JOINT EVENT

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Agrotechnology

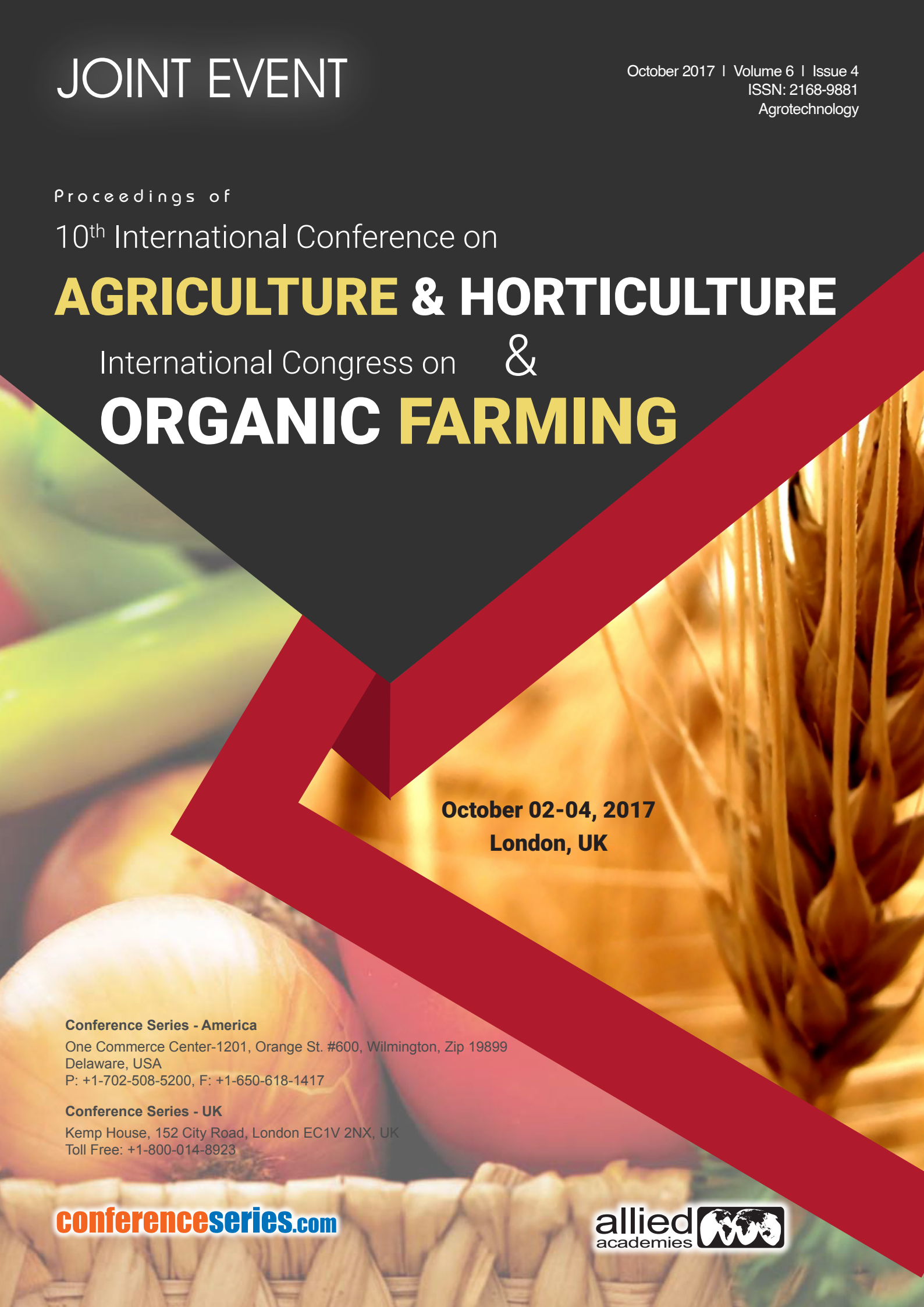
Proceedings of

10th International Conference on

AGRICULTURE & HORTICULTURE

International Congress on &

ORGANIC FARMING



October 02-04, 2017
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Scientific Program

Agri & Organic Farming 2017

Day 1 October 02, 2017

08:30-09:00 Registrations

Wright

conferenceseries.com 09:00-09:15 **Opening Ceremony**

Keynote Forum

09:15-09:30 **Introduction**

09:30-10:00 **Title: Smart irrigation: Agricultural water savings with improved irrigation scheduling**
Kelly T Morgan, University of Florida, USA

10:00-10:30 **Title: The future of organic farming in the light of the development of new biological fertilizers**
Peter J Leggo, University of Cambridge, UK

Group Photo

Networking & Refreshment Break 10:30-10:50 @ Breakout Areas

10:50-11:20 **Title: Sustainable agriculture through vermicomposting technology in India**
Priyasankar Chaudhuri, Tripura University, India

11:20-12:00 **Title: Organic agriculture obtains both larger yield and economic benefit under the condition of none chemical pollution**
Jiang Gaoming, The Chines Academy of Science, China

Sessions: Agricultural Engineering | Agriculture & Food Security | Plant Science | Agricultural Production Systems | Agricultural Biotechnology | Fertilizer & Pesticide | Agriculture & Forestry | Crop Sciences | Soil & Water Management | Oragnic Farming | Biological Pest Control

Session Chair: Kelly T Morganl, University of Florida, USA
Session Co-chair: Gurudatt M Hegde, University of Agricultural Sciences, India

Session Introduction

12:00-12:20 **Title: Soil contamination and its effects on roselle (*Hibiscus sabdariffa*) growth affected by organic matter, and associated with *Glomus intrarradices***
Abdul Khalil Gardezi, Postgraduate College in Agriculture Science, Mexico

12:20-12:40 **Title: Determination of nutrient and mineral contents of some selected cowpea lines for better quality trait improvement**
Asiwe J A N, University of Limpopo, South Africa

12:40-13:00 **Title: Benefits of gardens on human health and well-being**
Birgit Steininger, University College for Agrarian and Environmental Pedagogy, Austria

Lunch Break 13:00-14:00 @ RBG

14:00-14:20 **Title: Effect of different organic sources on nutrient status in rice based cropping sequence**
Niladri Paul, College of Agriculture, India

14:20-14:40 **Title: Organic nitrogen uptake: a novel pathway to improve nitrogen use efficiency and crop productivity**
Kawsar Ali, Abdul Wali Khan University Mardan, Pakistan

14:40-15:00 **Title: Organic farming for sustainable production of two *Atriplex* species in saline habitats**
Tawfik M M, National Research Centre, Egypt

15:00 -15:20 **Title: Detection of adulteration and identification of meat and milk species using molecular genetic techniques**
Salah Abdel-Rahman, Genetic Engineering and Biotechnology Research Institut, Egypt

15:20-15:40 **Title: Production of upland paddy (var. TRC-87-251) through application of vermicompost under field condition in Tripura, India**
Gautam Bhattacharjee, Swami Vivekananda Mahavidyalaya, India

15:40-16:00	**Title: Hydroxyapatite – Urea nano-hybrid as efficient plant nutrient systems** **Nilwala Kottegoda,** University of Sri Jayewardenepura, Sri Lanka
	Networking & Refreshment Break 16:00-16:15 @ Breakout Areas
16:15-16:35	**Title: Mineral manupilation and Antioxidative studies in carnation - *Dianthus caryophyllus* L** **Smita Purohit,** IIS University, India
16:35-16:55	**Title: Update of grapevine trunk disease fungi occurred in Italy** **Antonia Carlucci,** Universita' degli Studi di Foggia SAFE, Italy
16:55 -17:15	**Title: Evaluation of organic, integrated and inorganic management practices on the incidence of insect pests and natural enemies in groundnut and cotton ecosystem** **Shekharappa,** University of Agricultural Sciences, India
17:15-17:35	**Title: Soil management in semiarid environment and erosional implications** **Jose Ramon Barros Cantalice,** Rural Federal University of Pernambuco, Brazil
	Panel Discussion

Day 2 October 03, 2017

Wright

Keynote Forum

09:00-09:30	**Title: Epigenetic control of leafy heads in *Brassica* crops** **Yuke He,** Shanghai Institutes for Biological Sciences, China
09:30-10:00	**Title: The potential impact of the microbiome in future agriculture** **Rainer Roehe,** Scotland's Rural College, United Kingdom
	Sessions: Agricultural Engineering | Agriculture & Food Security | Plant Science | Agricultural Production Systems | Agricultural Biotechnology | Fertilizer & Pesticide | Agriculture & Forestry | Crop Sciences | Soil & Water Management | Oragnic Farming
	Session Chair: Yuke He, Shanghai Institutes for Biological Sciences, China **Sesstion Co-Chair: Idris Abd Ghani,** University Kebangsaan Malaysia, Malaysia
	Session Introduction
10:00-10:20	**Title : Production of tea and increse oincrease in earethworm density-biomass following Vermicompost (notvermiposting written before) application.** **Priyasankar Chaudhuri, Tripura University, India**
10:20-10:40	**Title: Plant-parasitic nematodes associated with grain crops and associated weeds in South Africa, with emphasis on the phylogenetic position of *Meloidogyne* species** **Ebrahim Shokoohi,** North-West University, South Africa
	Group Photo
	Networking & Refreshment Break 10:40-10:55 @ Breakout Areas
10:55-11:15	**Title: Effect of different levels of nitrogen on yield and quality of drip fertigated watermelon** **Asad AlKhader,** National Center for Agricultural Research And Extension(NCARE), Jordan
11:15-11:35	**Title: Management of insect pests and a pollinator, *Elaeidobius kamerunicus*, of oil palm in Malaysia** **Idris Abd Ghani,** University Kebangsaan Malaysia, Malaysia
11:35-11:55	**Title: Frost protection in avocado orchards** **Lior Rubinovich,** Ministry of Agriculture, Israel
11:55-12:15	**Title: Overview of biological control of insect pests in Thailand: 1929 to present** **Samaporn Saengyot,** Maejo University, Thailand
12:15-12:35	**Title: Integrated management of pod rot disease of cocoa** **Gurudatt M Hegde,** University of Agricultural Sciences, India

12:35-12:55	**Title: Efficacy of different integrated management practices against major diseases of Groundnut in northern Karnataka** **PNagaraju,** University of Agricultural Sciences, India
12:55 -13:15	**Title: Association of arbuscular mycorrhizas in plants: future perspectives of biofertilizer in Bangladesh** **Tanzima Yeasmin,** University of Rajshahi, Bangladesh
	Lunch Break 13:15-13:55 @ RBG
	Young Researchers Forum
YRF Judge: Kelly T Morgan, University of Florida, USA	
13:55-14:10	**Title: Development and evaluation of iron-fortified ready to eat rice** **Elizabeth Devi Wahengbam1,** Tezpur University, India
14:10-14:25	**Title: Cataloguing PubMed reports on barley: A scientometrics analysis** **Jagajjit Sahu,** Assam Agricultural University, India
14:25-14:40	**Title: Optimizing water and nitrogen use efficiency of maize in conservation farming systems** **Simunji Simunji,** University of Zambia, Zambia
14:40-14:55	**Title: Comparative effects of ethylene inhibitors in agrobacterium mediated transformation of wild watermelon** **Malambane Goitseone,** Tottori University, Japan
14:55-15:10	**Title: Insight into the promoter of Indian cassava mosaic virus (ICMV) by deletion analysis** **Geetanjali Baruah,** Assam Agricultural University,India
15:10-15:25	**Title: Impact of hexanal on quality and shelf life of grapes (*Vitis vinifera* L.) cv. "*Flame Seedless*" under low temperature storage** **Simranbir Kaur,** Punjab Agricultural University, India
15:25-15:40	**Title: Investigation of green fruit yield of indeterminate tomato varieties at different locations in open field conditions** **Funda Yoldas,** Ege University, Turkey
15:40-15:55	**Title: *In- vitro* antimicrobial properties of carboxymethylcellulose spray coated copper-montmorillonite nanocomposites** **Ryan Rienzie,** University of Peradeniya, Sri Lanka
15:55-16:10	**Title: Efficacy of priming treatment on germination, development and enzyme activity of *Allium cepa* L. and *Brassica oleracea* var capitata.** **Rinku V Patel,** Sardar Patel University, India
	Networking & Refreshment Break 16:10-16:25 @ Breakout Areas
16:25-16:40	**Title: Pathogenicity assessment of different *Plectosphaerella* species on basil, pepper and tomato crops in southern Italy** **Maria Luisa Raimondo,** Universita' degli Studi di Foggia SAFE, Italy
16:40-16:55	**Title: Exposure brassinosteroid and brassinosteroid mimics continually improve photosynthesis in rice subject to heat stress** **Weerasin Sonjaroon,** Kasetsart University, Thailand
16:55-17:10	**Title: Characterization of novel QTLs associated with sugarcane smut resistance and yield traits** **Zaheer Ahmad Nazar,** University of the Punjab, Pakistan
	Poster Session @ Wright 17:10-17:35
AH-101	**Title: Identification and diversity analysis of the four major host-defense peptide families in quail** **Kei Hanzawa,** Tokyo university of Agriculture, Japan
AH-102	**Title: Effect of accumulated temperature on the growth and development of tomato fruits in flowering clusters** **Ju Young Lee,** KIST, South Korea

AH-103	**Title: Non-thermal plasma: New technology for pathogen control and improvement on the quality of soybean seeds** **Karina Balestrasse,** FAUBA, Argentina
AH-104	**Title: One-step multiplex reverse transcription-polymerase chain reaction for the simultaneous detection for barley virus diseases** **Bong Choon Lee,** National Institute of Crop Science, Korea
AH-105	**Title: Nigerian plant resources; an incredible responsibility for alleviating food insecurity and malnutrition** **Olamide Falusi,** Federal University of Technology, Minna, Nigeria
AH-106	**Title: Pantoea ananatis causing grain discoloration is widely distributed in the rice-growing fields of the Republic of Korea** **Kim Sang -Min,** National Institute of Crop Science, Republic of Korea
AH-107	**Title: Tolerance of *Castanea Sativa* cultivars to dryocosmus kuriphilus** **Tiziana Panzavolta and Matteo,** Bracalini University of Florence, Italy
AH-108	**Title: Biscogniauxia rosacearum new fungal pathogen of rosaceous trees** **Antonia Carlucci,** Universita' degli Studi di Foggia SAFE, Italy
AH-109	**Title: Roxazyme G2G supplemental value in the utilization of cassava starch residue by broiler-chickens** **Muyiwa Hilarious Ogunsipe,** Adeyemi College of Education, Nigeria
AH-110	**Title: Anti-adipogenic effect of *Moringa oleifera* leaves extract in porcine bone marrow derived mesenchymal stem cells** **Kulisara Marupanthorn,** Rajamangala University of Technology, Thailand
AH-111	**Title: The warning of the consumers about the effect of food synthetic dyes on children** **Zahia Saoud,** Pasteur Institute of Algiers, Algeria

Panel Discussion

Day 3 October 04, 2017

Sessions: Agricultural Engineering | Agriculture & Food Security | Plant Science | Agricultural Production Systems | Agricultural Biotechnology | Fertilizer & Pesticide | Agriculture & Forestry | Crop Sciences | Soil & Water Management

Session Chair: Bangavadi Muniswamy Anandakumar, University of Agricultural and Horticultural Sciences, Shivamogga, India

Session Co-Chair: Parashuram Chandravanshi, University of Agricultural and Horticultural Sciences, Shivamogga, India

Session Introduction

09:30-09:50	**Title: Soil fertility status of major nutrients, micronutrients and mapping in *Nicchapura-2* micro watershed of Davanagere district, Karnataka** **Parashuram Chandravanshi,** University of Agricultural and Horticultural Sciences, India
09:50-10:10	**Title: Site specific major nutrient variation maps through GIS and recommendations for coconut gardens of farmers in different agro climatic situations** **Malligenahalli Dinesh Kumar,** University of Agricultural and Horticultural Sciences, India
10:10-10:30	**Title: Efferent of soil microbiological properties, Yield attributes and yield of Rainfed Maize (*Zea mays* L.) influenced by different organic methods application** **Tojyanaik Basavaraj Naik,** University of Agricultural and Horticultural Sciences, India
10:30-10:50	**Title: Evaluation of pre and post emergent herbicides for control of weeds in Castor (*Ricinus communis* L.) under rain fed conditions of central dry zone of Karnataka, India** **Alurahatty Hanumanthanaik Kumar Naik,** University of Agricultural and Horticultural Sciences, India

	Networking & Refreshment Break 10:50-11:10 @ Breakout Areas
11:10-11:30	**Title: Shelf-life studies on b-carotene and total carotenoids in maize** **Sapna,** ICAR-Indian Institute of Maize Research, India
11:30-11:50	**Title: Long term effect of integrated nutrient management on growth, yield, uptake of nutrients and economics of groundnut** **Parashuram Chandravanshi,** University of Agricultural and Horticultural Sciences, India
11:50-12:10	**Title: Effect of soil and water conservation techniques along with integrated nutrients on cashew nut yield in coastal zone of Karnataka** **Bangavadi Muniswamy Anandakumar,** University of Agricultural and Horticultural Sciences, India
12:10-12:30	**Title: Effect of different organic nutrient management practices on growth and yield of pigeon pea (*Cajanus cajan L. Millsp.*)** **Shivanand Pradeep,** University of Agricultural and Horticultural Sciences, India
12:30-12:50	**Title: Anti-diabetic and antioxidant activity study of maize silk (*Maydis stigma*)** **Sapna, ICAR-Indian Institute of Maize Research, New Delhi, India**
	Lunch Break 12:50-13:50 @ RBG
	Awards & Closing Ceremony



