTING ON ELASTIC FOUNDATIONS UNDER THERMO-MECHANICAL LOADING

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ABSTRACT

This article investigates the bending response of an orthotropic rectangular plate resting on two-parameter elastic foundations under thermomechanical loadings. Analytical solutions for deflection and stresses are investigated by using an unified shear deformation plate theory. The present plate theory enables the trial and testing of different through-the-thickness transverse shear-deformation distributions and, among them, strain distributions that do not involve the undesirable implications of the transverse shear correction factors. The governing equations that include the interaction between the plate and the foundations are obtained. Numerical results are presented to demonstrate the behavior of the system. The influences of aspect ratio, side-tothickness ratio, thermal expansion coefficients ratio and stacking sequence on the thermally induced response are studied

93

Applied Mathematical Modelling 37 (2013) 9041–9051

IMPACT FACTOR=1.706

A SIMPLE FOUR-UNKNOWN REFINED THEORY FOR BENDING ANALYSIS OF FUNCTIONALLY GRADED PLATES

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ABSTRACT

In the present paper, a refined trigonometric higher-order plate theory is simply derived, which satisfies the free surface conditions. Moreover, the number of unknowns of this theory is the least one comparing with other shear theories. The effects of transverse shear strains as well as the transverse normal strain are taken into account. The number of unknown functions involved in the present theory is only four as against six or more in case of other shear and normal deformation theories. The bending response of FG rectangular plates is presented. A comparison with the corresponding results is made to check the accuracy and efficiency of the present theory. Additional results for all displacements and stresses are investigated through-the-thickness of the FG rectangular plate.

Chin. Phys. B Vol. 22, No. 10 (2013) 108102

IMPACT FACTOR=1.376

THE EFFECT OF FRACTIONAL THERMO ELASTICITY ON A TWO DIMENSIONAL PROBLEM OF A MODE I CRACK IN A ROTATING FIBER-REINFORCED THERMO ELASTIC MEDIUM

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ABSTRACT

This article is concerned with the effect of rotation on the general model of the equations of the generalized thermoelasticity for a homogeneous isotropic elastic half-space solid, whose surface is subjected to a Mode-I crack problem. The fractional order theory of thermoelasticity is used to obtain the analytical solutions for displacement components, force stresses, and temperature. The boundary of the crack is subjected to a prescribed stress distribution and temperature. The normal mode analysis technique is used to solve the resulting non-dimensional coupled governing equations of the problem. The variations of the considered variables with the horizontal distance are illustrated graphically. Some particular cases are also discussed in the context of the problem. Effects of the fractional parameter, reinforcement, and rotation on the variations of different field quantities inside the elastic medium are analyzed graphically. Comparisons are made between the results in the presence and those in the absence of fiber-reinforcing*, rotating and fractional parameters.*

95

Hindawi Publishing Corporation
Mathematical Problems in Engineering
Volume 2013, Article ID 964367, 12 pages

IMPACT FACTOR=1.383

ANALYSIS OF SANDWICH PLATES BY GENERALIZED DIFFERENTIAL QUADRATURE METHOD

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ABSTRACT

We Combine A Layer-Wise Formulation And A Generalized Differential Quadrature Technique For Predicting The Static Deformations And Free Vibration Behaviour Of= Sandwich Plates. Through Numerical Experiments, The Capability And Efficiency Of This Strongform Technique For Static And Vibration Problems Are Demonstrated, And The Numerical Accuracy And Convergence Are Thoughtfully Examined

96

Hindawi Publishing Corporation
Journal of Applied Mathematics Volume 2013, Article ID 284208, 7 pages

IMPACT FACTOR=0.834

NATURAL FREQUENCIES OF SHEAR DEFORMABLE PLATES BY POLYHARMONIC SPLINES

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ABSTRACT

We use the third-order shear deformation theory and a collocation technique with polyharmonic splines to predict natural frequencies ofmoderately thick isotropic plates.The natural frequencies of vibration are computed for various plates and compared with some available published results. Through numerical experiments, the capability and efficiency of the present method for eigenvalue problems are demonstrated, and the numerical accuracy and convergence are thoughtfully examined.

97

Hindawi Publishing Corporation
Journal of Applied Mathematics Volume 2013,
Article ID 123465, 14 pages

IMPACT FACTOR=0.834

ANALYSIS OF LAMINATED SHELLS BY MURAKAMI'S ZIG-ZAG THEORY RADIAL BASIS FUNCTIONS COLLOCATION AND

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ABSTRACT

Thestatic and free vibration analysis of laminated shells is performed by radial basis functions collocation, according toMurakami's zig-zag (ZZ) function (MZZF) theory . The MZZF theory accounts for through-the-thickness deformation, by considering a ZZ evolution of the transverse displacement with the thickness coordinate. The equations of motion and the boundary conditions are obtained by Carrera's Unified Formulation and further interpolated by collocation with radial basis functions

98

Journal of Sandwich Structures and Materials
15(6) 629–656

IMPACT FACTOR=0.561

BENDING ANALYSIS OF FUNCTIONALLY GRADED SANDWICH PLATES USING A SIMPLE FOUR-UNKNOWN SHEAR AND NORMAL DEFORMATIONS THEORY

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ABSTRACT

refined trigonometric higher-order plate theory is presented for bending analysis of simply supported functionally graded ceramic–metal sandwich plates. The effects of transverse shear strains as well as the transverse normal strain are taken into account. The number of unknown functions involved in Bending analysis of functionally graded sandwich plates using a simple four-unknown shear and normal deformations theory the present theory is only four as against six or more in case of other shear and normal deformations theories. Several types of the present symmetric and non-symmetric sandwich plates are used. The faces are assumed to be functionally graded through the thickness, while the core layer is still homogeneous and made of an isotropic material. The present refined plate theory is used to derive the field equations of the functionally graded sandwich plates. Numerical results of the present theory are compared with other theories to show the effect of the inclusion of transverse normal strain on the deflections and stresses

99

Angew. Chem. Int. Ed. 2013, 52, 2017 –2021

IMPACT FACTOR=13.734

CHARGE DYNAMICS IN A DONOR–ACCEPTOR COVALENT ORGANIC FRAMEWORK WITH PERIODICALLY ORDERED BICONTINUOUS HETEROJUNCTIONS

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ABSTRACT

The donor–acceptor heterojunction is a key structure in current technologies, including transistors, light-emitting diodes, and photovoltaics, because it controls the charge dynamics in the devices.[1–3] Covalent organic frameworks (COFs) are crystalline molecular skeletons that allow atomi- cally precise integration of building blocks into periodic array structures.[4–12] In this regard, we have demonstrated arene, porphyrin, and phthalocyanine COFs that provide periodi- cally ordered columnar arrays of p-components and show outstanding semiconducting and photoconductive proper- ties.[6] We recently synthesized a donor–acceptor COF[6i] that gives rise to a periodically ordered bicontinuous heterojunc- tion structure and self-sorted donor and acceptor columnar arrays separated at nanometer-scale intervals. This nano- scopic segregation morphology forms a broad interface for charge separation, provides ambipolar pathways for charge collection, and would be ideal for the current semiconducting devices that involve photoenergy transformations ; however, the charge dynamics, which is a key mechanism that controls the energy transformation, remains unclear.Here, we report the charge dynamics of a donor–acceptor COF, which were determined using time-resolved spectros- copy to elucidate the photochemical processes of the free charges from their generation to delocalization and retention. In the COF, the heterojunctions allow an ultrafast electron transfer from the donor to the acceptor columns. Conse- quently, the light absorption is directly coupled with charge dissociation to generate free charges in the donor and acceptor p-columns within 2 ps. On the other hand, the stacked p-columns delocalize the charges, suppress charge recombination, and retain the charges for a prolonged period of time. We show that both solvated and solid-state COFs enable rapid charge separation and exceptional long-term charge retention, thereby providing a key mechanistic basis to envisage the high potential of donor–acceptor COFs for photoelectric applications.

100

Chem. Eur. J. 2013, 19, 11332 – 11341

IMPACT FACTOR=5.925

PHOTOSYNTHETIC ANTENNA-REACTION CENTER MIMICRY WITH A COVALENTLY LINKED MONOSTYRYL BORON-DIPYRROMETHENE–AZA-BORON-DIPYRROMETHENE–C60 TRIAD

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Shunichi Fukuzumi, and Dennis K. P. Ng.
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Seoul 120-750 (Korea)

ABSTRACT

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An efficient functional mimic of the photosynthetic antenna-reaction center has been designed and synthesized. The model contains a near-infrared-absorbing aza boron dipyrromethene (ADP) which is connected to a monostyryl boron dipyrromethene (BDP) by click reaction and to a fullerene (C_{60}) using the Prato reaction. The intramolecular photoinduced energy and electron transfer processes of this triad as well as the corresponding dyads BDP-ADP and ADP-C_{60} have been studied with steady-state and time-resolved absorption and fluorescence spectroscopic methods in benzonitrile. Upon excitation, the BDP moiety of the triad is significantly quenched due to energy transfer to the ADP core, which subsequently transfers an electron to the fullerene unit. Cyclic and differential pulse voltammetric studies have revealed the redox states of the components, which allow estimation of the energies of the charge-separated states. Such calculations show that electron transfer from the singlet excited ADP (^{1}ADP*) to C_{60} yielding ADP$^{\bullet+}$–$C_{60}^{\bullet-}$ is energetically favorable. By using femtosecond laser flash photolysis, a concrete evidence has been obtained for the occurrence of energy transfer from ^{1}BDP* to ADP in the dyad BDP-ADP and electron transfer from ^{1}ADP* to C_{60} in the dyad ADP-C_{60}. Sequential energy and electron transfer have also been clearly observed in the triad BDP-ADP-C_{60}. By monitoring the rise of ADP emission, it has been found that the rate of energy transfer is fast (~10^{11} s^{-1}). The dynamics of electron transfer via ^{1}ADP* has also been studied by monitoring the formation of C_{60} radical anion at 1000 nm. A fast charge-separation process from ^{1}ADP* to C_{60} has been detected, which gives the relatively long-

lived BDP-ADP$^{\bullet+}$-$C_{60}^{\bullet-}$ with a lifetime of 1.47 ns. As shown by nanosecond transient absorption measurements, the charge-separated state decays slowly to populate mainly the triplet state of ADP before returning to the ground state. These findings show that the dyads BDP-ADP and ADP-C_{60}, and the triad BDP-ADP-C_{60} are interesting artificial analogs that can mimic the antenna and reaction center of the natural photosynthetic systems.