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Analgesia & Resuscitation : Current Research	2324-903X
Anaplastology	2161-1173
Anatomy & Physiology: Current Research	2161-0940
Andrology & Gynecology: Current Research	2327-4360
Andrology	2167-0250
Angiology: Open Access	2329-9495
Annals of Behavioural Science	-
Applied and Rehabilitation Psychology: Open Access	-
Archives in Cancer Research	2254-6081
Archives of Medicine	1989-5216
Archives of Surgical Oncology	-
Archivos De Medicina	1698-9465
Arthritis	2167-7921
Asthma and Bronchitis	-
Athletic Enhancement	2324-9080
Autacoids & Hormones	2161-0479
Biology and Medicine	0974-8369
Biomedical Engineering & Medical Devices	-
Biomedical Sciences	2254-609X
Bioterrorism & Biodefense	2157-2526
Blood	-
Blood & Lymph	2165-7831
Blood Disorders & Transfusion	2155-9864
Blood Pressure: Open Access	-
Bone Marrow Research	2329-8820
Bone Reports & Recommendations	-
Brain Tumors	-
Breast Cancer: Current Research	-
Cancer Biomarkers	-
Cancer Clinical Trials	-
Cancer Diagnosis	-
Cancer Medicine & Anticancer Drugs	-
Cancer Science & Therapy	1948-5956
Cancer Surgery	-
Carcinogenesis & Mutagenesis	2157-2518
Cardiovascular Diseases & Diagnosis	2329-9517
Cardiovascular Pathology: Open Access	-
Celiac Disease: Open Access	-
Cervical Cancer: Open Access	-
Chemotherapy	2167-7700
Chest Diseases	-
Childhood & Developmental Disorders	-
Childhood Obesity	-
Chronic Obstructive Pulmonary Disease: Open Access	-
Colorectal Cancer: Open Access	-
Communication Disorders, Deaf Studies & Hearing Aids	2375-4427
Community Medicine & Health Education	2161-0711
Complex Diseases and Treatment	-
Contraceptive Studies	-
Critical Care Obstetrics & Gynecology	-
Current Trends in Gynecologic Oncology	-
Dental Health: Current Research	-
Dental Implants and Dentures: Open Access	-
Dentistry	2161-1122
Depression and Anxiety	2167-1044
Dermatology Case Reports	-
Diabetes & Metabolism	2155-6156
Diabetes Medication and Care	-
Diabetic Complications and Medicine	-
Drug Abuse	-
Emergency Medicine	2165-7548
Endocrinology & Diabetes Research	-
Endocrinology & Metabolic Syndrome	2161-1017
Epidemiology: Open Access	2161-1165
Evidence based Medicine and Practice	-
Family Medicine & Medical Science Research	2327-4972
Forensic Biomechanics	2090-2697
Forensic Medicine	-

Forensic Nursing: Open Access	-
Forensic Odontology	-
Forensic Psychology	-
Forensic Research	2157-7145
Gastrointestinal & Digestive System	2161-069x
Gastrointestinal Cancer and Stromal Tumors	-
General Medicine	2327-5146
General Practice	2329-9126
Genetic Disorders & Genetic Reports	2327-5790
Genital System & Disorders	2325-9728
Geriatric Psychiatry	-
Gerontology & Geriatric Research	2167-7182
Gynecology & Obstetrics	2161-0932
Gynecology & Obstetrics- Case Report	-
Haematology & Thromboembolic Diseases	2329-8790
Hair: Therapy & Transplantation	2167-0951
Head and Neck Cancer Research	-
Health & Medical Economics	-
Health Care Communications	-
Health Economics & Outcome Research: Open Access	-
Health Education Research & Development (Biosafety & Health Education: Open Access-2332-0893)	-
Health Systems and Policy Research	2254-9137
Heart Transplant and Surgery	-
Heavy Metal & Chelation Therapy	-
Hepatology and Gastrointestinal Disorders	-
Hospital & Medical Management	-
Hypertension- Open Access	2167-1095
Hypo & Hyperglycemia	2327-4700
Imaging and Interventional Radiology	-
Medical Implants & Surgery	-
Informatics and Data Mining	-
Insights in Biomedicine	-
Insights in Medical Physics	-
Integrative Oncology	2329-6771
Internal Medicine	2165-8048
International Journal of Clinical & Medical Imaging	2376-0249
International Journal of Collaborative Research on Internal Medicine & Public Health	-
International Journal of Emergency Mental Health and Human Resilience	1522-4821
International Journal of Mental Health & Psychiatry	2327-4654
International Journal of Pediatric Neurosciences	-
International Journal of Physical Medicine & Rehabilitation	2329-9096
International Journal of Public Health and Safety	-
International Journal of School and Cognitive Psychology	-
Interventional Pediatrics	-
Invasive Cardiology Future Medicine	-
JBR Journal of Interdisciplinary Medicine and Dental Sciences	2376-032X
Kidney	-
Kidney Transplant	-
La Prensa Medica	0032-745X
Laser Surgery and Therapy	-
Leukemia	2329-6917
Liposuction	-
Liver	2167-0889
Liver: Disease & Transplantation	2325-9612
Lung Cancer Diagnosis & Treatment	-
Lung Diseases & Treatment	-
Malaria Control & Elimination	2090-2778
Maternal and Pediatric Nutrition	-
Medical & Surgical Pathology	-
Medical & Surgical Urology	2168-9857
Medical and Clinical Reviews	-
Medical Case Reports	-
Medical Diagnostic Methods	2168-9784
Medical Toxicology and Clinical Forensic Medicine	-
Melanoma and Skin Diseases	-
Mental Health in Family Medicine	2327-4972
Mental Illness and Treatment	-
Metabolic Syndrome	2167-0943
Molecular & Medical Histology	-
Molecular Medicine & Therapeutics	2324-8769
Neonatal Biology	2167-0897
Neonatal Studies	-
Neonatal Medicine	-
Neoplasm	-
Nephrology & Therapeutics	2161-0959
Neurobiotechnology	-
Neuroinfectious Diseases	2314-7326
Neurooncology: Open Access	-
Neurosurgery & Cardiac Surgery	-
Novel Physiotherapies	2165-7025
Nuclear Medicine & Radiation Therapy	2155-9619
Nutritional Disorders & Therapy	2161-0509
Obesity & Eating Disorders	-
Obesity & Weight Loss Therapy	2165-7904
Occupational Medicine Health Affairs	2329-6879
Omics Journal of Radiology	2167-7964
Oncology & Cancer Case Reports	-
Oncology Translational Research	-
Oral Health and Dental Management	2247-2452
Oral Health Case Reports	-
Oral Hygiene & Health	2332-0702
Orthodontics & Endodontics	-
Orthopedic & Muscular System: Current Research	2161-0533
Orthopedic Oncology	-
Osteoporosis & Physical Activity	2329-9509
Otolaryngology:Open Access	2161-119X
Otology & Rhinology	2324-8785
Pain & Relief	2167-0846
Pain Management & Medicine	-
Palliative Care & Medicine	2165-7386
Pancreatic Disorders & Therapy	2165-7092
Pediatric Care	-
Pediatric Dental Care	-
Pediatric Emergency Care and Medicine- Open Access	-
Pediatric Nephrology Practice	-
Pediatric Neurology and Medicine	-
Pediatric Nursing: Open Access	-
Pediatric Oncology: Open Access	-
Pediatric Physiotherapy	-
Pediatric Psychology and Psychiatry	-
Pediatrics & Therapeutics	2161-0665
Periodontics and Prosthodontics: Open Access	-
Pigmentary Disorders	2376-0427
Prevention Infection Control: Open Access	-
Preventive Medicine	-
Primary & Acquired Immunodeficiency Research	2324-853X
Prostate Cancer	-
Psoriasis & Rosacea Open Access	-
Psychiatry	2378-5756
Psychological Abnormalities in Children	2329-9525
Psychology & Psychotherapy	2161-0487
Pulmonary & Respiratory Medicine	2161-105x
Rare Disorders & Diseases	-
Regenerative Medicine	2325-9620
Reproductive Endocrinology & Infertility	-
Reproductive System & Sexual Disorders	2161-038x
Research & Reviews: Journal of Dental Sciences	2320-7949
Research & Reviews: Journal of Medical and Health Sciences	2319-9865
Research Journal of Biology	2322-0066
Sleep Disorders & Therapy	2167-0277
Sleep Disorders : Treatment & Care	2325-9639
Spine	2165-7939
Spine & Neurosurgery	2325-9701
Spine Research	-
Sports Medicine & Doping Studies	2161-0673
Sports Nutrition and Therapy	-
Steroids & Hormonal Science	2157-7536
Stroke Research & Therapy	-
Journal of Surgery [Jurnalul de Chirurgie]	1584-9341
Surgery: Current Research	2161-1076
The Headache Journal	-
The International Journal of Apitherapy	-
The Pancreas	1590-8577
Therapeutic Care and Physical Rehabilitation	-

Thrombosis and Circulation	-
Thyroid Disorders & Therapy	2167-7948
Translational Medicine	2161-1025
Transplant Reports : Open Access	-
Transplantation Technologies & Research	2161-0991
Trauma & Acute Care	-
Trauma & Treatment	2167-1222
Traumatic Stress Disorders & Treatment	2324-8947
Tropical Medicine & Surgery	2329-9088
Tumor Diagnostics and Reports	-
Universal Surgery	2254-6758
Vascular Medicine & Surgery	2329-6925
Vitiligo & Dermatomyositis	-
Voice Medicine & Surgery	-
Women's Health Care	2167-0420
Wound Medicine and Tissue Repair	-
Yoga & Physical Therapy	2157-7595

Microbiology

Advances in Influenza Research	-
Antimicrobial Agents	-
Antivirals & Antiretrovirals	1948-5964
Applied Microbiology: Open Access	-
Archives of Clinical Microbiology	1989-8436
Bacteriology and Parasitology	2155-9597
Clinical Infectious Diseases & Practice	-
Clinical Microbiology: Open Access	2327-5073
Colitis & Diverticulitis	-
Emerging Infectious Diseases	-
Fermentation Technology	2167-7972
Fibromyalgia: Open Access	-
Forensic Pathology	-
Hepatitis	-
Human Papillomavirus	-
Infectious Diseases and Diagnosis	-
Infectious Diseases and Therapy	2332-0877
Medical Microbiology & Diagnosis	2161-0703
Medical Mycology: Open Access	-
Meningitis	-
Mycobacterial Diseases	2161-1068
Pediatric Infectious Diseases: Open Access	-
Research & Reviews: Journal of Microbiology and Biotechnology	2320-3528
Research & Reviews: Journal of Inflammation	-
Research & Reviews: Journal of Pathology & Epidemiology	-
Virology & Mycology	2161-0517

Neuroscience

Addiction Research & Therapy	2155-6105
Alzheimers Disease & Parkinsonism	2161-0460
Autism-Open Access	2165-7890
Brain Disorders & Therapy	2168-975X
Child & Adolescent Behavior	2375-4494
Clinical & Experimental Neuroimmunology	-
Dementia & Mental Health	-
Epilepsy Journal	-
Insights in Clinical Neurology	-
International Journal of Neurorehabilitation	2376-0281
Multiple Sclerosis	2376-0389
Neurological Disorders	2329-6895
Neurology & Neurophysiology	2155-9562
Neurology and Neuroscience	2171-6625
Neuropsychiatry	-
Neuroscience & Clinical Research	-
Schizophrenia Journal	-

Health Care & Nursing

Advanced Practices in Nursing	-
Community & Public Health Nursing	-
Nursing & Care	2167-1168
Nursing & Clinical Research	-
Patient Care	-
Perioperative & Critical Intensive Care Nursing	-
Research & Reviews: Journal of Nursing and Health Sciences	-

Pharmaceutical Sciences

Advances in Pharmacoepidemiology & Drug Safety	2167-1052
Alcoholism & Drug Dependence	2329-6488
Bioanalysis & Biomedicine	1948-593X
Biochemistry & Pharmacology: Open Access Journal	2167-0501
Bioequivalence & Bioavailability	0975-0851
Biomarkers in Drug Development	2327-4441
Biomarkers Journal	-
Biomolecular Research & Therapeutics	2167-7956
Cardiovascular Pharmacology: Open Access	2329-6607
Clinical & Experimental Pharmacology	2161-1459
Clinical Pharmacology and Biopharmaceutics	2167-065X
Current Trends in Nutraceuticals	-
Developing Drugs	2329-6631
Diagnostic Techniques & Biomedical Analysis	-
Drug Designing: Open Access	2169-0138
Drug Metabolism & Toxicology	2157-7609
in Silico & in Vitro Pharmacology	-
Molecular Enzymology and Drug Targets	-
Molecular Pharmaceutics & Organic Process Research	2329-9053
Pharmaceutica Analytica Acta	2153-2435
Pharmaceutical Care & Health Systems	2376-0419
Pharmaceutical Microbiology	-
Pharmaceutical Regulatory Affairs: Open Access	2167-7689
Pharmaceutical Sciences & Emerging Drugs	-
Pharmaceutics & Drug Delivery Research	2325-9604
Pharmacoeconomics: Open Access	-
Pharmacogenomics and Pharmacoproteomics	2153-0645
Pharmacognosy & Natural Products	-
Pharmacokinetics & Experimental Therapeutics	-
Pharmacological Reports	-
Pharmacovigilance	2329-6887
Research & Reviews: Journal of Hospital and Clinical Pharmacy	-
Research & Reviews: Journal of Pharmaceutical Analysis	2320-0812
Research & Reviews: Journal of Pharmaceutical Quality Assurance	-
Research & Reviews: Journal of Pharmaceutics and Nanotechnology	2347-7857
Research & Reviews: Journal of Pharmacognosy and Phytochemistry	2321-6182
Research & Reviews: Journal of Pharmacy and Pharmaceutical Sciences	2320-1215
Virology & Antiviral Research	2324-8955

Physics

Astrophysics & Aerospace Technology	2329-6542
Research & Reviews: Journal of Pure and Applied Physics	2320-2459
Vortex Science and Technology	2090-8369

Social & Political Sciences

Anthropology	2332-0915
Arts and Social Sciences Journal	2151-6200
Civil & Legal Sciences	2169-0170
Forensic Anthropology	-
Global Media Journal	1550-7521
Intellectual Property Rights: Open Access	2375-4516
Mass Communication & Journalism	2165-7912
Political Science & Public Affairs	2332-0761
Research & Reviews: Journal of Educational Studies	-
Research & Reviews: Journal of Social Sciences	-
Socialomics	2167-0358
Sociology & Criminology	2375-4435

Veterinary Sciences

Animal Nutrition	-
Primatology	2167-6801
Research & Reviews: Journal of Veterinary Sciences	-
Research & Reviews: Journal of Zoological Sciences	2321-6190
Veterinary Science & Medical Diagnosis	2325-9590
Veterinary Science & Technology	2157-7579

Impact Factors* (IF)

Journal Name	Pubmed Short Name	Impact Factor
Biological Systems: Open Access	Biol Syst Open Access	0.76
Journal of Biotechnology & Biomaterials	J Biotechnol Biomater	1.94
Journal of Psychology & Psychotherapy	J Psychol Psychother	1.3
Advanced Techniques in Biology & Medicine	Adv Tech Biol Med	1.08
AIDS & Clinical Research	J AIDS Clin Res	2.7
Autism Open Access	Autism Open Access	3.52
Biochemistry & Physiology: Open Access	Biochem Physiol	1.03
Diversity Equality in Health & Care	Divers Equal Health Care	2.49
Drug Designing: Open Access	Drug Des	6
Fungal Genomics & Biology	Fungal Genom Biol	1.15
International Journal of Genomic Medicine	Int J Genomic Med	0.67
Journal of Addiction Research & Therapy	J Addict Res Ther	2.86
Journal of Alzheimers Disease & Parkinsonism	J Alzheimers Dis Parkinsonism	1.18
Journal of Fertilization: In Vitro	JFIV Reprod Med Genet	1
Journal of Genetic Syndromes & Gene therapy	J Genet Syndr Gene Ther	2.34
Journal of Microbial & Biochemical Technology	J Microb Biochem Technol	2.5
Journal of Nursing & Care	J Nurs Care	1.6
Journal of Osteoporosis and Physical Activity	J Osteopor Phys Act	0.66
Journal of Yoga & Physical Therapy	J Yoga Phys Ther	1.17
Molecular Biology	Mol Biol	1.85
Neurology & Neurophysiology	J Neurol Neurophysiol	0.77
Primary health care	Prim Health Care	1
Quality in Primary Care	Qual Prim Care	3.88
Tissue Science & Engineering	J Tissue Sci Eng	2.72
Biochemistry & Analytical Biochemistry	Biochem Anal Biochem	2.6
Molecular and Genetic Medicine	J Mol Genet Med	2.89
Advancements in Genetic Engineering	Adv Genet Eng	1
Enzyme Engineering	Enz Eng	2.3
Depression and Anxiety	J Depress Anxiety	1
Human Genetics & Embryology	Human Genet Embryol	1.2
Current Synthetic and Systems Biology	Curr Synthetic Sys Biol	0.8
Hereditary Genetics: Current Research	Hereditary Genet	1.2
International Journal of Emergency Mental Health and Human Resilience	Int J Emerg Ment Health	6.5
Spine	J Spine	1.9
Cloning & Transgenesis	Clon Transgen	1.5
Journal of Medical Microbiology & Diagnosis	J Med Microb Diagn	1.9
Biosensors Journal	Biosens J	0.33
Defense Management	J Def Manag	0.5
Review of Public Administration and Management	Review Pub Administration Manag	0.2
Single cell biology	Single Cell Biol	1
Gerontology & Geriatric Research	J Gerontol Geriatr Res	1
Neuroinfectious Diseases	J Neuroinfect Dis	2.4
Cell Science & Therapy	J Cell Sci Ther	1.37
Molecular Biomarkers & Diagnosis	J Mol Biomark Diagn	2.1
Brain Disorders & Therapy	Brain Disord Ther	1.6
Clinical Case Reports	J Clin Case Rep	1.2
Gene Technology	Gene Technol	0.83
Socialomics	J Socialomics	2.3
Journal of Trauma and Treatment	J Trauma Treat	0.6
Translational Biomedicine	Transl Biomed	1.06
Journal of Neurology and Neuroscience	J Neurol Neurosci	0.88
Research & Reviews: Journal of Botanical Sciences	J Bot Sci	0.33
Journal of Psychiatry	J Psychiatry	2.32
Anaplastology	Anaplastology	0.73
Tropical Medicine & Surgery	Trop Med Surg	0.4
Orthopedic & Muscular System: Current Research	Orthop Muscular Syst	0.32
Pediatrics & Therapeutics	Pediat Therapeut	1.32
Sports Medicine & Doping Studies	J Sports Med Doping Stud	1.45
Journal of Oral Hygiene & Health	J Oral Hyg Health	0.52
Emergency Medicine	Emerg Med (Los Angel)	0.875
Journal of Transplantation Technologies & Research	J Transplant Technol Res	1.39
Journal of Hypertension: Open Access	J Hypertens (Los Angel)	0.92
International Journal of Waste Resources	Int J Waste Resour	1.95
Surgery: Current research	Surgery Curr Re	0.587
Oral Health and Dental Management	Oral Health Dent Manag	1.23
International Journal of Advancement technology	Int J Adv Tech	5.08
Translational Medicine	Transl Med (Sunnyvale)	1.312
Air and Water Borne Diseases	Air Water Borne Diseases	0.6
Journal of Coastal Zone Management	J Coast Zone Manag	0.54
Biology and Medicine	Biol Med (Aligarh)	3.07
Journal of Bioterrorism and Biodefense	J Bioterror Biodef	0.38
Journal of Tropical Diseases & Public Health	J Trop Dis	0.83
Journal of Surgery	Journal of Surgery [Jurnalul de chirurgie]	0.08
Nephrology & Therapeutics	J Nephrol Ther	0.318
Journal of Fundamentals of Renewable Energy and Applications	J Fundam Renewable Energy Appl	1.41
Advances in Pharmacoepidemiology & Drug Safety	Adv Pharmacoepidemiol Drug Saf	1.37
Bioanalysis & Biomedicine	J Bioanal Biomed	1.67
Biochemistry & Pharmacology: Open Access	Biochem Pharmacol (Los Angel)	2.09
Bioequivalence & Bioavailability	J Bioequiv Availab	1.88
Biomolecular Research & Therapeutics	J Biomol Res Ther	1.67
Cardiovascular Pharmacology: Open Access	Cardiol Pharmacol	1.77
Clinical & Experimental Pharmacology	Clin Exp Pharmacol	1.83
Clinical Pharmacology & Biopharmaceutics	Clin Pharmacol Biopharm	1.69
Data Mining in Genomics & Proteomics	J Data Mining Genomics Proteomics	2
Drug Metabolism & Toxicology	J Drug Metab Toxicol	1.37
Ergonomics	J Ergonomics	1.38
Glycomics & Lipidomics	J Glycomics Lipidomics	1.82
Health & Medical Informatics	J Health Med Inform	1.98
Metabolomics: Open Access	Metabolomics (Los Angel)	3.03
Nanomedicine & Biotherapeutic Discovery	J Nanomedine Biotherapeutic Discov	2.69
OMICS Journal of Radiology	OMICS J Radiol	0.54
Pharmaceutica Analytica Acta	Pharm Anal Acta	1.83
Pharmaceutical Regulatory Affairs: Open Access	Pharm Regul Aff	1.88
Pharmacogenomics & Pharmacoproteomics	J Pharmacogenomics Pharmacoproteomics	1.69
Pharmacovigilance	J Pharmacovigil	2.65
Phylogenetics & Evolutionary Biology	J Phylogenetics Evol Biol	2.76
Proteomics & Bioinformatics	J Proteomics Bioinform	2.55
Advances in Automobile Engineering	Adv Automob Eng	1.750
Advances in Robotics & Automation	Adv Robot Autom	0.813
Arts and Social Sciences Journal	Arts Social Sci J	1.231
Bioceramics Developments and Applications	Bioceram Dev Appl	0.958
Business & Financial Affairs	J Bus & Fin Aff	2.000
Generalized Lie Theory and Applications	J Generalized Lie Theory Appl	1.750
Irrigation & Drainage Systems Engineering	Irrigat Drainage Sys Eng	4.286
Industrial Engineering & Management	Ind Eng Manage	0.474
Aeronautics & Aerospace Engineering	J Aeronaut Aerospace Eng	1.407
Applied & Computational Mathematics	J Appl Computat Math	0.581
Architectural Engineering Technology	J Archit Eng Tech	1.071
Accounting & Marketing	J Account Mark	0.500
Aquaculture Research & Development	J Aquac Res Development	1.272
Bioengineering & Biomedical Science	J Bioeng Biomed Sci	1.235
Biometrics & Biostatistics	J Biomet Biostat	1.272
Biosensors & Bioelectronics	J Biosens Bioelectron	2.137
Civil & Environmental Engineering	J Civil Environ Eng	1.294
Cytology & Histology	J Cytol Histol	0.569
Civil & Legal Sciences	J Civil Legal Sci	0.286
Ecosystem & Ecography	J Ecosyst Ecogr	1.806
Electrical & Electronic Systems	J Elec Electron Syst	0.533
Earth Science & Climatic Change	J Earth Sci Clim Change	2.082
Geography & Natural Disasters	J Geogr Nat Disast	0.800
Hotel & Business Management	J Hotel Bus Manage	1.600
Information Technology & Software Engineering	J Inform Tech Soft Engg	2.789
Molecular Imaging & Dynamics	J Mol Imaging Dynam	2.091

Earth Science & Climatic Change	J Earth Sci Clim Change	2.082
Geography & Natural Disasters	J Geogr Nat Disast	0.800
Hotel & Business Management	J Hotel Bus Manage	1.600
Information Technology & Software Engineering	J Inform Tech Soft Engg	2.789
Molecular Imaging & Dynamics	J Mol Imaging Dynam	2.091
Petroleum & Environmental Engineering	J Pet Environ Biotechnol	2.839
Stock & Forex Trading	J Stock Forex Trad	0.300
Textile Science & Engineering	J Textile Sci Eng	0.667
Tourism & Hospitality	J Tourism Hospit	1.190
Telecommunications System & Management	J Telecommun Syst Manage	0.800
Physical Mathematics	J Phys Math	4.500
Nanomedicine & Nanotechnology	J Nanomed Nanotechnol	4.68
Arabian Journal of Business and Management Review	Arab J Bus Manage Rev	1.42
Research and Reviews: Journal of Engineering and Technology	Engineering and Technology	0.14
Journal of Material Sciences & Engineering	J Material Sci Eng	1.31
Journal of Mass Communication & Journalism	J Mass Communicat Journalism	0.62
Journal of Powder Metallurgy & Mining	J Powder Metall Min	0.71
Journal of Applied Mechanical Engineering	J Appl Mech Eng	1.65
Archives of Clinical Microbiology		0.35
Dentistry	Dentistry	1.22
Journal of Diabetes & Metabolism	J Diabetes Metab	1.77
Otolaryngology: Current Research	Otolaryngol (Sunnyvale)	0.22
Journal of Metabolic Syndrome	J Metabolic Synd	1.27
Journal of Primatology	J Primatol	0.53
Journal of Thyroid Disorders & Therapy	Thyroid Disorders Ther	0.43
Jounal of Novel Physiotherapies	J Nov Physiother	1.24
Journal of Stem Cell Research & Therapy	J Stem Cell Res Ther	2.78
Anatomy & Physiology: Current Research	Anat Physiol	1
Pancreatic Disorders & Therapy	Pancreat Disord Ther	0.54
Journal of Cancer Science & Therapy	J Cancer Sci Ther	4.203
Journal of Biomedical Sciences		0.2
Journal of Nutritional Disorders & Therapy	J Nutr Disord Ther	1.46
Medical & Surgical Urology	Med Surg Urol	0.3
Journal of Biochips & Tissue Chips	J Biochip Tissue Chip	1.7
Journal of Liver	J Liver	0.08
Journal of Family Medicine and Medical Research	Fam Med Med Sci Res	0.78
Gynecology & Obstetrics	Gynecol Obstet (Sunnyvale)	0.52
Journal of Integrative Oncology	J Integr Oncol	1.67
Journal of Neonatal Biology	J Neonatal Biol	0.55
Journal of Glycobiology	J Glycobiology	0.8
Journal of Blood & Lymph	J Blood Lymph	0.12
Journal of Arthritis	J Arthritis	1.87
Journal of Membrane Science & Technology	J Membra Sci Technol	1.18
Medicinal Chemistry	Med Chem (Los Angeles)	2.64
Journal of Physical Chemistry & Biophysics	J Phys Chem Biophys	0.75
Organic Chemistry: Current Research	Organic Chem Curr Res	1.94
Journal of Bioprocessing & Biotechniques	J Bioprocess Biotech	1.74
Journal of Environmental & Analytical Toxicology	J Environ Anal Toxicol	2.58
Journal of Chemical Engineering & Process Technology	J Chem Eng Process Technol	1.21
Journal of Computer Science & Systems Biology	J Comput Sci Syst Biol	1.62
Journal of Analytical & Bioanalytical Techniques	J Anal Bioanal Tech	2.16
Journal of Plant Biochemistry & Physiology	J Plant Biochem Physiol	2.28
Journal of Chromatography & Separation Techniques	J Chromatogr Sep Tech	1.78
Journal of Thermodynamics & Catalysis		0.91
Community Medicine & Health Education	J Community Med Health Educ	1.27
Epidemiology: Open Access	Epidemiology (Sunnyvale)	1.35
Obesity & Weight Loss Therapy	J Obes Weight Loss Ther	0.94
Pain & Relief	J Pain Relief	1.14
Palliative Care & Medicine	J Palliat Care Med	0.88
Steroids & Hormonal Science	J Steroids Horm Sci	0.65
Gastrointestinal & Digestive System	J Gastrointest Dig Syst	0.43
Hair: Therapy & Transplantation		0.6
Andrology	Andrology (Los Angel)	1.16
Endocrinology & Metabolic Syndrome	Endocrinol Metab Syndr	1.12
Internal Medicine		2.48
Sleep Disorders & Therapy	J Sleep Disord Ther	0.5
Nuclear Medicine & Radiation Therapy	J Nucl Med Radiat Ther	0.88
Alternative & Integrative Medicine	Altern Integr Med	1.11
Pulmonary & Respiratory Medicine	J Pulm Respir Med	1.01
Occupational Medicine Health Affairs	Occup Med Health Aff	0.85
Reproductive System & Sexual Disorders	Reprod Syst Sex Disord	1.25
Medical Diagnostic Methods		0.29
Blood Disorders & Transfusion	J Blood Disord Transfus	0.5
General Medicine	Gen Med (Los Angel)	0.86
Bioenergetics: Open Access	Bioenergetics	3.1
Chemotherapy: Open Access	Chemotherapy (Los Angel)	1.8
Clinical & Experimental Pathology	J Clin Exp Pathol	1.54
Carcinogenesis & Mutagenesis	J Carcinog Mutagen	1.9
Clinical Research & Bioethics	J Clinic Res Bioeth	0.95
Vaccines & Vaccination	J Vaccines Vaccin	1.8
Immunome Research	Immunome Res	7.1
Clinical & Experimental Ophthalmology	J Clin Exp Ophthalmol	1.11
Clinical & Experimental Dermotology Research	J Clin Exp Dermatol Res	0.5
Clinical & Experimental Cardiology	J Clin Exp Cardiolog	1.33
Clinical Microbiology: Open Access	Clin Microbiol	0.7
Anesthesia & Clinical research	J Anesth Clin Res	0.7
Mycobacterial Diseases	Mycobact Dis	0.9
Clinical Toxicology	J Clin Toxicol	1.39
Clinical Trials & Research	J Clin Trials	1.33
Antivirals & Antiretrovirals	J Antivir Antiretrovir	1.27
Fermentation Technology	Ferment Technol	3.44
Clinical & Cellular immunology	J Clin Cell Immunol	2.019
Allergy & Therapy	J Allergy Ther	0.762
Bacteriology & Parasitology	J Bacteriol Parasitol	2.025
Rheumatology: Current Research	Rheumatology (Sunnyvale)	1.522
Virology & Mycology	Virol Mycol	0.69
Clinics in Mother and Child Health	Clinics Mother Child Health	0.432
Womens Health Care	J Womens Health Care	0.79
Marine Science: Research & Development	J Marine Sci Res Dev	0.45
Plant Pathology & Microbiology	J Plant Pathol Microbiol	1.75
Geology & Geophysics	J Geol Geophys	0.91
FisheriesSciences	J Fisheries Sci	0.51
Fisheries and Aquaculture Journal	Fish Aquac J	0.69
Bioremediation & Biodegradation	J Bioremediat Biodegrad	2.1
Advances in Crop Science and Technology	Adv Crop Sci Tech	0.39
Journal of Remote Sensing & GIS	J Geophys Remote Sens	0.77
Biofertilizers & Biopesticides	J Biofertil Biopestic.	1.19
Hydrology: Current Research	Hydrol Current Res	1.12
Probiotics & Health	J Prob Health	0.69
Veterinary Science & Technology	J Veterinar Sci Technolo	2.5
Medicinal & Aromatic Plants	Med Aromat Plants	2.02
Forest Research	Forest Res	1.69
International Journal of Sensor Networks and Data Communications	Sensor Netw Data Commun	1.66
Innovative Energy Policies	Innov Energ Policies	0.88
Biodiversity & Endangered Species	J Biodivers Endanger Species	0.25
Biosafety	Biosafety	0.49
Agrotechnology	Agrotechnol	0.69
Journal of Traditional Medicine and Clinical Naturopathy	J Tradition Med Clin Naturopth	0.49
Nutrition & Food Sciences	J Nutr Food Sci	1.14
Entomology, Ornithology & Herpetology	Entomol Ornithol Herpetol	1.26

Impact Factor Calculation:

Impact Factor was established by dividing the number of articles published in 2012 and 2013 with the number of times they are cited in 2014 based on Google search and the Scholar Citation Index database. If 'X' is the total number of articles published in 2012 and 2013, and 'Y' is the number of times these articles were cited in indexed journals during 2014 than, impact factor = Y/X







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Agri & Organic Farming 2017

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20th Global Food Processing & Technology Summit Dec 11-13 , 2017 Philadelphia, USA

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5th International Food Safety, Quality & Policy Conference
Nov 27-28, 2017 Dubai, UAE

ALTERNATIVE HEALTHCARE

23rd International Conference on
Herbal and Alternative Remedies for Diabetes and Endocrine Disorders
Nov 02-04, 2017 Thailand, Bangkok

BIOCHEMISTRY

3rd International Conference on
Genetic and Protein Engineering
Nov 08-09, 2017 Las Vegas, USA

3rd International Conference on
Lipid Science & Technology
Dec 11-12, 2017 Madrid, Spain

CARDIOLOGY

21st International Conference on
Clinical & Experimental Cardiology
Nov 06-07, 2017 Las Vegas, USA

22nd World Cardiology Conference
Dec 11-12, 2017 Madrid, Spain

16th World Cardiology Congress
December 08-10, 2017 Dubai, UAE

3rd Global Summit on **Heart Diseases**
Nov 02-04, 2017 Thailand, Bangkok

CHEMICAL ENGINEERING

7th World Congress on
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2nd World Biodiesel Congress & Expo
Dec 04-05, 2017 Atlanta, USA

6th International Congress and Expo on
Biofuels, Bioenergy & Bioeconomy
Dec 04-06, 2017 Sao Paulo, Brazil

CHEMISTRY

7th International Conference on
Medicinal Chemistry & Computer Aided Drug Designing
Nov 02-04, 2017 San Antonio, USA

2nd International Conference on
Nuclear Chemistry
Nov 06-07, 2017 Las Vegas, USA

2nd International Conference and Exhibition on
Polymer Chemistry
Nov 06-08, 2017 Las Vegas, USA

7th Global Mass Spectrometry Congress
Dec 14-16, 2017 Dubai, UAE

DENTISTRY

37th Global Summit on
Dental Surgeons & Dental Materials
Nov 02-04, 2017 San Antonio, USA

38th Annual Congress on
World Dentistry
Nov 06-08, 2017 San Antonio, USA

26th American Dental Congress
Dec 04-06, 2017 Atlanta, USA

39th World Dental Congress Summit
Dec 04-06, 2017 Sao Paulo, Brazil

37th Asia Pacific Dental and Oral Care Congress
Nov 20-22, 2017 Australia, Melbourne

DIABETES AND ENDOCRINOLOGY

International Conference on
Diabetes, Metabolism & Obesity
Nov15-17, 2017 Las Vegas, USA

International Conference on
Diabetes and Endocrinology
Dec 06-08, 2017 Atlanta, USA

2nd International Conference on
Herbal and Alternative Remedies for Diabetes and Endocrine Disorders
Nov 02-04, 2017 Thailand, Bangkok

25th Global Diabetes and Medicare Expo
Dec 11-12, 2017 Dubai, UAE

ENVIRONMENTAL SCIENCES

4th International Conference on **GreenEnergy & Expo** Nov 06-08, 2017 Las Vegas, USA

5th International Conference on
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Nov 06-08, 2017 Las Vegas, USA

EEE & ENGINEERING

6th International Conference on
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Nov13-14, 2017 Atlanta, USA