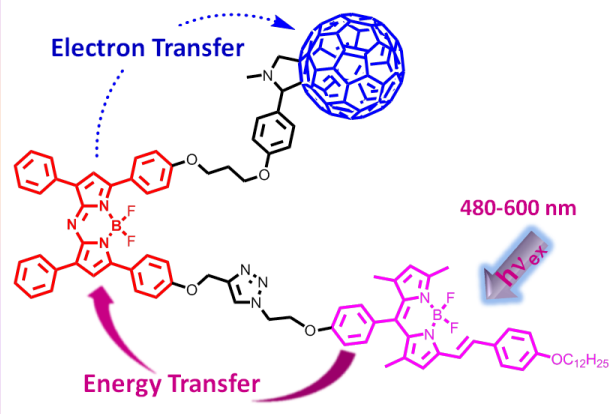

Figure 1. Structure of the triad BDP-ADP-C_{60} and illustration of the intramolecular photoinduced processes.

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Chem.Eur.J. 19,9629-9638,2013

IMPACT FACTOR=5.925

A CHARGE-STABILIZING, MULTIMODULAR, FERROCENE–BIS (TRIPHENYLAMINE)–ZINCPORPHYRIN–FULLERENE POLYAD

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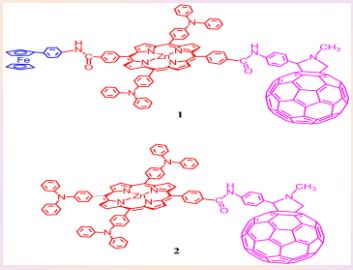
ABSTRACT

A novel multi-modular donor-acceptor polyad featuring zinc porphyrin, fullerene, ferrocene and triphenylamine entities was designed, synthesized and studied as a charge stabilizing, photosynthetic antenna-reaction center mimic. The ferrocene and fullerene entities, covalently linked to the porphyrin ring, were distantly separated to accomplish the charge separation-hole migration events leading to the creation of a long-lived charge-separated state. The geometry and electronic structures of the newly synthesized compound was deduced by B3LYP/3-21G(*) optimization while the energy levels for different photochemical events was established using data from the optical absorption and emission, and electrochemical studies. Excitation of the triphenylamine entities revealed singlet-singlet energy transfer to the appended zinc porphyrin. As predicted from the energy levels, photoinduced electron transfer from both the singlet and triplet excited states zinc porphyrin to fullerene followed by subsequent hole migration involving ferrocene was witnessed from the transient absorption studies. The charge separated state persisted for about 8.5 μs and was governed by the distance between the final charge transfer product, that is, a species involving ferrocenium cation and fullerene radical anion with additional influence from the charge stabilizing triphenylamine entities located on the zinc porphyrin macrocycle.



Scheme 1. Structures of the multi-modular charge-stabilizing antenna-reaction center mimics.

102

Chem. Eur. J. 2013, 19, 7221 – 7230

IMPACT FACTOR=5.831

Excitation-Wavelength-Dependent, Ultrafast Photoinduced Electron Transfer in Bisferrocene/BF2-Chelated-Azadipyrromethene/Fullerene Tetrads

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ABSTRACT

Donor-acceptor distance, orientation, and photoexcitation wavelength are key factors in governing the efficiency and mechanism of electron-transfer reactions both in natural and synthetic systems. Although distance and orientation effects have been successfully demonstrated in simple donor-acceptor dyads, revealing excitation wavelength dependent photochemical properties demands multi-modular photosynthetic reaction center model compounds. Here, we successfully demonstrate donor-acceptor excitation wavelength dependent ultrafast charge separation and charge recombination in newly synthesized, novel tetrads featuring bisferrocene, BF_2-chealted azadipyrro-methane and fullerene entities. The tetrads synthesized using multi-step synthetic procedure revealed characteristic optical, redox and photo reactivities of the individual components and featured 'closely' and 'distantly' positioned donor-acceptor systems. The near-IR emitting BF_2-chealted azadipyrromethane acted as a photosensitizing electron acceptor along with fullerene while the ferrocene entities acted as electron donor. Both tetrads revealed excitation wavelength dependent photoinduced electron transfer events as probed by femtosecond transient absorption spectroscopy. That is, formation of Fc^+-ADP-$C_{60}^{\bullet-}$ charge separated state upon C_{60} excitation, and Fc^+-$ADP^{\bullet-}$-C_{60} formation upon ADP excitation is demonstrated

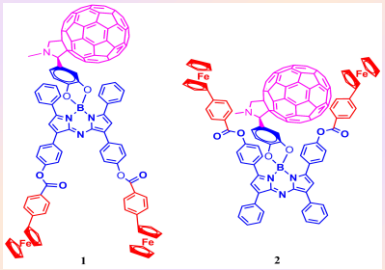

Figure 1. Structure of the newly synthesized distantly and closely spaced bisferrocene-ADP-fullerene molecular tetrads.

103

New J. Chem., 2013, 37, 3252--3260

IMPACT FACTOR=2.920

SYNTHESIS AND FAST ELECTRON-TRANSFER REACTIONS OF FULLERENE–CARBAZOLE DENDRIMERS WITH SHORT LINKAGES

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ABSTRACT

Fast electron-transfer reactions of newly synthesized (carbazole)n dendrimers (n = 1, 3 and 7), which are connected with C60 with a short linkage, have been investigated in polar benzonitrile. The (carbazole)n– C60 dendrimers were characterized by spectroscopic, computational and electrochemical methods. The geometric and electronic structures of the C60–(carbazole)n dendrimers were examined by using the ab initio B3LYP/6-311G method. The distribution of the highest occupied frontier molecular orbital (HOMO) was found on the carbazole (Cz) entities, whereas the lowest unoccupied molecular orbital (LUMO) was located on the fullerene entity, suggesting the formation of the charge-separated (CS) states (C60 –(carbazole)n _+). The redox measurements revealed that the charge separation from carbazole to the singlet-excited state of C60 is thermodynamically feasible in polar benzonitrile. The femtosecond transient absorption measurements in the visible-NIR region revealed fast charge separation (B1011 s_1) from the carbazole to the singlet-excited state of C60 producing the charge-separated states (C60__–(carbazole)n _+) with lifetimes of 1.25–1.30 ns. The complementary nanosecond transient absorption measurements in the microsecond region revealed that the charge separated states decayed to populate the triplet states of C60, as well as the ground states. The higher charge separation/charge recombination ratios (B800) suggested the potential of compounds 1–3 to be light harvesting systems

104

J. Porphyrins Phthalocyanines 2013; 17: 1055–1063

IMPACT FACTOR=1.433

Silicon phthalocyanine-azobenzene-[60]fullerene light harvesting pentad: synthesis, characterization and electron transfer reaction studied by laser flash photolysis

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ABSTRACT

Electron-transfer reaction of the newly synthesized light harvesting pentad composed of silicon phthalocyanine (SiPc) that is connected with two fullerene C60 and two azobenzene units to form SiPc-(azobenzene)2-(C60)2 pentad has been studied by laser flash photolysis and other complementary techniques. This combination between SiPc, azobenzene and C60 in the examined SiPc-(azobenzene)2- (C60)2 pentad leads to strong light absorption over the whole visible spectrum. Photoexcitation of the pentad results in rapid formation of the charge-separated state by photoinduced electron transfer from the singlet-excited state of the SiPc moiety to the C60 moiety. The charge-separated state has a lifetime of 2.50 ns in benzonitrile.

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IMPACT FACTOR=3.696

EFFECT OF DUAL FULLERENES ON LIFETIMES OF CHARGE-SEPARATED STATES OF SUBPHTHALOCYANINE-TRIPHENYLAMINE-FULLERENE MOLECULAR SYSTEMS

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ABSTRACT

Photoinduced intramolecular electron-transfer events of the newly synthesized subphthalocyanine-triphenylamine- fullerene triad (SubPc-TPA-C60) and subphthalocyanine-triphenylamine-bisfullerene tetrad (SubPc-TPA-(C60)2) were studied. The geometric and electronic structures of the triad were probed by ab initio B3LYP/3 21G method, which predicts SubPc-TPA¥+-C60 ¥- as a stable charge-separated state. The photoinduced events via the excited singlet state of SubPc were monitored by time resolved emission measurements as well as transient absorption techniques. Efficient charge-separations via the excited states of SubPc were observed with the rates of _1010 s-1. Compared with the SubPc-TPA dyad, a long-lived charge-separated state was observed for the SubPc-TPA-C60 triad with the lifetime of the radical ion pairs (*ô*RIP) of 670 ns in benzonitrile. Interestingly, further charge stabilization was achieved in the charge-separated state of SubPc-TPA-(C60)2, in which the *ô*RIP was found to be 1050 ns in benzonitrile.