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2nd International Conference on
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Nov 13-14, 2017 Las Vegas, USA

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2nd International Convention on
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Nov 08-09, 2017 Las Vegas, USA

2nd International Convention on
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Nov 08-09, 2017 Las Vegas, USA

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Dec 04-05, 2017 Madrid, Spain

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International Conference on
Medical Education
Nov 06-08, 2017 Vienna, Austria

IMMUNOLOGY

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HIV/AIDS, STDS & STIS
Nov 13-14, 2017 Las Vegas, USA

9th World Congress and Expo on
Immunology
Nov 02-03, 2017 Atlanta, USA

3rd International Conference on
Immunity, Inflammation and Immunotherapies
Nov 02-03, 2017 Atlanta, USA

2nd International Conference on
Autoimmunity
Nov 09-10, 2017 Madrid, Spain

World Immunology Congress
Dec 14-15, 2017 Dubai, UAE

INFECTIOUS DISEASES

3rd International conference on
Flu & Emerging Infectious Diseases
Nov 06-07, 2017 Las Vegas, USA

MATERIALS SCIENCE

13th International Conference and Exhibition on
Materials Science and Engineering
Nov13-15, 2017 Las Vegas, USA

14th International Conference on
Functional Energy Materials
Dec 06-07, 2017 Atlanta, USA

MICROBIOLOGY

2nd International conference on
Human Papillomavirus
Nov13-14, 2017 Las Vegas, USA

World Yeast Congress
Dec 06-07, 2017 Sao Paulo, Brazil

4th World Congress and Expo on
Applied Microbiology
Nov 09-11, 2017 Madrid, Spain

10th International Congress on
Clinical Virology
Dec 04-05, 2017 Dubai, UAE

Annual Congress on **Microbes and Infection**
Dec 04-05, 2017 Dubai, UAE

NANOTECHNOLOGY

22th International Conference and Expo on
Nanoscience and Molecular Nanotechnology
Nov 13-14, 2017 Vienna, Austria

19th International Conference on **Nanotek and Expo** Nov13-15, 2017 Atlanta, USA

17th Nanotechnology products and Summit
Nov13-15, 2017 Atlanta, USA

3rd Biomedical Engineering and Expo
Nov 07-08, 2017 Barcelona, Spain

NEUROSCIENCE

8th International Conference and Exhibition on
Addiction Research & Therapy
Nov 13-15, 2017 Las Vegas, USA

6th International Conference on
Brain Disorders and Therapeutics
Nov 06-08, 2017 Madrid, Spain

18th Global Neurologists Annual Meeting on
Neurology and Neuro Surgery
Nov 16-17, 2017 Vienna, Austria

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Nov 27-28, 2017 Dubai, UAE

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World Medical and Clinical Oncology Congress Nov13-15 , 2017 Las Vegas, USA

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Nov 08-09, 2017, Las Vegas, USA

International Conference on **Epigenetics**
Nov 06-07, 2017 Madrid, Spain

World Cancer Convention
Nov 27-28, 2017 Dubai, UAE

International Conference on **Cancer Diagnostics**
Nov 27-28, 2017 Dubai, UAE

OPHTHALMOLOGY

20th World Ophthalmology Summit
Dec 04-05, 2017 Sao Paulo, Brazil

18th European Ophthalmology Congress
Dec 07-09, 2017 Madrid, Spain

17th Global Ophthalmology and Glaucoma Conference
Nov 27-28, 2017 Dubai ,UAE

PATHOLOGY

2nd International conference on **Digital Pathology**
Nov 02-03, 2017 San Antonio, USA

PEDIATRICS

5th Annual Conference on **Translational Medicine** Nov15-16, 2017 Las Vegas, USA

20th International Conference on **Neonatology and Perinatology**
Dec 04-06, 2017 Madrid, Spain

PHARMACEUTICAL SCIENCES

European Biopharma Congress
Nov 16-17, 2017 Vienna, Austria

17th International Conference on **Nanomedicine and Nanotechnology in Health Care**
Nov 23-24, 2017 Melbourne, Australia

10th International Conferences on **Immunopharmacology and Immunotoxicology**
Nov 20-21, 2017 Melbourne, Australia

PHYSICAL THERAPY & REHABILITATION

6th International Conference on **Physiotherapy**
Nov 27-28, 2017 Dubai, UAE

PHYSICS

8th International Conference and Exhibition on **Lasers, Optics & Photonics**
Nov 02-04, 2017 San Antonio, USA

2nd International Conference on **Atomic and Nuclear Physics**
Nov 8-9, 2017 Las Vegas, USA

International Conference on **High Energy Physics**
Dec 11-12, 2017 Madrid, Spain

PSYCHIATRY

International Conference on **Psychiatry and Mental Health**
Nov 20-21, 2017 Melbourne, Australia

10th World Psychiatrists Meet
Dec 07-08, 2017 Dubai, UAE

VACCINES

29th Global Vaccines & Vaccination Summit And Expo
Nov 30-Dec 1, 2017 Dubai, UAE

VETERINARY

9th Global Veterinary Summit
Nov15-16, 2017 Las Vegas, USA







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Keynote Forum

Day 1

Kelly T Morgan, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-026



Kelly T Morgan

University of Florida, USA

Smart irrigation: Agricultural water savings with improved irrigation scheduling

Smart irrigation apps were developed by a working group of faculties from the University of Florida and University of Georgia. The apps provide real-time irrigation schedules for selected crops (i.e., avocado, citrus, cotton, peanut, strawberry, and vegetables). Irrigation schedules in the smartphone apps are based on evapotranspiration or a water balance methodology using real-time weather data from the Florida Automated Weather Network and the Georgia Environmental Monitoring Network. The FAO Penman-Monteith method is used for calculating reference ET, and crop coefficients (Kc) are applied based on time after planting, calendar month, or a crop's phenological stage. The functionality of each app was customized for each user group considering the most common irrigation systems used. Custom features include water conservation options, splitting irrigation events, spreadsheet output emails, and notifications. App inputs vary by crop (primarily due to the irrigation system used); however, all apps require root depth, irrigation rate, and soil type except the strawberry app. App outputs also vary and include estimated reference ET, days between irrigation events, irrigation depth and duration, accumulated rain for previous seven days, and growing degree days. National Weather Service forecast data are also provided in the apps. The apps are available in Android and iOS stores. A limitation to the app irrigation schedules is the spatial variation in rainfall, given the finite set of weather stations. Future efforts will focus on more accurate inclusion of rainfall into the irrigation schedules generated by the Smart irrigation apps. Validation of the apps in multiple season replicated plots at grower fields resulted in water savings for citrus, tomato and lawn of 24%, 33%, and 57% respectively. Cotton app improved yield with similar recommended water amounts.

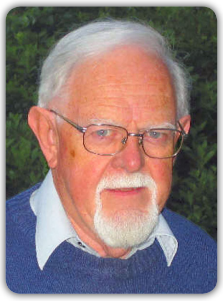
Biography

Kelly T Morgan and his research program has collected data and developed products that have led to substantial nutrient and water savings in Florida, with emphasis on citrus, vegetable and sugarcane production in central and south Florida, resulting in improved water quality. The sandy soils of Florida require substantial amounts of both nutrients and irrigation for maximum production. The emphasis of his research program has been field-scale nutrient and water use, which go together to improve water quality. He provides extension presentations state-wide to grower groups on improvement of nutrient use efficiency to improve yields as well as reduce impacts on water quality. He has used his research activates to develop crop models on both state-wide and local scales. As a result, he has led or co-led several modeling efforts to reduce water use and the impact of agriculture on water quality. These efforts are key to future sustainable agriculture.

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Notes:

Peter J Leggo, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-026



Peter J Leggo

University of Cambridge, UK

The future of organic farming in the light of the development of new biological fertilizers

The adoption of a biological method of plant nutrition has proved to be extremely efficient. The method does not involve the use of chemical salts and the innovative approach to soil health and plant growth uses natural crushed zeolite rock and organic waste, either animal or plant. Zeolite minerals are well known to adsorb ammonia, which in this case, is produced by the decomposition of the organic waste. The slow release of the ammonia provides a gradual supply of nitrate ions that can be accepted by the growing plant. In this way, there is very little access to nitrate to diffuse into the soil. With phosphorus obtained from the organic waste by the activity of other micro-organisms and potassium, being available from the waste and soil, the three major elements (NPK) are present in ionized form which can be taken up by the growing plant. The ammonium ions, held by the zeolite are oxidized to nitrate by the activity of soil micro-organisms; not bacteria, as previously thought but Crenarchaeota (Archaea). This was confirmed by molecular biological studies conducted at the Department of Biotechnology, University of Cambridge. This way of providing nitrogen by biological oxidation of ammonia to nitrate (nitrification) involves enzymes which also produce hydrogen in a form which is very reactive. The reactivity of the hydrogen releases a range of ionized elements from the soil which provide minor elements in trace quantities required for strong plant growth. Organic material is essential to supply the carbon demand of soil micro-organisms. Due to the carbon demand of proliferating soil microbes, occurring from the use of chemical fertilizers, carbon is lost in the long-term. This loss leads to a change in soil structure and water holding capacity, resulting in a fragile soil which is prone to wind erosion. The dust bowls of the Midwest of the USA are a spectacular example of this effect. It is thought that the adoption of the more scientific organo-zeolitic-soil system, will be a step forward in plant nutrition.

Biography

Peter J Leggo graduated from the University of St. Andrews, Scotland after a four-year Honours Geology degree course in 1959. He then gained his PhD degree from University of Bristol graduating in Geology and Mineralogy in 1963. Then, he joined Australia National University to work on Isotope Geochronology, 1963-65. He continued this work during a Post-Doctoral Fellowship at the University of Leeds, 1965-68. He held an accepted Professorship at the Department of Geology, University of Florida, USA and later at the Department of Environmental Studies, University of Virginia, USA. On return to the UK in 1995, he became interested in Natural Zeolites which led to current work on biological plant fertilizers at the Department of Earth Sciences, University of Cambridge.

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Notes:

Priyasankar Chaudhuri, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-026



Priyasankar Chaudhuri

Tripura University, India

Sustainable agriculture through vermicomposting technology in India

Statement of the Problem: Green revolution in India (1967-1987) made the country self-sufficient in food grain production. However, indiscriminate use of chemical fertilizers and pesticides for the last few decades made the soil unproductive with loss of biodiversity and the environment polluted. So, rejection or reduced use of chemicals and practice of organic farming for recovery of soil health, increase in food grain production and biodiversity conservation have been suggested.

Methodology & Theoretical Orientation: Epigeic earthworms such as *Eisenia, Eudrilus* and *Perionyx* have been successfully cultured in organic wastes kept in cemented tanks under suitable temperature (26°C-30°C) and moisture (50%-60%) conditions for production of vermicompost. Different doses (@2.5 tons/ha – 20 tons/ha) of harvested vermicompost were applied (RBD technique) in the soils of paddy, pineapple and tea plantations in Tripura.

Findings: Vermicompost, rich in plant-available nutrients (avN, avP, avK etc.) and plant growth factors, when applied to soil: improved soil aggregation, water use efficiency, nutrient uptake etc. Dramatic yields of paddy, pineapple and tea were recorded following application of 10-20 tons of vermicompost/ha. A significant ($p<0.05$) and gradual increase in density and biomass of earthworms were also noticed with increase in amount of vermicompost applied.

Conclusion & Significance: Crop yield was very much related to the concentration of vermicompost, beyond the level of which production declined. Vermicomposting and its application to soil has several advantages: i) reduce organic pollution, ii) produces organic manure for application in agro-ecosystems, iii) increases biodiversity, iv) production of high quality earthworm proteins from wastes and its utilization as feed for poultry birds and fishes.

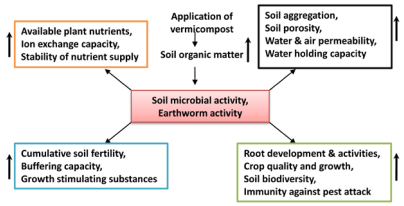


Figure 1: Physico-chemical changes in the soil following application of vermicompost (↑ increase).

Biography

Priyasankar Chaudhuri is a Professor of Zoology at Tripura University (a central university), did his PG and PhD from the Calcutta University, Kolkata. He is an eminent earthworm scientist with more than 80 research papers in National and International Journals of repute. He is the author of the book "Kenchor Jeevan Baichitra: Kencho Prajukti (2006)" written in Bengali on the Biology and Ecology of earthworms in North-East India with special emphasis on vermiculture and vermicomposting. He has participated in more than 25 National and International Symposia and visited Avignon (France) 1990, Vigo (Spain) in 1998, Cardiff (UK) 2002 and Shanghai (China) 2016 to present his research papers in International symposia on Earthworm Ecology and Agricultural Sciences. He was elected as the Fellow of Zoological Society, Kolkata (1998) and Fellow of the Society of Applied Sciences, India (2010). His biography has been cited in the Who's Who in Science and Engineering 2006-2007 (Marquis, USA). The Academic Forum of the Society of Earthworm Ecology and Environmental Research (SEEER) awarded Certificate of Appreciation to him as an Earthworm Biologist in 2012. He was selected as one of the "Inspiring Teacher of Tripura University", Tripura in 2013. He has been honored with "Science Excellence Award" in 2015 and "Bharat Siksha Ratan Award" in 2016".

priya_1956@rediffmail.com

conferenceseries.com allied academies

Jiang Gaoming, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-026

JOINT EVENT

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October 02-04, 2017 London, UK



Jiang Gaoming[1,2]

[1]Institute of Botany, Chinese Academy of Sciences, China

[2]College of Resources and Environment, UCAS, China

Organic agriculture obtains both larger yield and economic benefit under the condition of none chemical pollution

Due to the input of many chemical substances and the termination of elements cycling, the farmland ecosystem has been seriously degraded, with the quality of farmland and yield being decreased. High efficiency eco-agriculture has been believed to curtail some hazardous effects associated with chemical agriculture. However, debates also exist on whether organic agriculture can feed a world with increasing human population. We hypothesized that some improvements on high efficiency organic agriculture may produce adequate foods and reduce environmental pollutions from chemical agriculture. This study began with feeding cattle by bio-processed corn straw, restoring the soil fertility by manure returning in Hongyi Organic Farm. We applied physical + biological methods for pest control; artificial + mechanical for weed management, thus to put an end to pesticides, fertilizers and herbicides pollution. Meanwhile, without using plastic films, synthetic hormones, genetically modified seeds, we guaranteed the food quality and safety, and sold the products online and offline. The results of the 10 years experiment are as follows: The weight of pests captured by insect-trapping lamp reduced from 33 kg to 2.1 kg, reducing the amount of pesticide by 93.8%. The annual consumption of straw by cattle reached to 1000 t per year, increasing straw utilization rate from 1.1% to 62.5%. Organic fertilizer has been tested to improve soil biodiversity, for instance, the number of earthworms in organic orchard was 317 individual m-2, while only 16 individual m-2 in ordinary orchard. The soil organic matters in 0-20 cm depth layer increased from 0.7% to 2.4%, thanks to great amount of cattle manure being applied (75 t hm-2). The grain production also increased greatly from the initial 11.43 t hm-2 to 17.43 t hm-2. The wheat, corn, soybean and peanut yield were 42.6%, 60.9%, 32.2% and 38.1% higher than ordinary farmland around. Due to the excellent quality of products, our products have been sold to 30 provinces except Tibet of China, with the average benefit per acre being 3-5 times of ordinary farmland. Some 67 local households have been engaged in the high efficient eco-farming industry. Now the products extended to the ginger, garlic, onion and other vegetables; pork, beef and poultry eggs, apple and other fruits, peanut oil, soybean oil and processing products, walnut cake, dried apples, dumplings, etc. The regular consumers of Hongyi Organic Farm have increased to 1672 people and increased at a speed of 100-150 people a month. This high efficiency eco-agriculture in paper has been used by entrepreneurs, farmers, soldiers in Shandong, Henan, Hebei, Inner Mongolia, Gansu, Zhejiang, Jiangsu, Guangdong and other provinces, the farmland area was about 9667 ha. This study provides a scientific basis for the national organic or eco-agricultural development designing, poverty alleviation and rural environmental protection.

Biography

Jiang Gaoming, PhD□PI of Institute of Botany, Chinese Academy of Sciences□Professor of University of Chinese Academy of Sciences. Member of Plant Ecology Branch, the Chinese Association of Botany; Used to be China-MAB Committee, UNESCO (2000-2008); Member of Urban Working Group, MAB, UNESCO (2000-2012). Study area: Plant Ecology, Plant Ecophysiology, Eco-agriculture. Have some 150 papers have been published both in China and abroad since 1985, among which 46 are the core journal papers in China, and 73 in SCI international journals papers.

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Scientific Tracks & Abstracts

Day 1

Agri & Organic Farming 2017

Sessions:

Day 1 October 02, 2017

Agricultural Engineering | Agriculture & Food Security | Plant Science | Agricultural Production Systems | Agricultural Biotechnology | Fertilizer & Pesticide | Agriculture & Forestry | Crop Sciences | Soil & Water Management | Oragnic Farming | Biological Pest Control

Session Chair
Kelly T Morganl
University of Florida, USA

Session Co-chair
Gurudatt M Hegde
University of Agricultural Sciences, India

Session Introduction

Title: **Soil contamination and its effects on roselle (*Hibiscus sabdariffa*) growth affected by organic matter, and associated with Glomus intrarradices**
Abdul Khalil Gardezi, Hydro Science Center, Postgraduate College in Agriculture Science, Mexico

Title: **Determination of nutrient and mineral contents of some selected cowpea lines for better quality trait improvement**
Asiwe J A N, University of Limpopo, South Africa

Title: **Benefits of gardens on human health and well-being**
Birgit Steininger, University College for Agrarian and Environmental Pedagogy, Austria

Title: **Effect of different organic sources on nutrient status in rice based cropping sequence**
Niladri Paul, College of Agriculture, India

Title: **Organic nitrogen uptake: a novel pathway to improve nitrogen use efficiency and crop productivity**
Kawsar Ali, Abdul Wali Khan University Mardan, Pakistan

Title: **Organic farming for sustainable production of two *Atriplex* species in saline habitats**
Tawfik M M, National Research Centre, Egypt

Title: **Detection of adulteration and identification of meat and milk species using molecular genetic techniques**
Salah Abdel-Rahman, Genetic Engineering and Biotechnology Research Institut, Egypt

Title: **Production of upland paddy (*var*. TRC-87-251) through application of vermicompost under field condition in, India**
Gautam Bhattacharjee, Swami Vivekananda Mahavidyalaya, India

Title: **Hydroxyapatite – urea nano-hybrid as efficient plant nutrient systems**
Nilwala Kottegoda, University of Sri Jayewardenepura, Sri Lanka

Title: **Mineral manupilation and Antioxidative studies in carnation - *Dianthus caryophyllus* L**
Smita Purohit, IIS University, India

Title: **Update of grapevine trunk disease fungi occurred in Italy**
Antonia Carlucci, Universita' degli Studi di Foggia SAFE, Italy

Title: **Evaluation of organic, integrated and inorganic management practices on the incidence of insect pests and natural enemies in groundnut and cotton ecosystem"**
Shekharappa, University of Agricultural Sciences, India

Title: **Soil management in semiarid environment and erosional implications**
Jose Ramon Barros Cantalice, Rural Federal University of Pernambuco, Brazil

Abdul Khalil Gardezi et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Soil contamination and its effects on roselle (*Hibiscus sabdariffa*) growth affected by organic matter, and associated with *Glomus intraradices*

Abdul Khalil Gardezi[1], Sergio R Marquez-Berber[2], Mario M Martinez-Menes[1], Hector Flores-Magdaleno[1], Miguel J Escalona-Maurice[1] and **Mario U Larque-Saavedra[3]**

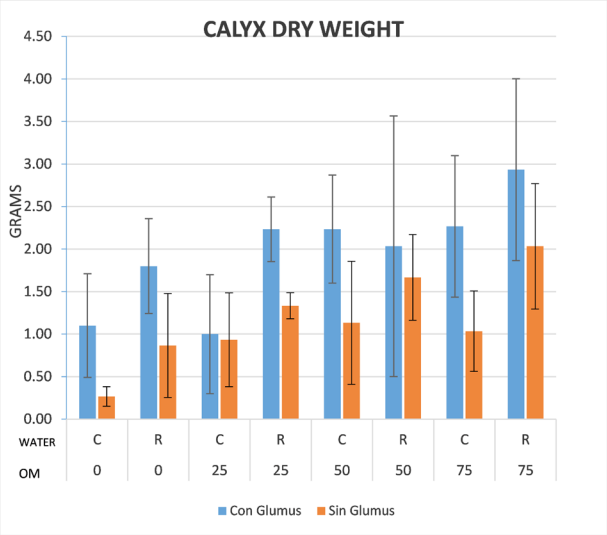
[1] Hydro Science Center, Postgraduate College in Agriculture Science, Mexico
[2]Chapingo Autonomous University, Mexico
[3]Metropolitan Autonomous University, Mexico

Statement of the Problem: Roselle (*Hibiscus sabdariffa*) is a tropical crop, member of the Malvaceae family. Its flowers are widely used in Mexico, and other countries in infusions, deserts, and other food items. It is cultivated in small plots with low technology. A sustainable low cost technology is needed to increase the profits of the farmers.

Materials & Methods: The study was done under greenhouse conditions. Two soils were used. One came from a parcel irrigated with sewage water and the other one was irrigated with clean water from a well. Half of the treatments were inoculated with *Glomus intraradices*. Vermicompost was applied as a source of organic matter. Four doses were applied.

Findings: There were significant differences ($p \leq 0.05$) in all the variables recorded due to the treatments. The soil irrigated with contaminated water originated higher plant height and stem diameter, a better shoot and root development, and most importantly an increased fresh and dry weight of the calyx. The plants inoculated with *Glomus intraradices* had better shoot and root growth ($p \leq 0.05$). Vermicompost, as source of organic matter, also had a positive effect on roselle growth. Flower length, shoot fresh weight, and leaf area augmented with the application of higher quantities of organic matter (50 and 75 t ha-1).

Conclusion & Significance: Irrigation with sewage water, inoculation with *Glomus intraradices*, and higher quantities of vermicompost can be used to increase the calix yields on roselle. The use of mycorrhiza can help to overcome the negative effects of contaminated waters, and other environmental and biological stresses. Recommendations are made to validate this result under field conditions.



Biography

Abdul Khalil Gardezi is a distinguished Scientist and academic member of the Hydro Science Center, Postgraduate College in Agriculture Science in Mexico, since 1981. He has received distinctions for teaching, research and service from 1988 until 2016. He has been selected for the originality of his research, presented as the best paper and oral presentation from 2003 to 2016 in international congresses in Australia, Canada, China, Great Britain, Italy, Mexico and USA. He has published more than 190 papers. He has been honored among 2000 outstanding intellectuals of the 21st century by the International Biographical Center Cambridge, England.

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Asiwe J A N, Agrotechnology 2017, 6:4(Suppl)
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Determination of nutrient and mineral contents of some selected cowpea lines for better quality trait improvement

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Statement of the Problem: Cowpea is an important grain legume. It is cultivated because it is rich in protein (20-24%), minerals and vitamins which are important for human and animal nutrition. One of the major cowpea production constraints in South Africa is lack of improved varieties. To fast track the development of improved cowpea varieties to meet the needs of farmers, improved varieties were introduced and multiplied to increase seeds for further field assessments.

Aim: The objective of this study was to determine the nutrient, mineral contents and other quality traits of 32 cowpea lines obtained from GeneBank collections of University of Limpopo. This will assist the breeder in ascertaining their usefulness and plan on how to deploy their quality traits in breeding programme.

Materials & Methods: Dry seeds of varieties obtained from the seed multiplication programme were milled to fine powder, arranged in complete randomized design and analysed in three replications. Nutrient and mineral contents determined included (crude protein (CP), Ca, Na, Mg, Fe, Cu, Zn, P, K and moisture.

Findings: Results showed that the varieties exhibited significant ($P<0.05$) variations for the nutrients and mineral determined except for P, Cu and moisture. 10 lines performed better than two local control varieties (Glenda (24%) and Bechuana white (20%) in crude protein content with a range of 25-30%. Similarly, many varieties exhibited higher mineral content than the two local controls. Quality of grains of the varieties in terms of seed coat color, texture, eye-color and size also varied significantly.

Conclusions & Significance: The study not only demonstrated that many of the improved cowpea lines are better than local checks in nutrient contents and other quality traits, but has provided data base for utilizing the promising lines in breeding programme for the development of new cowpea germplasm with better quality traits and consumer preference.

Biography

Asiwe J A N is currently a Plant Breeder and an Integrated Pest Management Specialist at University of Limpopo, South Africa. He has several years of experience with successful track record in different aspects of commercial agriculture, food security, research and development in sub Saharan Africa (SSA) with significant impacts on legumes (cowpea, Bambara groundnut and soybeans), root and tuber crops (cassava and yam), cereals (maize, wheat and barley), intercropping systems (legumes with maize, sorghum/millet) in cross-setting professional areas (plant breeding, entomology and pest management, biotechnology and technology dissemination). He also possesses strong management and leadership skills in the following areas: strategic planning and implementation for distinctive competitive advantage and project management. Others include training and human capital development, financial management, sourcing funds for projects.

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Notes:

Birgit Steininger et al., Agrotechnology 2017, 6:4(Suppl)
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Benefits of gardens on human health and well-being

Birgit Steininger, Haubenhofer Dorit, Cervinka Renate, Schwab Markus, Schlieber Hubert and **Wolf Roswitha**
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Statement of Problem: Gardening and garden related activities gain ground in learning and health promotion. Two main questions occurred: In which ways do gardens and places provide well-being and health? To what extent are activities (gardening or social interaction) relevant to promote well-being and health? Aim of this study is to find out benefits of gardens on human health and well-being.

Method: Using electronic databases, a comprehensive search of peer reviewed papers published between 1980 and November 2015 was conducted.

Results & Discussion: The reviewed papers showed that no clear separable answer for the main questions is possible, a highly complex interaction exists, and place and activity interact strongly. Research on private gardens is dedicated to all population groups. Existing research shows that private gardening is healthy for older persons. It is a meaningful activity that can be matched to the physical and psychological ability. Garden and nature activate and relax body and mind; research on community gardens focuses on interactive, communicative and connecting mechanisms while gardening for local food production; research on school grounds is related to the effects on school performance and their eating habits. Positive effects could be described; the main task of healing gardens is the promotion of intellectual and physical health, well-being and quality of life. Mainly positive outputs have been described, but persons with dementia can show negative effects as well. Physical benefits include higher levels of physical activity, better motor skills, and healthier nutrition behavior. Mental benefits include reduced mental stress, improved mood, better cognitive functioning, experienced achievement, and development and maintenance of identity in the garden. Social benefits include sharing knowledge and produce, better learning, feelings of social cohesion, and community involvement. These positive findings encourage application of garden-based-interventions.

Recommendations: The given body of knowledge encourages practical applications of garden-related interventions. These interventions should be planned with care and evaluated using established methods.

Biography

Birgit Steininger has her expertise in Horticultural Therapy and Green Care. Developing the field of Horticultural Therapy and Green Care in Austria, she developed a University Certificate Degree in Horticultural Therapy and a Master's Degree "Green Care: pedagogic, consultative and therapeutic Interventions with Animals and Plants". Connecting agriculture and horticulture with human health and well-being as well as teaching and establishing research is the focus of her work at Agrarian and Environmental University College Vienna.

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Notes:

Niladri Paul et al., Agrotechnology 2017, 6:4(Suppl)
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Effect of different organic sources on nutrient status in rice based cropping sequence

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[1]College of Agriculture, India
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[3] Central Soil Salinity Research Institute, Haryana, India
[4] Bidhan Chandra Krishi Viswavidyalaya, West Bengal, India

The influence of organic matter vis-a-vis humic acids on the availability of nutrient status and its impact on the cultivation of rice (Variety MTU 1010) followed by mustard (Variety B-9), was studied in *Typic Fluvaquent* soil under Old Alluvial zone of West Bengal, India. Soil texture was identified as sandy clay loam, bulk density 1.34 Mg m^{-3}, oxidizable OC 1.16 g $100gm^{-1}$, pH 6.34, total nitrogen 0.14 g $100gm^{-1}$, available phosphate, potash and sulphate 25.90, 127.40, 39.56 kg ha-1, respectively. Soils received recommended doses of fertilizers for cultivation of paddy ($N:P_2O_5:K_2O$::60:30:30) followed by mustard ($N:P_2O_5:K_2O$::80:40:40) along with FYM at 5.0 and 2.5 t ha^{-1}, both Commercial and FYM extracted humic acid (CHA & EHA) at 0.5, 0.25 kg ha^{-1}, respectively as per treatment combinations and following RBD treatment. Rhizosphere soil (0-15 cm) and plant samples were periodically collected and analysed for C:N ratio, available phosphate, potash and sulphur with their integral effect on crop growth. At PI and branching stages of paddy and mustard, the highest content of available phosphate, potash and sulphur was recorded and gradually decreasd towards harvesting stage. EHA resulted highest availability of phosphate and sulphur, however CHA enhanced the content of potash in soil, resulted significant uptake of nutrients within plants and qualitative enrichment through biometric parameters and yield.

Biography

Niladri Paul received his B.Sc (Ag.) Hons degree in 2005 from Viswa Bharati, M.Sc (Ag) and Ph.D degree in Agricultural Chemistry and Soil Science in 2007 and 2013, respectively. He secured first class in all examinations. He started his carrier as an Agricultural Officer under Government of Tripura in 2007 followed by as an Assistant Professor in Soil Science and Agricultural Chemistry at College of Agriculture, Tripura in 2014. He had obtained Young Scientist Award in Acharya Prafulla Chandra Ray memorial symposium and celebration of International year of chemistry - 2011. He has 19 research publications and co-author of a Bengali book. He is regular in local daily and external examiner / paper setter in different Agricultural Universities. He is Editorial Board member in 5 journals. He is trained in Agri-Business Management, GIS application, biofertilizer production, watershed management.

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Notes:

Kawsar Ali et al., Agrotechnology 2017, 6:4(Suppl)
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Organic nitrogen uptake: A novel pathway to improve nitrogen use efficiency and crop productivity

Kawsar Ali[1], **Davey L Jones**[2] and **Muhammad Arif**[1]
[1]Abdul Wali Khan University Mardan, Pakistan
[2]Bangor University, UK

Formulation of amino acid N fertilizer and uptake of organic N by plants has the ability not only to ensure N availability to plants particularly in N-limiting environments but also can manipulate the environmental hazards associated with over inorganic N fertilization. To support this view, clear experimental evidence is still lacking. In addition, the current experiments aimed to evaluate the uptake of organic N (Amino acid based N fertilizer) by plants in comparison with inorganic fertilizer (ammonia and nitrate) and investigate the mineralization rate of amino acid fertilizers. Overall commercial amino acid performed superior in terms of plant growth and mineralization over pure amino acid fertilizer and inorganic N fertilizer. All plants measured parameters (shoot and root biomass, leaf chlorophyll content and tissue N content) were highest in plant samples treated with commercial amino acid fertilizer as compared to pure amino acid and inorganic N fertilizer. It is therefore concluded that organic N may be of only limited consequence in high input agricultural systems.

Biography

Kawsar Ali completed his PhD at the age of 26 years. He got his PhD Degree from the university of Agriculture Peshawar Pakistan. He also worked with Prof. Davey Jones of Environment Center Wales (Bangor University) in his lab. He God Two Gold Medals in his academic career. He Published more than 60 Papers in well reputed impact factor journals around the globe. He is also working as Editor-in-Chief of International Journal of Agricultural and Environmental Research (www.ijaaer.com). Currently he is working on soil nuteints management and plant organic nitrogen uptake.

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Notes:

Tawfik M M et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Organic farming for sustainable production of two *Atriplex* species in saline habitats

Tawfik M M, A T Thalooth, E M Abd El Lateef, Amany A Bahr and **Magda H Mohamed**
National Research Centre, Egypt

Applying organic farming systems in bio saline agriculture is unconventional approach for sustainable using of marginal soil and desert land for planting non-traditional halophytic crops such as *Atriplex* sp. These plants are highly salt tolerant C_4 halophytic forage plants grown well in coastal salt marsh. It has a special place in newly emerging farming systems, especially in coastal areas and where freshwater resources are not available or in short supply. We can call it environmentally smart crops because it ensures food security, contribute to energy security, guarantee environmental sustainability, and tolerate the negative impacts of climate change. Organic agriculture is the most important and widely practiced agro-ecological farming system. It is claimed to be the most sustainable approach and long term adaptation strategy. It emphasizes recycling techniques and low external input and high output strategies. It is based on enhancing soil fertility and diversity at all levels and makes soils less susceptible to erosion. It is also reported to be climate change resilience farming systems as it promotes the proper management of soil, water, biodiversity and local knowledge and provide producers with ecologically sound management decisions. A field experiment was carried out at the Model Farm of National Research Centre, El Tour, South Sinai to study the impact of (charcoal 4 tons/fed, chicken manure 5 tons/fed and compost 5 tons/fed. In addition to control treatment) on some growth characters, photosynthetic pigments content, crude protein content and some physiological aspects as well as nutritive values of two halophytic plant species (*Atriplex halimus* and *Atriplex nummularia*). Our results showed that organic fertilizer treatment enhanced all the previous character as compared with control with superiority to chicken manure over the other treatments.

Biography

Tawfik M M is a Professor of field crops. He completed his Graduation from Plant department, Faculty of Science, Cairo University. He worked at National Research Centre, Dokki, Egypt since 1985. He is interested in the field of forage production, bio-saline agriculture and climate change researches. He has published 101 papers, six books and chapters in books. In addition, he actively participated in oral lecture in 21 international conferences outside Egypt, actively organized many national conferences, workshops and forums in Egypt. He organized and implemented many scientific training in the NRC and many other international and national organizations. He is also working as an Editor in many national and international journals.

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Notes:

Salah Abdel-Rahman, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Detection of adulteration and identification of meat and milk species using molecular genetic techniques

Salah Abdel-Rahman
Genetic Engineering and Biotechnology Research Institute, Egypt

PCR and PCR-RFLP techniques were used for rapid and sensitive identification and authentication of species-specific meat (buffalo, camel, cat, cattle, dog, donkey, goat, horse, pig and sheep) and milk products (buffalo, camel, cattle, goat and sheep). PCR products of the gene encoding SSR region were 603, 603, ≤100 and 374 bp in buffalo, cattle, pig and sheep, respectively. For discrimination between buffalo and cattle, the amplified cytochrome *b* gene (359 bp) was digested by *Taq*I restriction enzyme. Two fragments 191 and 168 bp were generated in buffalo, whereas no digestion occurred in cattle (359 bp). PCR products were 672, 808, 221 and 221 bp in cat, dog, donkey and horse, respectively. To discriminate between donkey and horse, PCR product of mt-DNA in both donkey and horse (359 bp) was digested by *Alu*I restriction enzyme. Three fragments 189, 96 and 74 bp were generated in horse, whereas no fragments were obtained in donkey (359 bp). PCR amplified fragment size was 300 bp in camel, while the fragment size in goat was 855 bp. The proposed PCR assay represents a quick and sensitive method applicable to the detection and authentication of meat and milk species-specific.