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IMPACT FACTOR=1.594

PHOTOINDUCED PROCESSES OF SUBPHTHALOCYANINE–DIAZOBENZENE–FULLERENE TRIAD AS AN EFFICIENT EXCITED ENERGY TRANSFER SYSTEM

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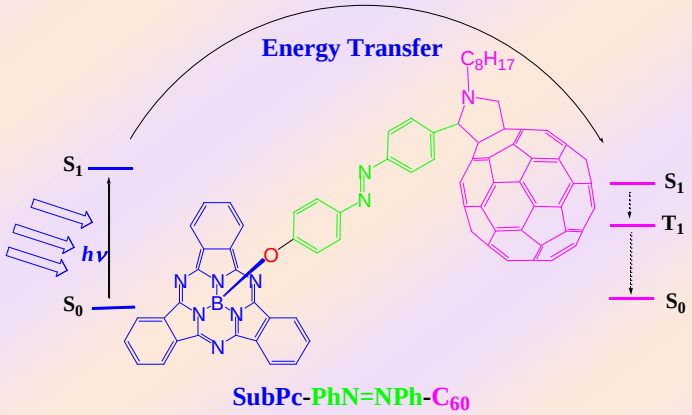
ABSTRACT

Photoinduced processes of a newly synthesized subphthalocyanine–diazobenzene-fullerene triad have been studied by the time-resolved spectroscopic techniques. On photo-excitation of subphthalocyanine (SubPc) moiety, the fluorescence quenching of SubPc was observed, suggesting the energy transfer process from singlet excited energy of the light-harvesting SubPc to C_{60} through diazobenzene. This finding is confirmed by the nanosecond transient absorption technique



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IMPACT FACTOR=2.663

SOLUTION-PROCESSED BULK HETEROJUNCTION SOLAR CELLS WITH SILYL END-CAPPED SEXITHIOPHEN

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ABSTRACT

We fabricated solution-processed organic photovoltaic cells (OPVs) using substituted two sexithiophenes, a,w-bis(dimethyl-*n*octylsilyl) sexithiophene (**DSi-6T**) and a,w dihexylsexithiophene (**DH-6T**), as electron donors, and [6,6]-phenyl-C61-butyric acid methyl ester (PCBM) as an electron acceptor. Solution-processed OPVs using **DH-6T** and **DSi-6T** showed good photovoltaic properties in spite of their poor solubility. The best performance was observed on **DSi-6T** : PCBM 1 : 5 (w/w) blend cell with an open circuit voltage (Voc) of 0.63V, short circuit current density (Jsc) of 1.34mA/cm2, fill factor (FF) of 55%, and power conversion efficiency of 0.44% under AM 1.5G illumination. Although **DH-6T** has higher hole mobility than **DSi-6T**, the **DSi-6T** : PCBM blend cell showed higher hole mobility than **DH-6T** : PCBM cell.Therefore, **DSi-6T** cell showed higher device performance tha **DH-6T** cell due to its silyl substitutions, which lead to the increase of the solubility. The incorporation of solution-processed TiO2 interfacial layer in the **DSi-6T** : PCBM devices significantly enhances FF due to the reduced charge recombination near active layer/Al interface.

108

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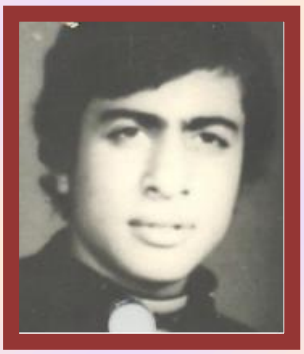

THE USE OF MERCURY AS A SUPPLEMENTARY INNER SHIELDING MATERIAL FOR LOW-BACKGROUND GAMMA-RAY SPECTROMETRY

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ABSTRACT

Gamma-ray spectroscopic measurements of low-level environmental samples require the reduction of the background as low as practicable. In the present work, we investigate the advantages of adding Hg passive shielding inside a low-background Pb-shield to further reduce the background radiation. The background count rate achieved by the Pb-shield alone over the energy interval from 25 to 2700 keV, amounts to 8:4_10□4 counts/s.keV which is _ 1:5% of the normal background. The introduction of Hg-shield adds another 15% reduction. On the average, the Hg-shield suppresses the net peak areas of X- and gamma-rays to < 3 and 1% of the normal background, respectively. On the other hand, the reduction in the count rate of these peaks due to the addition of Hg-shield varies according to the energy. The measurements showed no evidence of the presence of cosmogenically produced 194Hg in the measured spectra. An additional 2% reduction was achieved by using neutron moderators

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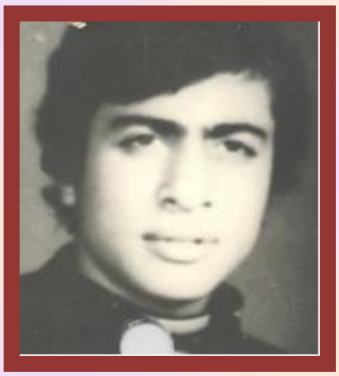
Isotopes in Environmental and Health Studies. 2013

IMPACT FACTOR=0.900



EVALUATION OF SOME POLLUTANT LEVELS IN ENVIRONMENTAL SAMPLES COLLECTED FROM THE AREA OF THE NEW CAMPUS OF TAIF UNIVERSITY

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ABSTRACT

The levels of radioactivity and heavy metals in soil, plant and groundwater samples collected from the area of the new campus of Taif University, Saudi Arabia, and its neighbouring areas have been determined. Highresolution gamma-ray spectroscopy was used for radioactivity measurements, and inductively coupled plasma atomic emission spectroscopy was used to determine the concentration of heavy metals. The means of 226Ra, 228Ra and 40K concentrations in water samples collected from four wells were found to be 0.13 ± 0.03, 0.05 ± 0.03 and 1.3 ± 0.5 Bq l−1, respectively. The means of 238U, 226Ra, 228Ra (232Th for soil samples) and 40K concentrations in wild plant and soil samples were found to be 3.7 ± 4.1, 8.8 ± 11.6, 3.8 ± 2.9 and 1025 ± 685, and 8.6 ± 3.4, 12.8 ± 3.4, 16.6 ± 7.1 and 618 ± 82 Bq kg−1 dry weight (DW), respectively. The 137Cs of artificial origin was also detected in soil samples with a mean concentration of 3.8 ± 2.2 Bq kg−1 DW. Evaluating the results, it can be concluded that the concentrations of 238U, 226Ra, 232Th and 40K in soil samples fall within the world average. Furthermore, 19 trace and major elements in groundwater samples and 22 elements in soil and plant samples were determined. The sampling locations of soil can be classified into three groups (relatively high, medium and low polluted) according to their calculated metal pollution index using the contents of trace and major elements. A cluster analysis of the contents of radioactivity and trace element contents in soil samples shows the presence of two main distinct clusters of sampling locations.

110

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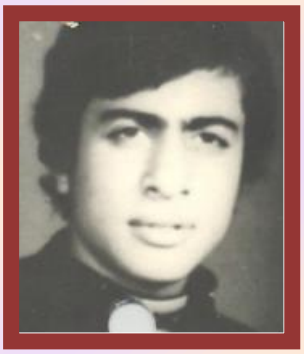
IMPACT FACTOR=1.846



STUDY OF TRANSPORT PROPERTIES AND CONDUCTION MECHANISM OF PURE AND COMPOSITERESORCINOL FORMALDEHYDE AEROGEL DOPED WITH CO-FERRITE

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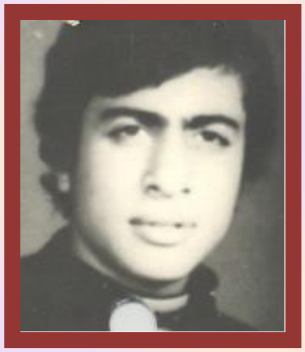
ABSTRACT

A series of resorcinol formaldehyde aerogels (RF aerogels) composite with nanoparticles of CoFe2O4havebeen prepared by sol–gel method. Four samples of pure RF aerogels were prepared at different concentra-tions of Na2CO3as catalyst (0.02, 0.025, 0.03, and 0.04 wt.%) and four samples of composite RF aerogelswere prepared at different concentration of doped CoFe2O4(0.075, 0.1, 0.125, and 0.15 wt.%; Na2CO3concentration = 0.03 wt.%). DC electrical conductivity as a function of temperature was studied in thetemperature range 25◦C–200◦C for all samples. AC electrical conductivity and dielectric properties weredetermined using RLC Bridge in the frequency range 100 Hz–1 MHz at different temperature (25–200◦C).The pore size of the samples was determined using positron annihilation lifetime spectroscopy (PALS).RF aerogels are found to exhibit a semiconducting behavior and characterized by two transition temper-atures T1and T2. Also _DCincreases with increase of Co-ferrite contents. Pure RF aerogels posses a verylow dielectric constant, where the lowest value of ε_is ∼4 times as that of air. ε_decreases with increaseof frequency, and increases with increase of temperature. Large overlapping polaron (OLP) is found tobe the preferred conduction mechanism in these materials. The results of PALS show that there are twotypes of pore size in these samples; the first ranges from 1.9 to 2.5 nm, while the second ranges from 3.2to 5.3 nm.

111

Journal of Molecular Structure 1047 (2013) 37–47

IMPACT FACTOR=1.634



Physicochemical impact studies of gamma rays on ‘‘aspirin’’ analgesics drug and its metal complexes in solid form: Synthesis, spectroscopic and biological assessment of Ca(II), Mg(II), Sr(II) and Ba(II) aspirinate complexes

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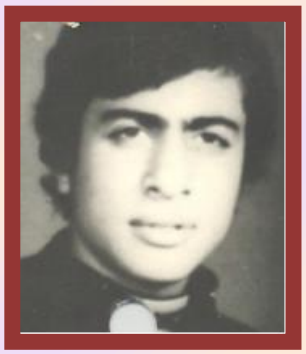
A B S T R A C T

Metal aspirinate complexes, M2(Asp)4, where M is Mg(II), Ca(II), Sr(II) or Ba(II) are formed by refluxed of aspirin (Asp) with divalent non-transition metal ions of group (II) and characterized by elemental analysis and spectroscopic measurements (infrared, electronic, 1H NMR, Raman, X-ray powder diffraction and scanning electron microscopy). Elemental analysis of the chelates suggests the stoichiometry is 1:2 (metal:ligand). Infrared spectra of the complexes agree with the coordination to the central metal atom through three donation sites of two oxygen atoms of bridge bidentate carboxylate group and oxygen atom of AC@O of acetyl group. Infrared spectra coupled with the results of elemental analyzes suggested a distorted octahedral structure for the M(II) aspirinate complexes. Gamma irradiation was tested as a method for stabilization of aspirin as well as their complexes. The effect of gamma irradiation, with dose of 80 Gy, on the properties of aspirinate complexes was studied. The aspirinate chelates have been screened for their in vitro antibacterial activity against four bacteria, gram-positive (Bacillus subtilis and Staphylococcus aureus) and gram-negative (Escherichia coli and Pseudomonas aeruginosa) and two strains of fungus (Aspergillus flavus and Candida albicans). The metal chelates were shown to possess more antibacterial activity than the free aspirin chelate.