Biography

Salah Abdel-Rahman is a Professor of molecular genetics at Department of Nucleic Acid Research Genetic Engineering and Biotechnology Research Institute City of Scientific Research and Technological Applications Alexandria, Egypt. PhD in 2003, Department of Molecular Animal Breeding, Institute of Animal Science, Faculty of Agriculture and Horticulture, Humboldt University, Berlin, Germany. Dr. Salah has an expertise in Mapping of quantitative trait loci (QTL) affecting production traits on different chromosomes in farm animals using microsatellite markers. Improvement of quantitative production traits (meat, milk, fertility, wool… etc) in farm animals using marker-assisted selection (MAS). Detection of adulteration and identification of meat and milk plus genetically modified organisms (GMOs) using molecular genetics techniques. DNA fingerprinting and national animals and plants genetic sources preservation.

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Notes:

Gautam Bhattacharjee et al., Agrotechnology 2017, 6:4(Suppl)
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Production of upland paddy (var. TRC-87-251) through application of vermicompost under field condition in Tripura, India

Gautam Bhattacharjee[1] and **Priyasankar Chaudhuri**[2]
[1]Swami Vivekananda Mahavidyalaya, India
[2]Tripura University, India

With fade out of the benefit of Green revolution, indiscriminate use of chemicals (pesticides and fertilizers) made the soil unproductive with loss of soil health. Paddy is the main food crop of India which following 1990 had a declining trend in production due to poor soil health. So the main aim of our study was to determine the optimum dose of vermicompost on the production of upland paddy (var. TRC-87-251). Vermicompost was obtained from worm- worked kitchen waste utilizing the earthworms, Perionyx excavatus. The field experiment was laid out in randomized block design technique (figure given below). The experimental plots received three different treatments i.e., different doses of vermicompost, the same doses of vermicompost along with recommended doses of NPK and only recommended doses of NPK. The control plot received neither NPK nor vermicompost. In total, there were 12 treatments marked as T0, T1, and T2… T11. For each treatment, four replications were made. The size of each experimental plot was 5 m^2 (2.5 m x 2.5 m). The different doses of VC were 2.5 ton/ha, 5 ton/ha, 10 ton/ha, 15 ton/ha and 20 ton/ha. Recommended doses of NPK=60 Kg N/ha, 30 Kg P/ ha, 30 Kg K/ ha in the form of urea, single super phosphate and muriate of potash respectively. Result showed that recommended doses of NPK along with 5 tonnes vermicompost/ha was at par with 10 tonnes of vermicompost/ha and led to significant increase in crop and straw production along with the uptake of nutrients. From this result, it could be deduced that in the soils of Tripura a minimum of 10 tonnes vermicompost or 5 tonnes of vermicompost plus recommended doses of NPK may bring significant increase in production of rice grain and straw respectively. The field trial was laid out in Randomized Block Design (RBD) technique comprising 12 treatments with 4 replications for each treatment as shown below image .



Biography

Gautam Bhattacharjee completed his MSc in Zoology from the prestigious institution Visva-Bharati University Shantiniketan, West Bengal India, founded by Rabindranath Tagore. He worked as a Senior Research Fellow in a project of Indian Council of Agriculture and Research, New Delhi, under the guidance of Dr. P S Chaudhuri one of the greatest earthworm scientist of recent times. A detail work on earthworms of Tripura was carried out by him for the first time in Tripura from 1997-2002. During his research work, he reported 21 species of earthworms out of which two species were reported for the first time from Tripura. Beside this an excellent work on reproductive studies of seven tropical earthworms were done by him. He also carried out vermiculture of rubber leaf litters. He received scholarship from Jawaharlal Nehru Memorial Fund, New Delhi. At present, he is working as an Assistant Professor of Zoology in a Government Degree College (Swami Vivekananda Mahavidyalaya, Tripura, India) and is engaged with research on earthworms and their coelomic fluid.

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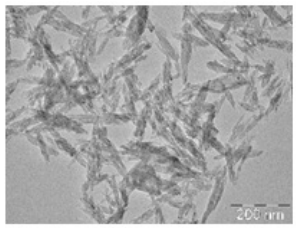
Nilwala Kottegoda et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Hydroxyapatite – urea nano-hybrid as efficient plant nutrient systems

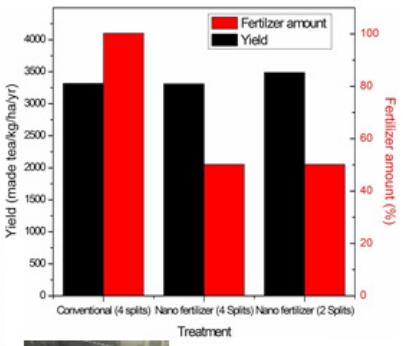
Nilwala Kottegoda[1, 2], Chanaka Sandaruwan[2], Gayan Priyadarshana[2], Gamini P Gunaratne[3], Sarath Abeysinghe[3], Saman Hettiarachchi[3], Veranja Karunaratne[2] and **Gehan A J[2]**

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[2]Sri Lanka Institute of Nanotechnology, Sri Lanka
[3]Tea Research Institute of Sri Lanka, Sri Lanka

Urea remains the most widely used nitrogen fertilizer worldwide. However, its massive losses during fertilization remain an impediment for its bio-availability to crops. Therefore, slowing down the leaching and volatilization of urea during crop fertilization has emerged as a solution to not only in saving the cost of food production but also preventing environmental damage caused by excess urea accumulation. Although, it has been suggested that nanotechnology might provide solutions to this difficult problem, thus far, practical strategies to do so have remained elusive. In this regard, we have developed urea coated hydroxyapatite nano-hybrid as a platform for slow release of nitrogen. Further, we argued that if the percentage of nitrogen in the above nanocomposite can be made close to that of urea, it would make such a solution economically viable. Thus, sol gel mixing of phosphoric acid and calcium hydroxide in the presence of urea gave rise to urea coated hydroxyapatite rod shaped nanoparticles containing 40% N. This resulting suspension was successfully flash dried to provide a stable solid nanocomposite with an average particle diameter of approximately 60 nm. The laboratory process was successfully scaled up to pilot plant without sacrificing the properties observed at the bench scale. It served as an unprecedented nitrogen slow release composition in water column studies at laboratory level. These encouraging results were validated by applying this nano-hybrid as a slow release nitrogen fertilizer formulation in farmer's field trials for tea. The trials at farmer's field level conducted in gravel soil (pH 4.5–5.0), with 50% reduction of the recommended amount of N as urea (293.5 kg/ha per year) and with the reduction of number of splits (2 splits per year) yielded an increase of 5% of the yield compared to the treatments conducted using urea (587 kg/ha per year, 4 splits). This nanotechnology based slow release fertilizer approaches therefore, have the capacity to multiply into many futuristic sustainable global fertilizer solutions.









Biography

Nilwala Kottegoda is a Professor in Chemistry at University of Sri Jayewardenepura, and a Principal Research Scientist at Sri Lanka Institute of Nanotechnology. She obtained her BSc in Chemistry from University of Peradeniya and PhD in Material Chemistry from University of Cambridge, UK. She is the principal author of few US patents which were granted for the research wok in nano agriculture and they are the first few patents granted to Sri Lanka for nanotechnology based innovations. She also received the national award for the best innovation with commercial potential in 2011 and the Third World Academy of Science Young Scientist award to Sri Lanka in 2013.

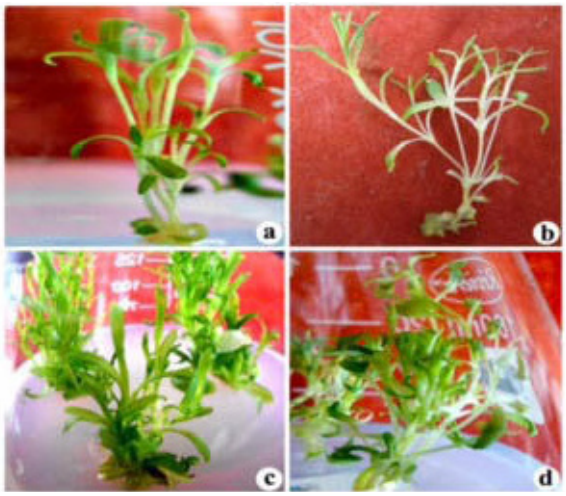
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Smita Purohit et al., Agrotechnology 2017, 6:4(Suppl)
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Mineral manipulation and antioxidative studies in carnation - *Dianthus caryophyllus* L

Smita Purohit and **Meghana Agarwal**
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The effect of ammonium nitrate (NH_4NO_3) on shoot bud induction and proliferation from nodal explants of *Dianthus caryophyllus* L. was investigated. Shoot buds were induced on MS medium supplemented with 2.2 µM BAP and 2.7 µM NAA. The induced shoot buds were sub-cultured on medium with same hormonal composition for their proliferation. Both shoot bud induction and proliferation media were supplemented with different levels of NH_4NO_3 (0, 5.15, 10.3, 20.61, 41.20 mM). NH_4NO_3 highly influenced the shoot bud formation and their subsequent proliferation. In the present investigation, NH_4NO_3 at one-fourth of MS level was found to be beneficial for controlling the hyperhydricity of regenerated shoots whereas the number of shoots was comparable to the control cultures. The MS or higher levels of NH_4NO_3 were observed to suppress healthy morphogenesis and resulted in increased hyperhydricity. The physiological disorder of hyperhydricity, commonly observed in carnation micro-propagation, was also controlled with 100% efficiency by reducing NH4NO3 at one-fourth of MS level. Antioxidant enzyme activity was minimum in normal and healthy shoots. The activity increased with increase in the number of hyperhydric shoots.



Biography

Smita Purohit is presently working as a Senior Assistant Professor and Head in The IIS University, Jaipur, India. She has an expertise in the field of Plant Tissue Culture, Stress Physiology, Molecular Biology and Crop Science. The present research article signifies the effect of *in vitro* morphogenesis on antioxidative enzymes like SOD, CAT. These antioxidative enzyme systems provide crucial protection against oxidative stress imposed by reactive oxygen species.

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Notes:

Antonia Carlucci et al., Agrotechnology 2017, 6:4(Suppl)
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Update of grapevine trunk disease fungi occurred in Italy

Antonia Carlucci, Francesco Lops, Francesca Cibelli and **Maria Luisa Raimondo**
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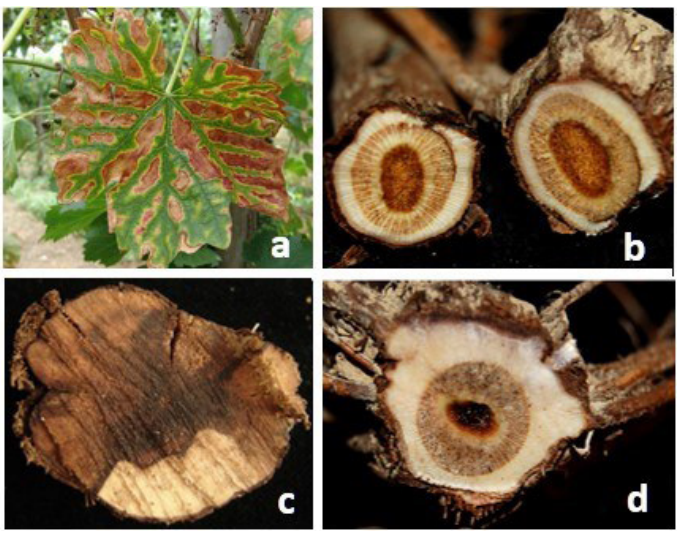
Statement of the Problem: Grapevine trunk diseases represents an important topic form many countries worldwide. A great number of fungi affects vineyards from root to trunk, stem and berries. Regarding the trunk diseases, black foot disease, Botryosphaeria dieback and Petri disease fungi are the most important causing severe reduced yields.

Aim: The purposes of the present study was to identify the most common and spread grapevine trunk disease fungi occurred on vineyards in southern Italy through morphological and molecular approaches. To confirm the pathogenicity ability of some fungal species were carried out pathogenicity tests.

Methodology & Theoretical Orientation: By molecular tools, the ITS region, the β-tubulin and elongation factor, and partial histone 3 genes were amplified and sequencing to perform the phylogenetic analyses. A detailed morphological study was also carried out. Pathogenicity tests were performed on 1-year-old shoots with the representative fungal species isolated from grapevine samples. The data collected were statistically analysed.

Findings: In this study, a new fungal species was described as *Thelonectria blackeriella* and together *Dactylonectria torrensensis* and *Ilyonectria liriodendri* it was associated with black foot disease for first time in Italy. In addition, *Lasiodiplodia citricola*, known as fungal pathogens of *Citrus sp.*, *Juglans regia*, and *Prunus persica*, was isolated from grapevine, and so associated with cankers and dieback of grapevine both for Italy and for the rest of the world.

Conclusion & Significance: Our studies showed that the fungal population inhabiting the grapevine wood is very various and spread worldwide ranging from black foot disease to Petri disease and Botryosphaeria dieback. The finding of *T. blackeriela* and of *L. citricola* demonstrated that number of fungi associated with these diseases is always increasing..



Biography

Antonia Carlucci is a Researcher in the Department of Sciences of Agriculture, Food and Environment in Foggia, Italy. She is also head of plant pathology and diagnosis laboratory for quarantine fungal and bacterial pathogens in University of Foggia. Dr. Carlucci received her PhD in Biotechnology of agricultural and food products from University of Bari, Italy. She is expert of morphological and molecular characterization of fungi by phylogenetic studies. She has been involved in many research projects related to Plant Pathology and described ten novel fungal species by molecular approaches. Dr. Carlucci has been interesting to research and study new control means regarding the solarization practice, use of biostimulants, resistance inducers, fungal antagonists and biocides substances.

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Shekharappa et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Evaluation of organic, integrated and inorganic management practices on the incidence of insect pests and natural enemies in groundnut and cotton ecosystem

Shekharappa, L H Malligawad and **Gaddanakeri S A**
University of Agricultural Sciences, India

The experiment was conducted to know the effect of organic, integrated and inorganic management practices on the incidence of insect pests in groundnut and cotton intercropping system during 2015-2016 to 2016-2017 at Institute of Organic Farming, University of Agricultural Sciences, Dharwad, Karnataka, India. In groundnut, the per cent defoliation due to *Spodoptera litura* ranged from 11.5 to 16.75 in different farming systems. However, the incidence was more in organic as compared to integrated and inorganic management practices. Similarly, the studies made in cotton revealed that the per cent boll damage due to *Helicoverpa armigera* varied from 8.19 to 12.75 in different farming systems. The incidence of bollworms was less in integrated and RPP and found on par with each other and differed significantly with organic farming. The similar trend was observed with aphids and leafhoppers where as the incidence was less than ETL. The natural enemies' viz., coccinellids and *Chrysoperla* were observed more in organic as compared to other farming systems.

Biography

Shekharappa works as a Professor of Entomology in the Institute of Organic Farming, University of Agricultural Sciences, Dharwad, India. He has worked as an Instructor during 1988-1992 at College of Agriculture, Raichur; Assistant Plant Protection Specialist (Ent) during 1992-1996 at Extension Education Unit, Raichur; Asst. Entomologist during 1996-1997 at AICCIP, ARS, Dharwad Farm, Hebballi; Asst. Entomologist during 1997-2002 at AICRP on Midge, UAS, Dharwad; Sr. Entomologist during 2002-2010 at AICSIP, UAS, Dharwad; Professor (Entomology) 2010-2015 at AICSIP, UAS, Dharwad and currently working as a Professor of Entomology since 2015 at IOF, UAS, Dharwad. He has also trained Post graduate and PhD students. He was awarded "Environmentalist of the Year Award 2008" conferred by National Environmental Science Academy, New Delhi during 21st Annual Conference held at Bangalore University, Bangalore, India.

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Notes:

Jose Ramon Barros Cantalice, Agrotechnology 2017, 6:4(Suppl)
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Soil management in semiarid environment and erosional implications

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Rural Federal of Pernambuco University, Recife, Brazil

Arid and semiarid areas has a hydrological rainfall pattern characterized by variability, intense rainfall, as the rainfall volumes are concentrated into short periods of time with widely varying temporal recurrence of rainfall events consequently, high peak flows occurred. In most of Brazil semiarid he conventional soil management still is burning for the establishment crops. In this soil use, the natural resources are under risk and prone to degradation. In this conditions the soil use capacity of semiarid watersheds is soon exceeded due to soil cover of shrub decrease. The major degradation sign is the water erosion that generates the sediment through interrill, rill and gully erosion. The fluvial systems of arid and semiarid environments are featured by periods without flow, and the suspended sediment transport can occur in high suspended sediment concentration values in ascending hydrograph, which are associated with the sediment in the entrainment threshold that deposited in the preceding year. In this context, we are developing a project in a small watershed with 14.71 km^2 (Carnauba Watershed from Brazilian semiarid) in which the farmers are seeding corn, beans and cactus without burn residues to prepare the soil through environmental compensation, as a mitigation to climate changes. In this project are included 10 farmers during two years in the Carnauba watershed, in which the flow and suspended sediment are been monitoring, and in the project end it will be expect to observe decrease in suspended sediment flux.

Biography

Jose Ramon Barros Cantalice is an Agricultural Engineer, PhD in Soil Science and Post-doctoral made at Texas A & M University, USA. He is currently Associate Professor of the Universidade Federal Rural de Pernambuco. He has experience in Agronomy, Environmental Engineering, with emphasis on Management, Soil Conservation, Water Conservation, Soil and Water Engineering, acting on the following topics: mechanics of erosion, sediment transport, rill and interrill erosion, design riparian zones, soil quality, sediment yield from watersheds in the semiarid, and relations of hydrology and cover of the shrubs. He is an Adviser of PhD and Master's in Soil Science and Environmental Engineering.

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Yuke He, Agrotechnology 2017, 6:4(Suppl)
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10th International Conference on **AGRICULTURE & HORTICULTURE**

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October 02-04, 2017 London, UK



Yuke He

Shanghai Institutes for Biological Sciences, China

Epigenetic control of leafy heads in *Brassica* crops

Leafy head is one type of important vegetable product composed of incurved leaves. Several crops producing leafy head show the leaves with downward curvature, flatness and incurvature at seedling, rosette and heading stages, respectively. Physiological studies have shown that the formation of leafy head is affected by internal elements such as C/N ratio and source/sink ratios and environmental factors such as temperature, light intensity and photoperiod. However, genetic basis for formation of leafy heads is unclear. In the previous study, we used flat and incurved leaves of Chinese cabbage to isolate *BcpLH* (*Brassica campestris* ssp. *pekinensis* Leafy Heads) gene from a cDNA library by differential hybridization. By Agrobacterium-mediated transformation, we transferred *brp-miR319*a gene to a round-head variety. In the transgenic lines, *miR319a*-targeted genes were down-regulated, while the round heads were modified into oblong heads. In the head leaves of the transgenic plants, *TCP* genes were downregulated by exogenous *miR319a*. The marginal regions of lateral areas in these head leaves were extremely wavy and knotted, apparently due to prolonged and enhanced cell division and vein differentiation in hydathode regions. The accumulation and distribution of *miR319*a in head leaves affect head shape, and artificial miR319a is useful for genetic improvement of head shape for favorable vegetable products. On the other hand, we found that *BrpSPL9*-2 (*Brassica rapa* ssp. *pekinensis Squamosa Promoter Binding-Like 9-2*), a target gene of microRNA brp-*miR156*, controls the heading time of Chinese cabbage. Overexpression of a *miR156*-resistant form of *BrpSPL9* caused leaf curvature (folding) to occur much earlier, causing early time of leaf heading. By contrast, overexpression of *miR156* delayed leaf curvature so it occurred in later leaves, resulting in a delay of leaf heading. *BrpSPL9* genes control heading time by accelerating adult development, and thus are potentially important for genetic improvement of earliness of Chinese cabbage and other crops. On the other hand, natural antisense transcripts of flowering inhibiting genes *BrpFLC* tune the timing of head maturity by regulation of the flowering time. Our findings suggest that *miRNA*s and non-coding RNAs control the shape, size and timing of leafy head in Brassica crops, thus provide an innovative approach to epigenetic manipulation of agricultural products.

Biography

Yuke He graduated from Horticulture Department, Northwestern Agricultural University in Dec of 1981, studied in Institute for Horticultural Plant Breeding, Wageningen, The Netherlands from 1985 to 1987, and got Ph.D. degree from Biology Department, Lanzhou University in June of 1991, worked as post-doc in Shanghai Institute of Plant Physiology, Chinese Academy of Sciences from 1991-to 1993, and worked as associate professor in Horticulture Department, Northwestern Agricultural University from 1987 and professor in Shanghai Institute of Plant Physiology & Ecology, Chinese Academy of Sciences from 1993, and acted as the deputy director of Shanghai Institute of Plant Physiology & Ecology, Chinese Academy of Sciences during 2011-2015, and the head of Joint Lab of Molecular Breeding from 2010.

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Rainer Roehe, Agrotechnology 2017, 6:4(Suppl)
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Rainer Roehe

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The potential impact of the microbiome in future agriculture

General aim: Most microbial communities are living in symbiosis with the host (plant, animals) so that improvement of their interactions, e.g. by genetics, nutrition, is expected to result in an increase in performance, health, efficiency and less environmental impact of production. For enhancement of plant performances many microbial products (bio-fertility and biocontrol) are developed which valued USD 1 billion in 2012 and expected to exceed USD 7 billion in 2019. For animal breeding, our own results indicate that there is a host genetic effect on the composition of the microbial community. Animal breeding is known to be very cost-effective because the genetic improvement is cumulative, persistent and can potentially be disseminated worldwide. The purpose of this study is to give a general overview of the impact of the microbiome on plant and animal production and to provide strategies to use microbial information in breeding, nutritional intervention, etc.

Methodology & Theoretical Orientation: Metagenomic whole genome sequencing of the microbial community is very informative to provide the composition of microbial community and the microbial gene abundances, which were related to traits.

Findings: The relative abundances of the microbial community and the microbial genes are closely related to feed conversion efficiency (FCE) and methane emissions (CH4) in bovine explaining 86% and 81% of the variation of these traits, respectively. Additionally, most microbial genes identified could be associated with biological mechanisms of those traits.

Conclusion & Significance: The relative abundance of the significant microbial genes is recommended to be used to predict the traits of interest, which can be used for their improvement using genetic selection, nutritional intervention, etc. (Fig. 1). In cases, in which performance testing is very costly (as for FCE and CH4); this methodology is substantially more cost-effective and will improve symbiotic effects between microbiome and host.

Biography

Rainer Roehe is Professor of Animal Genetics and Microbiome at SRUC. He has a long-term carrier in animal breeding and genomics using trials and cutting-edge Bio-informatics to understand the genomic architecture of complex traits in farmed animals. His current research is focusing on host genetic interactions with the microbiome in ruminants and monogastrics to genetically improve important animal trait such as growth, feed conversion efficiency, meat quality, animal stress susceptibility, health, methane emissions, etc. He is using whole genome metagenomic sequencing of samples from the rumen and the intestinal tract to simultaneously identify the relative abundance of the microbial community and the microbial genes. Relating this information to important traits, he developed a new microbiome strategy for improvement of complex traits. The strategy can be used more generally for soil microbial improvement, plant and animal breeding, nutrition and even to identify the impact of the micro-biome on human health.

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Scientific Tracks & Abstracts

Day 2

Agri & Organic Farming 2017

Sessions:

Day 2 October 03, 2017

Agricultural Engineering | Agriculture & Food Security | Plant Science | Agricultural Production Systems | Agricultural Biotechnology | Fertilizer & Pesticide | Agriculture & Forestry | Crop Sciences | Soil & Water Management | Oragnic Farming

Session Chair
Yuke He
Shanghai Institutes for Biological Sciences, China

Session Co-Chair
Idris Abd Ghani
University Kebangsaan Malaysia, Malaysia

Session Introduction

Title: **Production of tea and increse oincrease in earethworm density-biomass following Vermicompost (notvermiposting written before) application.**
Priyasankar Chaudhuri, Tripura University, India

Title: **Plant-parasitic nematodes associated with grain crops and associated weeds in South Africa, with emphasis on the phylogenetic position of *Meloidogyne* species**
Ebrahim Shokoohi, North-West University, South Africa

Title: **Effect of different levels of nitrogen on yield and quality of drip fertigated watermelon**
Asad AlKhader, National Center for Agricultural Research And Extension(NCARE), Jordan

Title: **Management of insect pests and a pollinator, *Elaeidobius kamerunicus*, of oil palm in Malaysia**
Idris Abd Ghani, University Kebangsaan Malaysia, Malaysia

Title: **Frost protection in avocado orchards**
Lior Rubinovich, Ministry of Agriculture, Israel

Title: **Overview of biological control of insect pests in Thailand**
Samaporn Saengyot, Maejo University, Thailand

Title: **Integrated management of pod rot disease of cocoa**
Gurudatt M Hegde, University of Agricultural Sciences, India

Title: **Efficacy of different integrated management practices against major diseases of groundnut in northern Karnataka**
P Nagaraju, University of Agricultural Sciences, India

Title: **Association of arbuscular mycorrhizas in plants: Future perspectives of biofertilizer in Bangladesh**
Tanzima Yeasmin, University of Rajshahi.Rajshahi, Bangladesh

Priyasankar Chaudhuri et al., Agrotechnology 2017, 6:4(Suppl)
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Production of tea and increase in earthworm density-biomass following vermicompost application

Priyasankar Chaudhuri and **S K S Jamatia**
Tripura University, India

Statement of the Problem: Vermicompost is a nutritive organic fertilizer rich in NPK, micronutrients, beneficial soil microbes and increases plant growth and its yield. Tea *(Camellia sinensis)* is an economically important and intensively managed cash crop in Tripura. Earthworms play a significant role in the structure of soils and its over-all above ground crop productivity.

Methodology & Theoretical Orientation: The present study was conducted during January 2015 to November 2016 at Harishnagar Tea estate (Tripura, India) to study the effects of different doses of vermicompost on tea production and earthworm population. The experiment was set up with 3 different amounts of vermicompost [T0 (control), T1 (5 tons ha-1 yr^{-1}), T2 (10 tons ha^{-1} yr^{-1}) and T3 (15 tons ha^{-1} yr^{-1})] each having 4 replicas in the plots of 2-year-old tea plants. Evaluation of different plant parameters was assessed. Earthworms were also collected by hand digging and sorting method during the experimental period to determine species composition, density and biomass. Composite soil samples from each experimental plot were collected for soil analysis.

Findings: Among all the experimental plots, highest values of pH (5.49), electrical conductivity (865 µMho), organic carbon (2.29%), available phosphorus (25.25 mg%) and potassium (60.25 mg%), TPC (0.522 mg GAE/g sample) and TFC (1.576 mg QEE/g sample) estimation of tea leaf was observed significantly in T3 plot in the second experimental period (2016). During the second year (2016), average leaf length (8.81 cm) and leaf width (3.55 cm), number of tea leaf plucks (10.17 $plant^{-1}$) and total leaf production (92.71 tons ha^{-1} yr^{-1}) were significantly highest in the T3 plot. A total of only 3 earthworm species viz. exotic, *Pontoscolex corethrurus* (60%), *Metaphire houlleti* (24%) and native, *Drawida assamensis* (15%) were collected from the experimental plots. A significant ($p<0.05$) but gradual increase in density and biomass of earthworms were also recorded in the second year (2016) with the increase in the amounts of vermicompost. In fine, it is advocated that application of vermicompost in the tropical soils of tea agro-ecosystem promotes plant growth and increases the crop yield through increase in density and biomass of earthworms.

Biography

Priyasankar Chaudhuri is a Professor of Zoology in Tripura University (A Central University) and did his PG and PhD from the Calcutta University, Kolkata. He is an eminent Earthworm Scientist with more than 80 research papers in national and international journals of repute. He is the author of the book "*Kenchor Jeevan Baichitra: Kencho Prajukti* (2006)" written in Bengali on the Biology and Ecology of Earthworms in North-East India with special emphasis on vermiculture and vermicomposting. He has participated in more than 25 National and International Symposia and visited Avignon (France) 1990, Vigo (Spain) in 1998, Cardiff (UK) 2002 and Shanghai (China) 2016 to present his research papers in International Symposia on Earthworm Ecology and Agricultural Sciences. He was elected as the Fellow of Zoological Society, Kolkata (1998) and Fellow of the Society of Applied Sciences, India (2010). His biography has been cited in the Who's Who in Science and Engineering 2006-2007 (Marquis, USA). The Academic Forum of the Society of Earthworm Ecology and Environmental Research (SEEER) awarded Certificate of Appreciation to him as an Earthworm Biologist in 2012. He was selected as one of the "Inspiring Teacher of Tripura University", Tripura in 2013. He has been honored with "Science Excellence Award" in 2015 and "Bharat Siksha Ratan Award" in 2016.

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Notes:

Ebrahim Shokoohi et al., Agrotechnology 2017, 6:4(Suppl)
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Plant-parasitic nematodes associated with grain crops and associated weeds in South Africa, with emphasis on the phylogenetic position of *Meloidogyne* species

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Nematode surveys in South African grain crop production areas were conducted in maize and soybean fields, and weeds associated with the crops. The abundance, occurrence and identity of the economically most important nematode pests of such hosts were hence determined. Results indicated that *Meloidogyne* spp. and *Pratylenchus* spp. were generally the most abundant plant-parasitic nematode crops infecting these crops and weeds. However, *Meloidogyne* spp. is the most destructive and distributed nematodes in these cultivated areas. Morphological studies based on perineal pattern morphology of *Meloidogyne* species revealed that *M. incognita* and *M. javanica* were the two predominant species in the grain production areas South Africa. Molecular studies of *Meloidogyne* based on the *COI* and *NADH5* genes of the mtDNA and the D2-D3 segments of 28S rDNA indicated that the populations studied belonged to those species. However, the phylogenetic position of these species is still unresolved. Identification of the species based on the SCAR-PCR also showed M. *javanica* and M. *incognita* as the most dominant species. In conclusion, this study represents an extensive initiative to get a better understanding of the *Meloidogyne* spp. as well as other plant parasitic nematodes that currently hamper local grain seed production.

Biography

Ebrahim Shokoohi is an Iranian Plant Pathologist, Nematologist, and Assistant Professor at Iranian University and Post-doctoral Fellow at North-West University of South Africa. His research focuses on plant-parasitic and beneficial nematodes. He has written several papers and book chapters after years of experience in research and teaching at university level. The main focusing of his research is on molecular and morphological taxonomy of nematodes.

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Asad AlKhader, Agrotechnology 2017, 6:4(Suppl)
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Effect of different levels of nitrogen on yield and quality of drip fertigated watermelon

Asad AlKhader
National Center for Agricultural Research and Extension (NCARE), Jordan

Statement of the Problem: The scarcity of water resources in Jordan and increasing concerns for groundwater pollution by agricultural contaminants make it important to improve irrigation and fertilization efficiency. Under such arid situations, water and nitrogen are regarded as the most important limiting factors for crop production. Fertigation provides an excellent opportunity to improve crop yield and enhance its quality, and minimize environmental pollution by controlling fertilizers and irrigation water application. Watermelon is one of the major irrigated vegetable crops in Jordan and responds well to fertilization. The objective of the current study was to determine the optimum level of N applied by drip fertigation for higher watermelon yield and quality.

Methodology & Theoretical Orientation: A field trial was conducted to investigate the effect of five different levels of nitrogen (N0=0, N1=10, N2=20, N3=30 and N4=40 ppm N) on crop yield and fruit quality of watermelon. Nitrogen (ammonium sulfate form) was applied through injection into the drip irrigation system (fertigation). Irrigation events were scheduled using soil moisture tensiometer and evaporation Class A-pan.

Findings: The results of the study indicated that addition of N using fertigation had a significant effect on yield parameters represented by the total and commercial yields, total dry matter, average plant yield, fruit number per plant, and total fruit number per ha. Crop yield increased significantly with increasing N level in the irrigation water, as follows: N4=N3>N2=N1>N0. Additionally, increasing the level of N induced significant increases in the length of the fruit. A significant effect for the N level on irrigation water use efficiency was, also, noticed.

Conclusion & Significance: Fertigation can be considered an efficient and significant method in the delivery of N to watermelon, as the crop yield and, to some extent, fruit quality can be improved.

Recommendations: It is recommended to apply N fertilizers to the watermelon crop via irrigation water at a concentration of 30 to 40 ppm N, and at a rate of 70 to 95 kg N/ha, under similar environmental conditions. .

Biography

Asad AlKhader has completed his PhD in Horticulture and Crop Science from University of Jordan in 2012; MSc in Soil and Irrigation from the same university. He is working as a Researcher on soil water and nutrient management issues at National Center for Agricultural Research and Extension (NCARE). He has published five papers in reputed journals and has been serving as a member of fertilizer committee in his country (Jordan). He is also disseminating new irrigation and fertigation technologies among farmers through a pilot project implemented in irrigated areas in Jordan.

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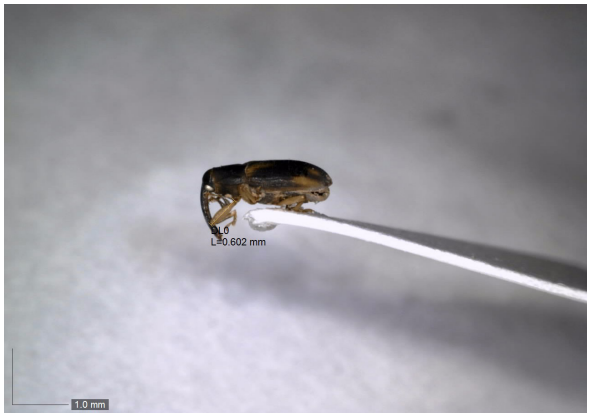
Idris Abd Ghani et al., Agrotechnology 2017, 6:4(Suppl)
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Management of insect pests and a pollinator, *Elaeidobius kamerunicus*, of oil palm in Malaysia

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Oil palm is the main industrial crop contributing up to 30% of Malaysia national revenue. To date, about 5.5 million ha (60%) of agricultural land area is being planted with oil palm. Despite the rapid growth of the industry, the sustainable oil palm yield production remains prone to insect pests damage and its pollinators. In Peninsular Malaysia and Sabah, bagworms remain the major insect pest, followed by the rhinoceros beetle in replanting areas. In Sarawak, bunch moth and termite are the major threats which are more related to those oil palm trees planted on peat soil. The potential of a new invasive insect pest, red palm weevils (*Rhynchophorus ferrugineus*) (RPW) of causing severe damage to Malaysian oil industry need serious attention. Sustainable management of the insect pests with short and long term effects is being practiced by most plantations. For bagworms, the integrated pest management (IPM) approach of census and detection followed by application of *Bacillus thuringiensis* or selective insecticides, planting of beneficial plants and mass trapping seemed to reduce bagworms population without endangering the environment. Good agricultural practices like planting of cover crops, proper management of biomass residues and the use of microbes such as *Metarhizium* have successfully used to control rhinoceros beetle during replanting period. Bunch moth and termites remain critical insect pests in peat areas. Similar approaches employed to reduce their infestation. No specific control measure yet recommended for controlling RPW in Malaysia except using pheromone trap. The inefficiency of oil palm pollinators, *Elaeidobius kamerunicus* that linked to low fresh fruit bunch (FFB) production is serious problem to the oil palm industries and Malaysian economy. This paper presents updated information on the control and management of major insect pest of oil palm as well as latest research finding on the relationship between EK inefficiency and FFB produced.