112

Nuclear Instruments and Methods in Physics Research B 304 (2013) 72–79

IMPACT FACTOR=1.266



EFFECT OF C-RAYS IRRADIATION ON MN–NI FERRITES: STRUCTURE, MAGNETIC PROPERTIES AND POSITRON ANNIHILATION STUDIES

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ABSTRACT

Manganese–nickel ferrites powder with general formula MnxNi1_xFe2O4 (x = 0.0, 0.2, 0.4) were synthesized through oxalate precursor route and sintered at 1000 _C. The X-ray diffraction (XRD) patterns were measured for the prepared samples to confirm the existence of single-phase structure. The crystallite size was estimated and found to be within the range 125–170 nm. To study the radiation effect on the structure and magnetic properties, a representative group of the investigated samples were irradiated by crays of 60Co source with a dose of 310 kGy. The XRD spectra were performed for the irradiated samples and compared with that of the pristine samples to estimate changes in the structure. The obtained results showed that the crystallite size increased by a factor of 10–16% after gamma irradiation. The lattice parameter also was increased due to the conversion of Fe3+ (0.64 ¦) to Fe2+ (0.76 ¦). The formula of the cation distribution of the ferrites samples was suggested at x = 0, 0.2, 0.4 before and after irradiation. The theoretical lattice parameter, sample density and porosity were calculated and compared with that obtained from the experimental data. Good agreement was found between theoretical and experimental structural data which confirms the proposed formula of cations distribution. The hysteresis curves were measured using vibrating sample magnetometer (VSM) for the unirradiated and irradiated samples and the saturation magnetization was estimated. The obtained results showed increase in saturation magnetizations (Ms) for all the samples by irradiation due to redistribution of the cations between A and B sites and changing the net magnetic moments. Theoretical calculation of magnetic moments and saturation magnetization using the proposed cations distribution of A and B sites confirmed the experimental results. The positron annihilation lifetime spectroscopy (PALS) was used to investigate the defects and changes in electron density after irradiation. The PAL parameters (s1, I1, s2, I2 and mean lifetime) show that the irradiation affects the size and concentration of the vacant type defects. The results reveal that there are some large voids (with radius ranged from 0.28 to 0.38 nm and mean value of 0.34 ± 0.04 nm in the studied samples). The obtained results indicate the high sensitivity of PALS technique to the enhanced structure changes due to gamma rays irradiation.

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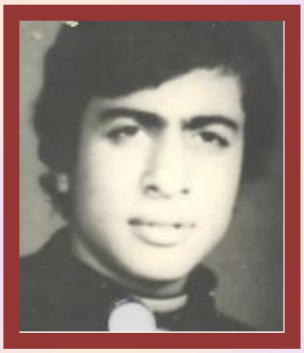
Int. J. Electrochem. Sci., 8 (2013) 1274 - 1294

IMPACT FACTOR=3.729



CHEMICAL AND PHYSICAL STUDIES ON THE REACTION MECHANISM OF CHARGE-TRANSFER COMPLEXES BETWEEN NARCOTIC DRUGS AND ELECTRONIC ACCEPTORS

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ABSTRACT

Considerable attention has recently been devoted to the formation of stable charge-transfer complexes that result from the reaction between acceptors and drugs. This interest stems from the significant physical and chemical properties of these complexes. In this paper, the charge-transfer complexes formed between the ephedrine (Eph) drug as a donor with picric acid (Pi) and quinol (QL) as a □–acceptors have been synthesized in methanol as a solvent at room temperature and spectroscopically studied. Based on the elemental analyses (C, H and N) and photometric titrations, the interaction between both picric and quinol □–acceptors with Eph donor formed via a stoichiometry (drug: acceptors) of 1:2 and 1:1, respectively. Benesi-Hildebrand and its modification methods were applied to estimate the spectroscopic and physical data. The spectroscopic techniques such as (infrared, $_1$H-NMR, and UV-vis) spectra, positron annihilation lifetime and thermo gravimetric analysis (TG) were used to characterize the chelating behavior of the synthetic CT complexes. The positron annihilation lifetime parameters were found to be dependent on the structure, electronic configuration and molecular weight of CT complexes. Finally, the antimicrobial activity of the CT complexes was determined against various bacterial and fungal strains.

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Electromagnetics, 33:491–506, 2013, ISSN: 0272-6343 print/1532-527X online

IMPACT FACTOR=0.789

SCATTERING FROM LAYERED-STRUCTURES WITH ROUGH BOUNDARIES

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ABSTRACT

Propagation of electromagnetic waves in flat or rough surfaces is and will continue to play one of the most important roles for long-range communications and in various applications. In this article, scattering electromagnetic waves from threelayered media (air, seawater, and ground) separated by rough boundaries (variable interfaces) is investigated theoretically by using the imaging space of Hankel transformations. The effects of roughness on the upper and lower surfaces are studied by using the perturbation technique. The reversal of Hankel transformations produces an integral representation of the interfering field, which was very tedious and complicated because they involved Sommerfeld integrals. As a result, the technique that consists of a few recalling steps to evaluate the Sommerfeld integral is developed with the aid of the complex image theory to obtain the closed-form expressions for the far field in the ground (third layer), which radiated from a vertical magnetic dipole located in the sea (second layer), and the results are numerically evaluated. This work proves that the results obtained are consistent with those mentioned elsewhere.

115

Journal of Electromagnetic Waves and Applications

IMPACT FACTOR=2.965

WAVE PROPAGATION IN AIR FROM A VERTICAL MAGNETIC DIPOLE LOCATED IN THREE ROUGH-LAYERED STRUCTURES

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ABSTRACT

In this paper, the field scattered in the upper medium (air) by a system composed of three homogeneous media (air–sea–ground) that are separated by two rough interfaces is derived from a perturbation technique. The source is located in the inner medium (seawater), which is a vertical magnetic dipole. Then, by applying the boundary conditions at each interface, the scattered field in each medium is derived analytically and expressed using the Hankel transformation (integral over the radial distance r). This research assumes that the modulus of the sea permittivity (jk2j >> jk1j) is much larger than that of the air and that the parameter kr >> 1 (far field assumption), closed-form expressions of the involved integrals are found for the scattered field in the air by using an approximate method. No pole is considered and therefore the formulation is consistent with previous published results. Numerical results are given and represented graphically. In addition, this research presents a comparison of the results obtained here with those of one rough surface and two planar surfaces. This study will be useful for remote sensing of the ocean surface, especially when the transmitter is close to the surface.

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J. Mater. Chem. A, 2013, 1, 10306–10317

IMPACT FACTOR=6.108

SYNTHESIS AND CHARACTERIZATION OF LOW BANDGAP P-CONJUGATED COPOLYMERS INCORPORATING 4,7-BIS(3,30/4,40-HEXYLTHIOPHENE-2-YL) BENZO[C] [2,1,3] THIADIAZOLE UNITS FOR PHOTOVOLTAIC APPLICATION

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Research Institute for Solar and Sustainable Energies, Gwangju Institute of Science and Technology, Gwangju 500-712, Korea
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A B S T R A C T

,7-Bis(3,3’/4,4’-hexylthiophene-2-yl)benzo[c][2,1,3]thiadiazoles(HT–BT–HT) were used as building blocks to construct a series of low bandgap □-conjugated copolymers for photovoltaic applications. The desired copolymers were obtained by incorporating the HT–BT–HT comonomers together with donor or acceptor units, such as 3,4-ethylenedioxythiophene (EDOT), bis-EDOT, thieno[3,4-b]pyrazine (TP), and 2,3-dimethyl-TP, via a palladium-catalyzed Stille cross-coupling method. A facile synthetic method has also been developed for the synthesis of several EDOT- and TP-based copolymers via direct C–H arylation of EDOT, bis-EDOT, and TP derivatives using the commercially available catalyst $Pd(OAc)_2$ under Heck-type experimental conditions (Jeffery method). For all of the synthesized copolymers, moving the hexyl side chains of the HT unit in the HT–BT–HT comonomers from 3,3’-positions (close to BT, as in P1–P4) to 4,4’-positions (away from BT, as in P5–P8) led to a significant red shift of the UV-vis absorption spectrum, a decrease of the energy bandgap, an increase of the glass transition temperature, and more promising photovoltaic performances. The thin-film copolymer P7 incorporating TP units $(–TP–HT–BT–HT–)_n$ exhibited the most extended absorption (beyond 1000 nm) and the lowest optical bandgap (1.24 eV) among the synthesized copolymers. According to time-dependent density functional theory calculations, the TP unit, in contrast to EDOT, has its lowest unoccupied molecular orbital (LUMO) at the same level as BT. An extended □-conjugation along the TP and BT units leads to low-lying LUMO levels of the resulting copolymer P7 and in turn its reduced bandgap. The power conversion efficiencies (PCEs) of organic photovoltaic devices employing copolymers P1–P8 were measured in the configuration of ITO/PEDOT:PSS/copolymer (P1–P8):PC60BM (1:1 w/w)/Al. Copolymer P7 in particular showed the highest PCE of 3.32%.

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Materials Sciencein Semiconductor Processing16(2013)1747–1752

IMPACT FACTOR=1.338

Nickel oxide nanoparticles: Synthesis and spectral studies of interactions with glucose

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A B S T R A C T

Nickel oxide(NiO)nanoparticlesweresuccessfullysynthesizedbythereactionofnickel hloridewithhydrazineatroomtemperatureandthermaldecompositionoftheprecursor nickel hydroxide(Ni(OH)2) nanoparticles.TheproductswerecharacterizedbyX-ray diffraction, Transmissionelectronmicroscopy,Fouriertransforminfraredspectroscopy, and UV–vis absorptionspectroscopy.Theresultofthermogravimetricanalysisshowed that theNi(OH)2 nanoparticlesarecalcinatedat ~400 1C. TheinteractionsbetweenNiO nanoparticlesandglucosehavebeenstudiedusingUV–vis absorptionandfluorescence spectroscopy.Thezeta-potentialofNiOnanoparticleswasusedtogaininsightaboutthe interactionmodebetweenNiOnanoparticlesandglucose

118

Crop Protection 49 (2013) 21e25

IMPACT FACTOR=1.402

ANTIFUNGAL ACTIVITY OF PRENYLATED FLAVONOIDS ISOLATED FROM TEPHROSIA APOLLINEA L. AGAINST FOUR PHYTOPATHOGENIC FUNGI

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ABSTRACT

Four prenylated flavonoids, isoglabratephrin, ()-glabratephrin, tephroapollin-F and lanceolatin-A were isolated from Tephrosia apollinea L. growing in Egypt. The structures of compounds have been elucidated using physical and spectroscopic methods including (UV, IR, 1H NMR, 13C NMR, DEPT, 2D 1He1H COSY, HSQC, HMBC and NOESY). The isolated flavonoids showed considerable antifungal activity against four phytopathogenic fungi, namely Alternaria alternata, Helminthosporium sp., Colletotrichum acutatum and Pestalotiopsis sp. in a dose-dependent manner using the agar well-diffusion bioassay. They differ significantly in their activity with tephroapollin-F was the most effective. In a test using a concentration of 4 mg/ml of tephroapollin-F, strong fungicidal activities (32.8e58.3%) were produced against the test fungi, where C. acutatum, Helminthosporium sp. and Pestalotiopsis sp. showed greater susceptibility, while A. alternata was the least susceptible. Using the same concentration, the two flavonoids isoglabratephrin and ()-glabratephrin showed moderate activities with % inhibition of fungal growth were ranged between (16.1e37.8) against A. alternata, Helminthosporium sp. And Pestalotiopsis sp., while showed a strong antifungal activity against C. acutatum (% growth inhibition were 46.4 and 42.9, respectively). In all treatments, the flavonoid lanceolatin-A exhibited weak to moderate activities. Using lower concentrations of the test flavonoids (2 and 1 mg/ml), weak to moderate antifungal activities were observed against all of the test fungal strains. In all cases and regardless of the flavonoid tested, C. acutatum was the most susceptible, while A. alternata was the least. The study recommends the use of the test compounds as rational fungicides of natural origin

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World J Microbiol Biotechnol (2013) 29:1255–1262

IMPACT FACTOR=1.532

ANTIMICROBIAL ACTIVITY OF CALOTROPIS PROCERA AIT. (ASCLEPIADACEAE) AND ISOLATION OF FOUR FLAVONOID GLYCOSIDES AS THE ACTIVE CONSTITUENTS

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ABSTRACT

Antimicrobial activity of solvent extracts and flavonoids of Calotropis procera growing wild in Saudi Arabia was evaluated using the agar well-diffusion method. A bioassay guided fractionation of the crude flavonoid fraction (Cf3) of MeOH extract which showed the highest antimicrobial activity led to the isolation of four flavonoid glycosides as the bioactive constituents. Structure of compounds have been elucidated using physical and spectroscopic methods including (UV, IR, 1H, 13C-NMR, DEPT, 2D 1H–1H COSY, HSQC, HMBC and NOESY). Compounds were found to be the 3-O-rutinosides of quercetin, kaempferol and isorhamnetin, besides the flavonoid 5-hydroxy-3,7-dimethoxyflavone-40-O-b-glucopyranoside. Most of the isolated extracts showed antimicrobial activity against the test microorganisms, where the crude flavonoid fraction was the most active, diameter of inhibition zones ranged between 15.5 and 28.5 mm against the tested bacterial strains, while reached 30 mm against the fungal Candida albicans. The minimal inhibitory concentrations varied from 0.04 to 0.32 mg/ml against all of the tested microorganisms in case of the crude flavonoid fraction. Quercetin-3-O rutinoside showed superior activity over the remainder flavonoids. The Gram-positive bacteria (Staphylococcus aureus and Bacillus subtilis) were more susceptible than the Gram-negative (Pseudomonas aeruginosa and Salmonella enteritidis) and the yeast species were more susceptible than the filamentous fungi. The study recommend the use of such natural products as antimicrobial biorationals.

120

Industrial Crops and Products 45 (2013) 327–334

IMPACT FACTOR=2.468

POTENTIAL OF USING FLAVONOIDS, LATEX AND EXTRACTS FROM CALOTROPIS PROCERA (AIT.)AS GRAIN PROTECTANTS AGAINST TWO COLEOPTERAN PESTS OF STORED RICE

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ABSTRACT

The leaf methanolic extract, latex protein fraction (Lp) and flavonoids of Calotropis procera (Ait.) (Gentianales: Asclepiadaceae) were extracted. Their effects on the survival and feeding behavior of Sitophilus oryzae (L) (Coleoptera: Curculionidae) and Rhyzopertha dominica (F) (Coleoptera: Bostrichidae) were evaluated. A bioassay-guided fractionation of the crude flavonoid fraction (Cf) of MeOH extract led to the isolation of four flavonoid glycosides as the bioactive constituents. Compounds were found to be the 3-O-rutinosides of quercetin, kaempferol and isorhamnetin, and the flavonoid 5-hydroxy 3,7- dimethoxyflavone-4_-O-_-glucopyranoside. Their structures have been elucidated using physical and spectroscopic methods including (UV, IR, 1H, 13C NMR, DEPT, 2D 1H–1H COSY, HSQC, HMBC and NOESY). The tested natural products showed considerable toxicity against both insects using the treated-filter paper bioassay. At a concentration of (5 mL cm−2), mortality percentages of 86.0, 77.6 and 61.0 were achieved after seven days of exposure of adults S. oryzae to (Cf), (Lp) and methanol extract, respectively. R. dominica was less susceptible, where % mortality were ranged between 53.8–64.2%. The F1 progeny of both insects were greatly affected, where a reduction in adult progeny of 83.8, 74.3 and 67.9% was recorded for S. oryzae after parental exposure to a concentration of 5 mg cm−2 of (Cf), (Lp) and methanol extract, respectively, meanwhile R. dominica was less susceptible. Results of nutritional study indicate that at sublethal concentrations, the test products significantly reduced the relative growth rate (RGR), food consumption rate (RCR) and food utilization (ECIF) by adults of both insects. The overall feeding process of S. oryzae and R. dominica was deterred by 77.6 and 86.6% with (LP), respectively, while perecentages of fedding deterrnce of 61.2 and 54.2 was recorded in case of (Cf) against S. oryzae and R. dominica, respectively. When tested individually, C. procera flavonoids showed weak to moderate activities

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Eur Arch Otorhinolaryngol,2013 Published online 07 March

IMPACT FACTOR=1.458

MOLECULAR DIAGNOSTIC ALTERATIONS IN SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK AND POTENTIAL DIAGNOSTIC APPLICATIONS

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ABSTRACT

Head and neck squamous cell carcinoma (HNSCC) is a common malignancy that continues to be difficult to treat and cure. In many organ systems and tumor types, there have been significant advances in the understanding of the molecular basis for tumorigenesis, disease progression and genetic implications for therapeutics. Although tumorigenesis pathways and the molecular etiologies of HNSCC have been extensively studied, there are still very few diagnostic clinical applications used in practice today. This review discusses current clinically applicable molecular markers, including viral detection of Epstein-Barr virus and human papillomavirus, and molecular targets that are used in diagnosis and management of HNSCC. The common oncogenes EGFR, RAS, CCND1, BRAF, and PIK3CA and tumor suppressor genes p53, CDKN2A and NOTCH are discussed for their associations with HNSCC. Discussion of markers with potential future applications is also included, with a focus on molecular alterations associated with targeted therapy resistance.

122

Experimental Parasitology 135 (2013) 518–523

IMPACT FACTOR=2.154

PREVALENCE AND CHARACTERIZATION OF CRYPTOSPORIDIUM SPP. IN DAIRY CATTLE IN NILE RIVER DELTA PROVINCES, EGYPT

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ABSTRACT

Molecular characterizations of Cryptosporidium spp. in dairy cattle in industrialized nations have mostly shown a dominance of Cryptosporidium parvum, especially its IIa subtypes in pre-weaned calves. Few studies, however, have been conducted on the distribution of Cryptosporidium species and C. parvum subtypes in various age groups of dairy cattle in developing countries. In this study, we examined the prevalence and molecular characteristics of Cryptosporidium in dairy cattle in four Nile River delta provinces in Egypt. Modified Ziehl–Neelsen acid-fast microscopy was used to screen for Cryptosporidium oocysts in 1974 fecal specimens from animals of different ages on 12 farms. Positive fecal specimens were identified from all studied farms with an overall prevalence of 13.6%. By age group, the infection rates were 12.5% in pre-weaned calves, 10.4% in post-weaned calves, 22.1% in heifers, and 10.7% in adults. PCR-RFLP and DNA sequence analyses of microscopy-positive fecal specimens revealed the presence of four major Cryptosporidium species. In pre-weaned calves, C. parvum was most common (30/69 or 43.5%), but Cryptosporidium ryanae (13/69 or 18.8%), Cryptosporidium bovis (7/69 or 10.2%), and Cryptosporidium andersoni (7/69 or 10.2%) were also present at much higher frequencies seen in most industrialized nations. Mixed infections were seen in 12/69 (17.4%) of genotyped specimens. In contrast, C. andersoni was the dominant species (193/195 or 99.0%) in post-weaned calves and older animals. Subtyping of C. parvum based on sequence analysis of the 60 kDa glycoprotein gene showed the presence of subtypes IIdA20G1 in nine specimens, IIaA15G1R1 in 27 specimens, and a rare subtype IIaA14G1R1r1b in one specimen.

123

Veterinary Parasitology 197 (2013) 627– 633

IMPACT FACTOR=2.579

PERIPARTURIENT TRANSMISSION OF CRYPTOSPORIDIUM XIAOI FROM EWES TO LAMBS

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ABSTRACT

The mechanism for the maintenance of Cryptosporidium infection in sheep between yearly lambing periods is not clear. Previously, periparturient shedding of oocysts as the result of stress from lambing was suspected to be a mechanism for the initiation of Cryptosporidium infection in lambs, but this has never been verified by genotyping studies. In this study, fecal specimens from four age groups of sheep in Inner Mongolia, China were examined for Cryptosporidium spp. by PCR-restricted fragment length polymorphism and sequence analyses of the small subunit (SSU) rRNA gene, including 59 ewes 1 week before parturition, 154 ewes at parturition, 87 lambs of 3–4 weeks, and 75 lambs of 15–16 weeks. The Cryp-tosporidium infection rate in ewes at parturition (7.8%) was significantly higher than at 1 week before parturition (1.7%). Higher infection rates were found in lambs (18.4% and 26.7% for 3–4-week-old and 15–16-week-old lambs, respectively). Most (10/13) Cryptosporidium-positive ewes were shedding Cryptosporidium xiaoi, which was also the dominant species (15/16) in neonatal lambs of 3–4 weeks in age (15/16). The less common species in ewes, Cryptosporidium ubiquitum, was not found in lambs of 3–4 weeks but was the dominant species (14/20) in lambs of 15–16 weeks. The major zoonotic Cryptosporidium species, C. parvum (of the IIaA15G2R1 subtype), was only found in one lamb. These data support the occurrence of periparturient transmission of Cryptosporidium spp., especially C. xiaoi, from ewes to lambs.

124

Parasitology International 2013 Oct21.

IMPACT FACTOR=2.302

OCCURRENCE OF HUMAN-PATHOGENIC ENTEROCYTOZOON BIENEUSI, GIARDIA DUODENALIS AND CRYPTOSPORIDIUM GENOTYPES IN LABORATORY MACAQUES IN GUANGXI, CHINA

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ABSTRACT

Captive nonhuman primates have been identified as common hosts of Enterocytozoon bieneusi, Giardia duodenalis, Cryptosporidium hominis, and Cyclospora spp., thus are potential reservoirs of some enteric parasites in humans. However, few studies have examined the source and human-infective potential of enteric parasites in laboratory nonhuman primates. In the present work, 205 fecal specimens were collected from three groups of captive Macaca fascicularis kept in different densities in a laboratory animal facility in Guangxi, China, and examined by PCR for E. bieneusi, G. duodenalis, Cryptosporidium spp., and Cyclospora spp. The infection rates of E. bieneusi and G. duodenalis were 11.3% and 1.2% in Group 1 (young animals kept individually; n=168), 72.2% and 11.1% in Group 2 (young animals kept in groups; n=18), and 31.6% and 5.3% in Group 3 (adults kept in groups; n=19), respectively. Sequence analysis of PCR products showed the presence of five E. bieneusi genotypes, with genotype D (in 16/36 genotyped specimens) and a new genotype (in 15/36 genotyped specimens) as the dominant genotypes. All five E. bieneusi genotypes belonged to the zoonotic group (Group 1). The G. duodenalis genotypes (assemblages AII and B) in five specimens and C. hominis subtype (IdA14) in one specimen were also known human-pathogens, although the Cyclospora seen in one animal appeared to be unique to macaque monkeys. The higher infection rate in younger animals reared in groups and common occurrence of zoonotic genotypes indicated that human-pathogenic E. bieneusi could be transmitted efficiently in captive nonhuman primates, and group-housing was a risk factor for transmission of zoonotic pathogens in young nonhuman primates in research facilities.

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Journal of Virological Methods 193 (2013) 713–728

IMPACT FACTOR=1.900

PATTERNS OF POLYMORPHISM AND DIVERGENCE IN THE VP1 GENE OF ENTEROVIRUS 71 CIRCULATING IN THE ASIA-PACIFIC REGION BETWEEN 1994 AND 2013

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ABSTRACT

Enterovirus 71 has been implicated in several outbreaks of hand, foot and mouth disease in the Asia- Pacific region. The present study aimed to achieve comprehensive evolutionary dynamic aspects of EV71 during 1994–2013, based on phylogenetic analyses of the VP1 sequences. The results indicated that 4 genotypes, namely C4, C1, C2 and B4 are the predominant strains, especially in Southeast Asian countries. No common ancestor was shared in different countries. Fourteen sites of substitutions were detected in the VP1 gene sequences; including the most common sites related to neutralization at position V249I [47.1% (189/401)] and A289T [42.6% (171/401)]. However, the sitesM Q22H and Q22R associated with increased virulence were recognized only in 13.7% (55/401) and 18% (72/401), respectively. None of the above mutations seemed to become fixed because the ratio of Ka/Ks was greater than 1.0. Mutations K43E, A58T, S184T, and T240S could possibly change the spatial structure. Two mutations, G145E and T240S, could obviously affect the hydrophobicity of VP1 and thus alter the EV71 immunoreactivity. In conclusion, the VP1 gene of EV71 strains circulating in the Asia-Pacific region during 1994–2013, showed polymorphisms and divergence with very slow evolution rate, which may be one of the reasons for periodic outbreaks in this area.

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Journal of Infection (2013) 67(6):595-605

IMPACT FACTOR= 4.126

EPIDEMIOLOGICAL, CLINICAL AND VIRAL CHARACTERISTICS OF FATAL CASES OF HUMAN AVIAN INFLUENZA A (H7N9) VIRUS IN ZHEJIANG PROVINCE, CHINA

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ABSTRACT

Background: The high mortality of avian influenza H7N9 in humans is a cause of great concern in China. Methods: We compared epidemiological, clinical and viral features of H7N9 influenza of 10 fatal cases and 30 survivors. Results: Increasing age (p Z 0.021), smoking (p Z 0.04), underlying medical background (pZ0.05) and chronic drug use (pZ0.042) had a strong relationshipwith death due to H7N9 infection. Serological inflammatorymarkerswere higher in fatal cases compared to survivors. Acute respiratory distress syndrome (100%), respiratory failure (100%), co-infection with bacteria (60%), shock (50%) and congestive heart failure (50%) were the most common complications observed in fatal cases. The median time from onset of symptoms to antiviral therapy was 4.6 and 7.4 days in those who survived and those who died, respectively (pZ0.04). Viral HA, NA and MP nucleotide sequences of isolates from both study groups exhibited high molecular genetic homology. Conclusions: Age along with a history of smoking, chronic lung disease, immuno-suppressive disorders, chronic drug use and delayed Oseltamivir treatment are risk factors which might contribute to fatal outcome in human H7N9 infection

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Vaccine 31 (2013) 5754– 5759

IMPACT FACTOR=3.766

PROTECTIVE EFFICACY OF PLGA MICROSPHERES LOADED WITH DIVALENT DNA VACCINE ENCODING THE OMPA GENE OF AEROMONAS VERONII AND THE HLY GENE OF AEROMONAS HYDROPHILA IN MICE

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ABSTRACT

In the present study, poly (lactic-co-glycolic) acid (PLGA) was used as a carrier for a divalent fusion DNAvaccine encoding the Aeromonas veronii outer membrane protein A (ompA) and Aeromonas hydrophilahemolysins (hly) protein. The recombinant pET-28a-ompA-hly was constructed by inserting the ompAgene and hly gene into a pET-28a expression vector. Loading of ompA-hly antigen module on PLGA micro-spheres were accomplished by water-in-oil-in-water (W/O/W) encapsulation. The molecular weight andspecificity of pET-28a-ompA-hly were detected by dodecyl sulfate-polyacrylamide gel electrophoresis(SDS-PAGE) and western blotting. The microspheres showed an average particle size of 100–150 _m and aloading efficiency (LE) of 68.8%. Mice received ompA-hly antigen-loaded PLGA microspheres by intraperi-toneal or intragastric administration mounted strong and sustained IgG response, which was significantlyhigher ($p < 0.05$) than those achieved by pET-28a-ompA-hly antigen alone. OmpA-hly antigen-loadedPLGA microsphere vaccine uniquely conferred a long lasting (30 days) sterile immunity against chal-lenge infection. Results indicated that ompA-hly antigen-loaded PLGA microsphere vaccine is a qualifiedcandidate vector system for sterile protective immunity against A. hydrophila and A. veronii infections. common.

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Reviews in Medical Virology,2013,

IMPACT FACTOR=7.615

SYSTEMATIC REVIEW OF SEVERE FEVER WITH THROMBOCYTOPENIA SYNDROME：VIROLOGY, EPIDEMIOLOGY AND CLINICAL CHARACTERISTICS

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ABSTRACT

Severe fever with thrombocytopenia syndrome (SFTS) was firstly discovered in China in 2010, followed by several reports from many other countries worldwide. SFTS virus (SFTSV) has been identified as the causative agent of the disease and has been recognized as a public health threat. This novel Bunyavirus belongs to the Phlebovirus genus in the family Bunyaviridae. This review also describes the different aspects of virology, pathogenesis, epidemiology, and clinical symptoms on the basis of the published article surveillance data and phylogenetic analyses of viral sequences of large, medium, and small segments retrieved from database using MEGA 5.05, SIMPLOT 3.5.1, NETWORK 4.611, and EPI information system 3.5.3 software. SFTS presents with fever, thrombocytopenia, leukocytopenia, and considerable changes in several serum biomarkers. The disease has 10 ~ 15% mortality rate, commonly because of multiorgan dysfunction. SFTSV is mainly reported in the rural areas of Central and North-Eastern China, with seasonal occurrence from May to September, mainly targeting those of ≥50 years of age. A wide range of domesticated animals, including sheep, goats, cattle, pigs, dogs, and chickens have been proven seropositive for SFTSV. Ticks, especially Haemaphysalis longicornis, are suspected to be the potential vector, which have a broad animal host range in the world. More studies are needed to elucidate the vector–animal human ecological cycle, the pathogenic mechanisms in high level animal models and vaccine development.

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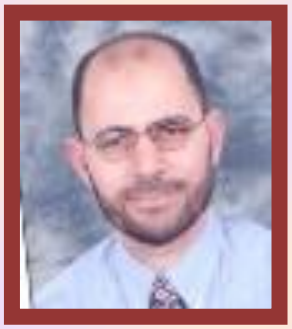
Radiation Physics and Chemistry,82(2013) 12-15

IMPACT FACTOR= 1.375



POSITRON ANNIHILATION STUDIES OF BIO-RELATED N_2S_2-TETRADENTATE LIGANDS AND THEIR ZINC COMPLEXES

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ABSTRACT

In this study, a series of three N_2S_2-tetradentate ligands and their zinc complexes were investigated by positron annihilation lifetime spectroscopy. The measurements were performed at room temperature. The analysis of lifetime spectra of all samples yielded four lifetime components, except in one sample that yielded three components. The results showed that the formation probability and lifetime of ortho-positronium in this series are dependent on the structure..

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Composite Structures 99 (2013) 76–87

IMPACT FACTOR= 2.240

BUCKLING AND FREE VIBRATION OF EXPONENTIALLY GRADED SANDWICH PLATES RESTING ON ELASTIC FOUNDATIONS UNDER VARIOUS BOUNDARY CONDITIONS

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ABSTRACT

This paper deals with the vibration and buckling behavior of exponentially graded material (EGM) sandwich plate resting on elastic foundations under various boundary conditions. New functions for midplane displacements are suggested to satisfy the different boundary conditions. The elastic foundation is modeled as Pasternak's type which can be either isotropic or orthotropic and as a special case it converges to Winkler's foundation if the shear layer is neglected. The present EGM sandwich plate is assumed to be made of a fully ceramic core layer sandwiched by metal/ceramic EGM coat. The governing equations of the dynamic response of non-homogeneous composite plates are deduced by using various shear deformation plate theories. Numerical results for the natural frequencies and critical buckling loads of several types of symmetric EGM sandwich plates are presented. The validity of the present solution is demonstrated by comparison with solutions available in the literature. The influences of the inhomogeneity parameter, aspect ratio, thickness ratio and the foundation parameters on the natural frequencies and critical buckling loads are investigated

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Aerospace Science and Technology 29 (2013) 7–

IMPACT FACTOR=0.983

DYNAMIC BENDING RESPONSE OF THERMOELASTIC FUNCTIONALLY GRADED PLATES RESTING ON ELASTIC FOUNDATIONS

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ABSTRACT

In this paper, the analyses of dynamic deflection and stresses in functionally graded (FG) plates resting on two-parameter elastic foundations, according to Pasternak's model, are investigated. The present FG plate is subjected to time harmonic thermal load. Material properties of the plate are assumed to be graded in the thickness direction, from the upper surface which is ceramic-rich to the lower one which is metal-rich, according to a simple exponential law distribution in terms of the volume fractions of the constituents. The governing equations of the dynamic response of a non-homogeneous composite plate are deduced by using various shear deformation theories as well as the classical one. The influences of the time parameter, power-law index, side-to-thickness ratio and the foundation parameters on the dynamic bending are illustrated.

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PhysicaE53(2013)251–259

IMPACT FACTOR=1.532

NONLOCAL ELASTICITY THEORY FOR THERMAL BUCKLING OF NANOPLATES LYING ON WINKLER– PASTERNAK ELASTIC SUBSTRATE MEDIUM

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ABSTRACT

In thepresentwork,thermalbucklingofsinglelayeredgraphenesheetslyingonanelasticmediumis analyzed. Forthispurpose,thesinusoidalsheardeformationplatetheoryintandemwiththenonlocal continuum theory,whichtakesthesmallscaleeffectsintoaccount,isemployed.Thenon-linearstability equations,whichcontainthereactionofWinkler–Pasternakelasticsubstratemedium,arederivedand then solvedanalyticallyforaplatewithvariousboundaryconditionsandbasedonvariousplatetheories. Closed formsolutionsareformulatedforthreetypesofthermalloadingsasuniform,linearandnonlinear temperaturerisethroughthethicknessoftheplate.Anumberofexamplesarepresentedtoillustrate the numerical resultsconcernedwiththebucklingtemperatureresponseofnanoplatesrestingontwo-parameterelasticfoundations.Theinfluences playedbytransversalsheardeformation,plateaspectratio, side-to-thicknessratio,nonlocalparameter,andelasticfoundationparametersareallinvestigated.

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Composite Structures 105 (2013) 163–172

IMPACT FACTOR= 2.240

SMALL SCALE EFFECT ON HYGRO-THERMO-MECHANICAL BENDING OF NANOPLATES EMBEDDED IN AN ELASTIC MEDIUM

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ABSTRACT

In this article, the small scale effect on the bending of nanoplates, such as graphene sheets, embedded in two-parameter elastic medium and subjected to hygro-thermo-mechanical loading is studied. The temperature field and moisture concentrations are assumed to be varied uniformly, linearly or nonlinearly through the thickness of the nanoplates. Based on the nonlocal continuum theory in conjunction with the refined sinusoidal shear deformation plate theory, the governing equations are derived including the hygro-thermal effects and the reaction between the plate and the elastic medium. The nonlocal mechanics account for the small size effects when dealing with nanosize elements. However, the refined sinusoidal shear deformation plate theory takes account the normal as well as shear deformation effects. A parametric study is carried out varying the small scale parameter, temperature, moisture concentration, elastic foundation parameters, plate aspect ratio and side-to-thickness ratio of the nanoplate with simply supported condition.

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Physica E 56 (2014) 400–409

IMPACT FACTOR=1.533

THERMO MECHANICAL BENDING AND FREE VIBRATION OF SINGLE-LAYERED GRAPHENE SHEETS EMBEDDED IN AN ELASTIC MEDIUM

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ABSTRACT

In the present paper, the sinusoidal shear deformation plate theory (SDPT) is reformulated using the nonlocal differential constitutive relations of Eringen to analyze the bending and vibration of the nanoplates, such as single-layered grapheme sheets, resting on two-parameter elastic foundations. The present SDPT is compared with other plate theories. The nanoplates are assumed to be subjected to mechanical and thermal loads. The equations of motion of the nonlocal model are derived including the plate foundation interaction and thermal effects. The governing equations are solved analytically for various boundary conditions. Nonlocal theory is employed to bring out the effect of the nonlocal parameter on the bending and natural frequencies of the nanoplates. The influences of nonlocal parameter, side-to-thickness ratio and elastic foundation moduli on the displacements and vibration frequencies are investigated

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Plant Species Biology (2014) 29, 47–56

IMPACT FACTOR= 1.283

DECOMPOSITION DYNAMICS OF PHRAGMITES AUSTRALIS LITTER IN LAKE BURULLUS, EGYPT

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A B S T R A C T

This study estimated the decomposition rate and nutrient dynamics of *Phragmites australis* litter in Lake Burullus (Egypt) and investigated the amount of nutrients released back into the water after the decomposition of the dead tissues. *Phragmites australis* detritus decomposition was studied from April to September 2003 utilizing the leaf, stem, and rhizome litterbags technique with coarse mesh (5 mm) bags on five sampling dates and with nine replicate packs per sample. All samples were dried, weighed and analyzed for N, P, Ca, Mg, Na, and K concentrations. The exponential breakdown rate of leaves (-0.0117/day) was significantly higher than that of rhizomes (-0.0040/day) and stems (-0.0036/day). N, Na and K mineralization were the highest from leaf litter, followed by rhizomes and stems, while P, Ca and Mg mineralization were the highest from rhizomes, followed by leaves and stems. The dead shoot biomass at the end of 2003 amounted to 4550 g DM/m2 which enters the decomposition process. By using the decay rate of 0.0117 and 0.0036/day for the leaves and stems, 3487 g DM/m2 is decomposed in a year, leaving only 1063 g DM/m2 after 1 year. This is mainly equivalent to releasing the following nutrients into surrounding water (in g/m2): 24.4 N, 1.1 P, 15.5 Ca, 3.5 Mg, 11.3 Na and 16.7 K. In conclusion, the present study indicates a significant difference in relation to the type of litter; these breakdown rates were generally greater than most rates reported in previous studies that used the same technique and mesh size

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DEMOGRAPHY OF *IPOMOEA CARNEA*: AN INVASIVE SPECIES IN THE NILE DELTA, EGYPT

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ABSTRACT

Ipomoea carnea was introduced to Egypt for ornamental purpose. It naturalized as a species along canals and drains, road sides, railways, waste lands and field edges in the Nile Delta. The rapid growth rate, spread and adaptability from aquatic to xerophytic habitats indicate that this invasive plant may potentially become another ecological disaster like water hyacinth. The present work monitored the demography of *I. carnea* populations at two locations in Nile Delta in terms of size structure (natality, mortality, survival & demographic flux) and assessed its standing crop and the correlation between its population characters and the prevailing environmental variables. Fifty permanent stands were established to represent the microvariations in seven habitats, where *I. carnea* occurs at both locations. The height from the ground and average diameter of the canopy for each permanent marked ramet (4355 ramets) were estimated monthly and its volume was calculated as a cylinder. The results revealed that sexual propagation of *I. carnea* from seeds is less common than vegetative propagation from decumbent branches. The variation in population natality varied in relation to habitat and time. *I. carnea* sprouts suffered relatively higher mortality rates than adult plants, indicating the sensitivity of the sprouts to temporal variation in some environmental factors. Months of July and January indicated negative values of demographic flux as a result of the increasing mortality and decreasing natality. In contrast, June had maximum value as no sprout and adult mortalities was moted in this month. The size distribution of *I. carnea* populations had negative skewed shape, where the big individuals (i.e., mature) exceeded the small ones (i.e., juveniles). The biomass of *I. carnea* was higher than the other species in the same habitats in the Nile Delta.

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Journal of Intelligent & Fuzzy Systems 26,(2014) 1031-1038

IMPACT FACTOR= 0.788

COVERING – BASED ROUGH FUZZY SETYS AND BINARY RELATION

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ABSTRACT

Rough set theory is a powerful tool for dealing with uncertainty, granularity, and incompleteness of knowledge in information systems. In this paper we study covering-based rough fuzzy sets in which a fuzzy set can be approximated by the intersection of some elements in a covering of the universe of discourse. Some properties of the covering-based fuzzy lower and upper approximation operators are examined. We present the conditions under which two coverings generate the same covering-based fuzzy lower and upper approximation. We approximate fuzzy sets based on a binary relation and its properties are introduced. Finally, we establish the equivalency between rough fuzzy sets generated by a covering and rough fuzzy sets generated by a binary relation.

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Ore Geology Reviews 53 (2013) 63–76

IMPACT FACTOR=2.417

MINERALOGY, GEOCHEMISTRY AND ORIGIN OF MN IN THE HIGH-MN IRON ORES, BAHARIYA OASIS, EGYPT

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ABSTRACT

Although Mn is one of the major impurities in the economic iron ores from the Bahariya Oasis, information on its modes of occurrence and origin is lacking in previous studies. High-Mn iron ores from El Gedida and Ghorabi–Nasser iron mines were subjected to detailed mineralogical, geochemical, and petrographic investigations using X-ray diffraction (XRD), infrared absorption spectrometry (IR), Raman spectroscopy, X-ray fluorescence (XRF), scanning electron microscopy (SEM), and electron probe microanalyzer (EPMA) to clarify the modes of occurrence of Mn in these deposits and its origin. The results showed that the MnO2 contents range between 0.03 and 13.9 wt.%. Three mineralogical types have been identified for the Mn in the high-Mn iron ores, including: (1) inclusions within the hematite and goethite and/or Mn accumulated on their active surfaces, (2) coarse-grained and crystalline pyrolusite, and (3) fine-grained cement like Mn oxide and hydroxide minerals (bixbyite, cryptomelane, aurorite, romanechite, manjiroite, and pyrochroite) between the Fe-bearing minerals. The Mn carbonate mineral (rhodochrosite) was detected only in the Ghorabi–Nasser high-Mn iron ores. Since IR patterns of low-Mn and high-Mn samples are almost the same, a combination of XRD analysis using non-filtered Fe-Kα radiations and Raman spectroscopy could be the best way to identify and distinguish between different Mn minerals. Assuming that both Fe and Mn were derived from the same source, the occurrence of high-Mn iron ores at the base of the stratigraphic section of the deposits overlain by the low-Mn iron ores indicated a supergene origin of the studied ores by descending solutions. The predominance of Mn oxide and hydroxide minerals in botryoidal shapes supports this interpretation. The small grain size of Mn-bearing minerals as well as the features of microbial fossils such as spherical, elliptical, and filamentous shapes of the Fe-bearing minerals suggested a microbial origin of studied iron ores. Variations in the distribution and mineralogy types of Mn in the iron ores of the Bahariya Oasis demanded detailed mineralogical and petrographic characterizations of the deposits before the beneficiation of high-Mn iron ores fromthe Bahariya Oasis as feedstock for the ironmaking industries in Egypt by magnetizing reduction. High Mn contents, especially in the Ghorabi–Nasser iron ore and occurrence of Mn as inclusions and/or accumulated on the surface of the Fe-bearing minerals would suggest a possible utilization of the high-Mn iron ores to produce ferromanganese alloys.

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Journal of **Mineralogical and Petrological Science, Volume:108,Page: 13:24,2013**

IMPACT FACTOR= 0.607

PETROLOGY AND CHEMISTRY OF BASAL LHERZOLITES ABOVE THE METAMORPHIC SOLE FROM WADI SARAMI CENTRAL OMAN OPHIOLITE

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ABSTRACT

We studied basal lherzolites that are exposed along the metamorphic sole at the base of the central Oman ophiolite (Wadi Sarami). We recognized two types of lherzolites (Types I and II) based on field occurrences, textures, and mineral compositions. Type I lherzolites are massive and transition into harzburgites, whereas Type II lherzolites are strongly foliated with mylonitic to porphyroclastic textures. Type II lherzolites only crop out within a direct contact with the amphibolitic sole to few meters above this sole and are overlain and/or surrounded by Type I. The clinopyroxenes [Mg# = Mg/(Mg + Fe) = 0.89-0.94] of Type II lherzolites show higher contents of Al2O3 (4.5-7.3 wt%), Na2O (0.5-1.2 wt%), Cr2O3 (0.6-1.4 wt%), and TiO2 (0.2-0.4 wt%) than those of Type I lherzolites. Positive correlations among the Al2O3, Na2O, and TiO2 contents of clinopyroxenes show a pronounced residual trend from Type I lherzolites to depleted harzburgite, giving rise to chemical heterogeneities at the base of the mantle section. Clinopyroxenes in lherzolites and harzburgites show compositional trends that are similar to those in abyssal peridotites from normal ridge segments. Olivines (Fo89.4-Fo91.5) show a residual character of the Sarami peridotites. Primary spinels show a wide range of Cr# [= Cr/(Cr + Al) from 0.04 to 0.53] and low YFe [Fe3+/(Cr + Al + Fe3+), <0.046], similar to spinels in abyssal peridotites. The wide range of spinel Cr# is a result of a wide range of partial-melting degrees, which are up to 10% for lherzolites and ~ 10-25% for harzburgites. The Type II lherzolites, which occur near the paleo-fracture zone located to the east of Wadi Sarami, represent a remnant of asthenospheric materials trapped at the base of oceanic lithosphere mantle (Type I) during detachment and obduction. The Type I lherzolites experienced high-degree partial melting, resulting in the formation of harzburgites at the refractory end. The modal and compositional variations of Sarami pyroxenes and spinels indicate intrinsic mantle heterogeneity of Oman ophiolite formed as residues at an oceanic spreading center

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IMPACT FACTOR= 3.729

MICROSTRUCTURE AND CORROSION BEHAVIOR OF NI52TI48-XCOX SHAPE MEMORY ALLOYS IN 1.0 M HCL SOLUTION

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ABSTRACT

The effect of Co addition, as an alloying element, on the microstructure and corrosion behavior of $Ni_{52}Ti_{48-x}Co_x$ (x = 0, 0.5, 1.5, and 4.0%) shape memory alloys (SMAs) was studied. The microstructure of $Ni_{52}Ti_{48-x}Co_x$ SMAs consisted of B2 austenite phase as the matrix, and small percentages of B19' martensite phase. In addition, two types of NiTi intermetallic compounds were found in the microstructure. The first one was Ti_2Ni and it can be seen in the all microstructures of the four tested SMAs to an extent depending on Co content in the tested SMA. The other type of NiTi precipitates was Ni_2Ti, which found only in the microstructure of $Ni_{52}Ti_{48}Co_0$ SMA, and completely eliminated upon introducing Co. Tafel polarization and impedance measurements were used to investigate the corrosion behavior of the tested SMAs in 1.0 M HCl solution at 25 ^oC. The variation with time (up to 24h) of the open circuit potential (OCP) of the tested SMAs was also studied in 1.0 M HCl solution at 25 ^oC. Results obtained revealed that alloying $Ni_{52}Ti_{48}$ SMA with Co, at the expense of Ti, improved its corrosion resistance. This improvement increased when the percentage of the alloyed Co was increased from 0.5% to 4.0%. The role played by Co in enhancing corrosion resistance of these advanced materials was discussed.

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Int. J. Electrochem. Sci., 8 (2013) 2791 - 2805

IMPACT FACTOR= 3.729

CORROSION AND ELECTROCHEMICAL BEHAVIOR OF NI51FE22-XGA27TIX MAGNETIC SHAPE MEMORY ALLOYS IN 0.1 M NACL SOLUTION AT DIFFERENT TEMPERATURES

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ABSTRACT

The effect of Ti addition, as an alloying element, and solution temperature (10-70 $_{o}$C) on the pitting behavior of $Ni_{51}Fe_{22-x}Ga_{27}Ti_{x}$ (x = 0, 2, and 4%) magnetic shape memory alloys (MSMAs) has been studied in 0.1 M NaCl solution. Potentiodynamic anodic polarization and cyclic voltammetry were the electrochemical techniques used during pitting investigations, complemented with SEM/EDS examinations. From the obtained results it is inferred that the pitting potential (E_{pit}) and the repassivation potential (E_{rp}) are shifted to more negative (active) values with increasing temperature, corresponding to increased susceptibility towards the aggressive pitting attack of Cl^- anions. At a particular temperature and Cl^- concentration, the values of E_{pit} and E_{rp} shift to more noble potentials with increase in alloyed Ti content, referring to improved pitting corrosion resistance. Morphological studies using SEM came to the same conclusion and showed that the ratio of pitted area to total surface area (*i.e.*, pit area density) on the alloy surface decreased with alloyed Ti, while it increased with increase in temperature. The results of this study exemplify the specific role that solution temperature and alloyed Ti play in influencing the pitting mode of $Ni_{51}Fe_{22-x}Ga_{27}Ti_{x}$ MSMAs in a 0.1 M Cl^- neutral medium. It has been established that alloying $Ni_{51}Fe_{22}Ga_{27}$ MSMA with Ti (at the expense of Fe), particularly at low temperatures, is the condition most suitable for such alloys to resist initiation and propagation of pitting.

Faculty of Commerce

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Communications in Statistics ,Simulation and Computation R , 43: 417–427, 2014

IMPACT FACTOR= 0.387

SEPARATION AND LACK OF SEPARATION OF SUBPOPULATION IN THE MIXED DISTRIBUTIONS

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ABSTRACT

This is a comparative study between the estimates of parameters ofmixed distributions in the case of the possibility of separating the units of subpopulation or the absence of that possibility under the progressive type I censored test data. An iterative procedure is developed and tested numerically to obtain new estimators and their variance–covariance matrix. Finally, we will use the exact distribution of the maximum likelihood estimators as well as its asymptotic distribution and the parametric bootstrap method; then, we will discuss the construction of confidence intervals for the mean parameter and their performance is assessed through Monte Carlo simulations

Faculty of Specific Education

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Redox Report 2014 Jan;19(1):26-33

IMPACT FACTOR= 1.732

ABROGATION BY TRIFOLIUM ALEXANDRINUM ROOT EXTRACT ON HEPATOTOXICITY INDUCED BY ACETAMINOPHEN IN RATS

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ABSTRACT

Acetaminophen (APAP) is a substance that harms human health by stimulating free radical production. This study investigated the ability of Trifolium alexandrinum root (TAR) extract to reduce the hepatotoxicity induced by APAP in rats.

Faculty of Pharmacy

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IMPACT FACTOR= 2.518

HEPATIC SOMATOSTATIN RECEPTOR 2EXPRESSION DURING PREMALIGNANT STAGES OF HEPATOCELLULAR CARCINOMA

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ABSTRACT

Growth and antigrowth hormones were occasionally investigated in hepatocarcinoma. Somatostatin regulates cell proliferation and inhibits the secretion of many growth factors engaged to tumors through a group of receptors, including somatostatin receptor type 2 (SSTR2). Caspase-3 is a transcription factor which is elevated in liver cancers. The most commonly approved marker for liver cancer is alpha fetoprotein (AFP), although it has no more than 65 % sensitivity and specificity. Hepatocarcinoma is also mediated by oxidative stress. Four groups of mice were used in this work: a control group and another three groups (Gp 2, 3, and 4) used for induction of HCC with a single subnecrotic dose of diethylnitrosamine (DENA). Gp 2 was sacrificed on the last day after 8 weeks, Gp 3 after 16 weeks, and Gp 4 after 24 weeks. Both liver tissue SSR2 protein and mRNA, liver AFP, and caspase-3 mRNA expression, concomitant to tissue malondialdehyde (MDA), were significantly elevated with depressed reduced glutathione (GSH). The change was much more prominent and stage dependent for SSR2. These effects were supported by graded histological abnormalities. The study encourages the use of liver tissue SSR2 protein and mRNA as a reliable tumor marker for liver cancer rather than AFP which is always misleading during silent stages of hepatocarcinogenesis.