Biography

Idris Abd Ghani has expertise in integrated pest management focusing on maximizing the use of reared and field natural enemy populations. He is always referred to for pest management program. He is currently working on developing integrated approach for controlling red palm weevil and research on the main oil palm pollinator.

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Lior Rubinovich et al., Agrotechnology 2017, 6:4(Suppl)
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Frost protection in avocado orchards

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[1]Northern R&D, Israel
[2]Ministry of Agriculture, Israel

Avocado (*Persea americana*) is an important evergreen fruit crop, grown in several countries with tropical and subtropical climates. Damage from frost, an environmental condition in which the temperature drops below the freezing point of water, is a key factor in reducing avocado crop yields; for example, during 2016 economic loss from frost damaged avocado in Israel was estimated at 15 million USD. In many cases, frost damage can be significantly reduced by active measures such as stirring air layers with wind machines and sprinkling water over trees during the frost. However, little is known about the efficacy of these methods in avocado orchards. The present study aimed to evaluate and compare the efficiency of several frost mitigation techniques in commercial avocado orchards in Israel. For this purpose, over-canopy water irrigation sprinklers (WIS), a horizontal wind machine (HWM), and a vertical wind machine (VWM) were deployed and operated during several consecutive frost events. Frost mitigation efficiency was assessed by measuring air temperature and bud damage, and by assessing flowering intensity in the following spring. Of the tested methods: WIS successfully raised air temperature, reduced bud damage and maintained high flowering intensity; similar effects were observed with the HWM at ranges up to 150 or 50 m`, respectively, when the air could or could not pass freely between the trees; in contrast, the positive effect of VWM in frost damage prevention was very minor, extending only for 20 m`. In conclusion, among the different methods examined in this study, WIS appeared to show the best overall efficiency in frost damage prevention. Further research should be conducted, to confirm and extend these results.

Biography

Lior Rubinovich completed his Graduation from Hebrew University of Jerusalem and has expertise in sub-tropical crops, especially avocado. Among his avocado-related research topics are: Improving frost tolerance using frost mitigation techniques; Identifying the physiological factors involved in frost tolerance and sensitivity; Development of frost-tolerant avocado plants; Development of avocado tissue culture; Development of new high-quality varieties; and Improving yield and lowering alternate bearing.

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Samaporn Saengyot, Agrotechnology 2017, 6:4(Suppl)
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Overview of biological control of insect pests in Thailand: 1929 to present

Samaporn Saengyot
Maejo University, Thailand

The highlight of biological control in Thailand began in 1975. Both augmentative and classical biological control were carried out covering a wide variety of insect pests, some on a stand-alone basis and some as a component within the context of an integrated pest management system. Altogether more than 10 species of natural enemies were utilized in augmentative biological control, while more than 30 species of insect natural enemies were introduced into the country. In addition there were introductions of more than 40 species of insect natural enemies from Thailand for biological control in other countries within and outside the ASEAN region. All of these activities have resulted to a significant degree in a number of a short-term, medium-term, and long-term national, regional and international cooperation and collaboration projects in biological control.

Biography

Samaporn Saengyot has completed her PhD at the age of 34 years from Kasetsart University, Thailand she is the a lecturer in plant protection program teaching and conducting research in as well as extension work basically in biological control of insect pests and weeds and integrated pest management at Maejo University which is one of the rural universities in Thailand. Currently, she is also in the process of establishing a research and training center provisionally called “Maejo University Biological Control Technology Learning Center” (MJU-BCTLC) to conduct research and training in biological control of insect pests and weeds and pest management technology.

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Gurudatt M Hegde, Agrotechnology 2017, 6:4(Suppl)
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Integrated management of pod rot disease of cocoa

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Cocoa is an important commercial plantation crop of the world. Cocoa is a crop of humid tropics and so it was introduced as a mixed crop in India in areas where the environments suit the crop. It is cultivated in coconut and areca nut plantations in large scale from 1970 onwards. It is grown as an under storey intercrop with sufficient shade in southern states of India. In India, the current production is about 12,000 Metric Tons. Diseases are major risk to productivity and quality of harvest which in turn affects the returns to the farmers. This crop suffers heavily due to pod rot disease caused by *Phytophthora palmivira* causing yield loss up to 60 per cent. To overcome the pod rot disease, menace the experiment was conducted during 2012-13 and 2013-14 in the farmer's field of Sirsi taluk of Uttara Kannada district. The results revealed that, sequential spray of Metalaxyl MZ 68WP at 0.2% followed by *Pseudomonas fluorescens* at 1% at 15 days interval has significantly reduced the pod rot disease severity in Cocoa (20.07%). This is followed by Mancozeb at 0.25% *Pseudomonas fluorescens* at 1%, and Bordeaux mixture (1%) - *Pseudomonas fluorescens* at 1%. The reduction in disease severity has reflected in increase in yields of cocoa. The plots sprayed with Metalaxyl MZ 68WP - *Pseudomonas fluorescens* has recorded highest yields of 518.21 kg of dry beans/ha followed by 436.17 and 433.63 kg/ha respectively in Mancozeb - *Pseudomonas fluorescens* and Bordeaux mixture- *Pseudomonas fluorescens*. The maximum disease severity was recorded in untreated control plots (46.15%) with the yields of 337.27 kg/ha. The highest net returns of Rs. 62,007 (approx. 1000USD) were recorded in Metalaxyl MZ 68WP-*Pseudomonas fluorescens* sprayed plots. Thus, integration of chemicals with biological control agents was found promising in management of pod rot disease of cocoa.

Biography

Gurudatt M Hegde has completed his PhD in Plant Pathology from the University of Agricultural Sciences, Dharwad, and Karnataka, India. He is a recipient of gold medals for the Academic performance during his MSc Agri. and PhD. He has sizeable number of national and international publications to his credit. Currently, he is working as Assistant Professor of Plant Pathology in the Institute of Organic Farming, University of Agricultural Sciences, Dharwad, India with focused research on use of biofungicides for the management of plant diseases under laboratory, polyhouse and field conditions. He is also involved in mass production of biofungicides to cater the needs of farming community. He has visited Kazakhstan, Israel, USA (Nebraska State) and Srilanka for presentation of research information and trainings on Integrated Pest and Disease Management.

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Efficacy of different integrated management practices against major diseases of groundnut in northern Karnataka

P Nagaraju, S S Adiver, H L Nadaf and **B S Yenagi**
University of Agricultural Sciences, India

A field experiment was carried out during wet seasons in 2012, 2013 and 2014 at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad, India to know the effect of different integrated management practices against major diseases (late leaf spot, rust and stem rot) of groundnut. Among different integrated management practices, seed treatment with Tebuconazole (@1.5 g/kg) and two sprays of Tebuconazole (@1.0 ml/L) had controlled late leaf spot most effectively by recording the lowest percent disease index (PDI) of 21.57. The same treatment was also found significantly effective against rust and stem rot also (18.02 and 4.58 PDI, respectively). However, maximum pod yield was recorded in seed treatment with Mancozeb (@3.0 g/kg) and two sprays of Hexaconazole (@1.0 ml/L) (3477.08 kg/ha) followed by soil application of Trichoderma harzianum (@ 4.0 kg/ha) + Neem cake (@250 kg/ha) and two sprays of Hexaconazole (@1.0 ml/L) (3243.64 kg/ha). On the basis of economics, seed treatment with Mancozeb (@3.0 g/kg) and two sprays of Hexaconazole (@1.0 ml/L) has been found to be the most remunerative management practice with a cost benefit ratio of 1:3.41.

Biography

P Nagaraju has completed PhD in Plant Pathology from University of Agricultural Sciences, Dharwad, India. And at present, is working as Senior Scientist (Plant Pathology) in All India Co-ordinated Improvement Project on groundnut, University of Agricultural Sciences, Dharwad, India. He has got rich experience for more than 20 years in research, teaching and extension. He has published more than 20 research papers in reputed journals in national and international journals.

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Association of arbuscular mycorrhizas in plants: future perspectives of biofertilizer in Bangladesh

Tanzima Yeasmin
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Food production is increased more than three times. This success is due to high yielding crop varieties, agrochemicals, irrigation system and chemical fertilizers. High input use has led to increased land degradation, pest resistance, loss of soil fertility, nutrient imbalance and depletion of soil organic matter etc. In the light of these problems, the use of organic fertilizers, biofertilizers i.e. microbial products are crucial to make the agriculture industry a viable component of a healthy and pleasant ecosystem. Thus, incorporation of the natural roles of beneficial microorganisms in maintaining soil fertility and plant productivity is gaining importance and may be an important approach. To identify mycorrhizal occurrence and association among different plants in Rajshahi university campus, mycorrizal association was observed and percentage of root colonization were varied from 10-90%. Symbiotic association of about 85% plants with arbuscular mycorrhizal (AM) fungi plays an essential role in plant growth, plant protection. AMF improve phosphate intake for the plants when phosphate availability is limited; and hence, beneficial to plant growth. The frequency of mycorrhizal infection was significantly correlated with soil pH, moisture, water holding capacity, texture, total nitrogen, organic, calcium, magnesium, potassium etc. This investigation showed that especially phosphorus and nitrogen in the soil greatly influenced the plant root infection by AM. Vesicular arbuscular mycorrhizal spores were extracted from rizhosphere soils using sucrose density gradient centrifugation, wet sieving method. *Codiaeum variegatum* could be considered as the initial natural source of AM and used as the stock plant to provide inoculum of AM for biofertilizer. Inoculation with AMF improves plant growth and productivity, nutrient profile, and thereby crop improvement. AMF could be used as a biofertilizers in the future towards sustainable agriculture in reducing problems associated with the use of chemicals.

Biography

Tanzima Yeasmin completed his PhD, Master's degree and BSc in Biochemistry at Rajshahi University, Bangladesh in 2002, 1991 and 1986 respectively. He has extended his valuable service as a Professor in 2008 and has been a recipient of many award and grants. Currently, he is working as a Professor in Department of Biochemistry and Molecular Biology at University of Rajshahi, Bangladesh. His international experience includes various programs, contributions and participation in different countries for diverse fields of study. His research interests as a Professor reflect in his wide range of publications in various national and international journals.

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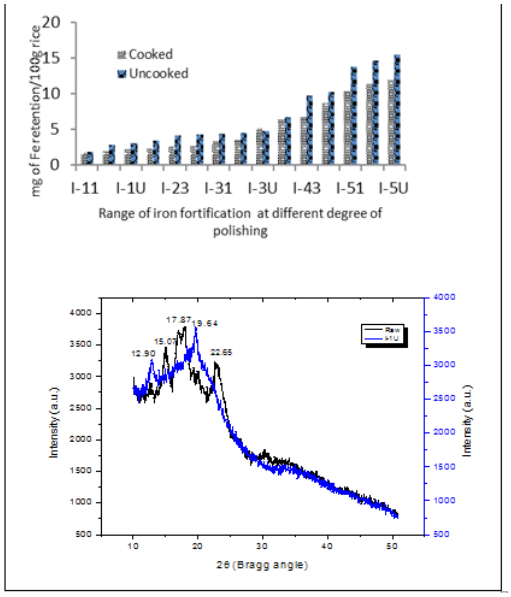
Young Research Forum Day 2

Wahengbam Elizabeth Devi, Agrotechnology 2017, 6:4(Suppl)
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Development and evaluation of iron-fortified ready to eat rice

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A ready to eat hydro-thermally treated iron fortified brown rice was prepared in the laboratory from a low amylose rice variety called 'chokua'. The developed product is prepared by parboiling of brown rice, deviating from the traditional method of producing 'komal chawal' meaning 'soft rice', which is prepared by parboiling of rough rice. For effecting fortification by soaking of brown rice at the first step of parboiling, five levels of iron concentration were used. Fortification by soaking for 90min below the gelatinization temperature was found to be a favorable condition for subsequent steaming process. Dried rice grains were polished for various degrees and were found to render into an edible form after warm water soaking, i.e. cooked state. The iron content of cooked rice was measured by XRF. Iron content in the product was higher when the fortification concentration was high, and was low when the degree of polishing was high. Range of 1.72 to 12mg of iron per 100g of rice as obtained by XRF measurements was within the range considered as acceptable for daily requirement. RVA study reveals that the kernel and flour properties are tremendously altered under pressure steaming conditions. Texture profile analysis reveals that the warm water soaked fortified rice for 15-20min gives the hardness value of nearly similar to that of cooked rice. Wide angle X-ray diffractography (XRD) of raw rice flour shows typical A-type starch diffraction pattern with peaks at 2 values near 15.07°, 17.76°, and 23.01°, whereas iron fortified rice shows peak values at the ranges of 12.90 and 19.64. This process rice has low GI. This processing condition for the development of fortified ready to eat rice will be considered for preparing the product as a ready to eat rice for the vulnerable people as well as the meal for disaster victims.



Biography

Wahengbam Elizabeth Devi has completed her Bachelor of Technology in 2012 and Master of Technology in Food Process Engineering in 2014. In 2014, just after the Master Degree, she has enrolled PhD as a UGC National Fellow in the Department of Food Engineering and Technology, Tezpur University, India. Her research interest includes Waste Utilization, Product Development, Extraction of Compounds, Food Fortification, Product Development, Food Processing, Drying Kinetics and Rehydration Kinetics of Food Products. Currently, she is working in Newton Bhabha Fellow at the School of Biological Sciences, Institute for Global Food Security, Queen's University Belfast, Northern Ireland.

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Jagajjit Sahu, Agrotechnology 2017, 6:4(Suppl)
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JOINT EVENT
10th International Conference on **AGRICULTURE & HORTICULTURE**
&
International Congress on **ORGANIC FARMING**
October 02-04, 2017 London, UK

Cataloguing PubMed reports on barley: A scientometrics analysis

Jagajjit Sahu
Assam Agricultural University, India

Statement of the Problem: There has been an upsurge interest for Scientometrics in the last decade but still an ample amount of literature data is still waiting to be mined. Despite, being one of the most important cereal crops, no similar analysis has been reported using the publication data regarding barley.

Methodology & Theoretical Orientation: The analysis was performed using several R scripts and Bioconductor packages. The package, RISmed was used to search for obtaining the initial data using keywords "Barley" and "Hordeum vulgare" within the Title/Abstract in PubMed which were later restricted based on their publication date between 1st January 2007 to 31st December 2016. The very next step was to screen these PubMed IDs which were cited on the Web of Science (WoS) server and information about the selected articles was downloaded. Using R scripts, the bibliometric analysis was performed followed by co-author and collaboration networks. Conceptual structure was derived with the help of word co-occurrences analysis.

Findings: In this study, the aim was to look into the nature of the reports on Barley published in the last 10 years. As expected, a year wise increasing trend was observed in the number of publications. Among 6106 PubMed reports retrieved, 5375 were selected based on their presence in WoS. These reports were published in 694 journals with *Plos One* containing the highest number of publications which is 222. The Annual Percentage Growth Rate was 90.27382 and the collaboration Index was 2.9. The most productive country was USA with 700 articles and a total citation of 16976. The upshot of the study provides a great insight into the works carried out on barley in the last decade and the research areas that are in limelight especially in the field of crop science.

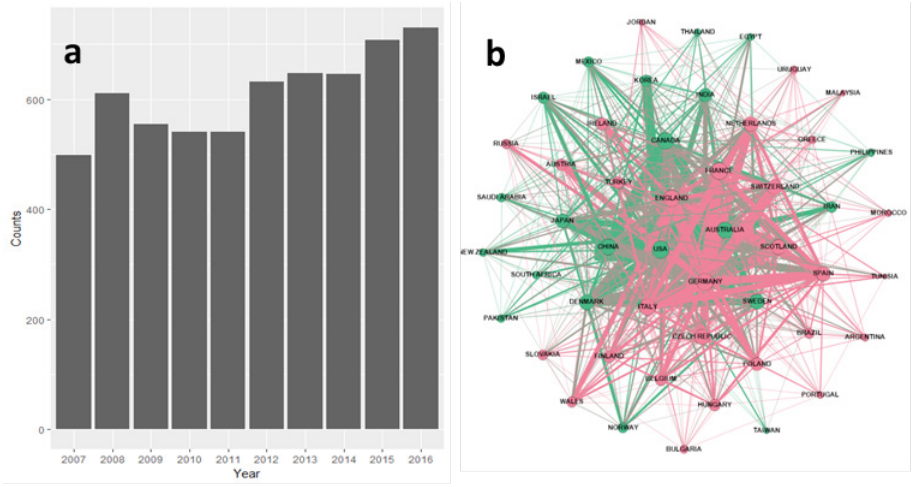


Figure 1: a. Bar plot of year wise number of publications for last 20 years
b. Country collaboration network for best 50 collaboration based upon last 10 years reports

Biography

Jagajjit Sahu is working as a Postdoctoral research fellow at School of Biological Sciences, University of Aberdeen. He has more than eight years of experience in the field of Bioinformatics and Biotechnology. He has an extensive understanding of the cutting-edge technology and approaches. His main area of interests is High-Throughput Data Analysis, Mathematical Modelling for Network Biology, Scientometrics Analysis, etc. He is well-versed in R, Perl and Database development.

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Simunji Simunji et al., Agrotechnology 2017, 6:4(Suppl)
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JOINT EVENT
10th International Conference on **AGRICULTURE & HORTICULTURE**
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Optimizing water and nitrogen use efficiency of maize in conservation farming systems

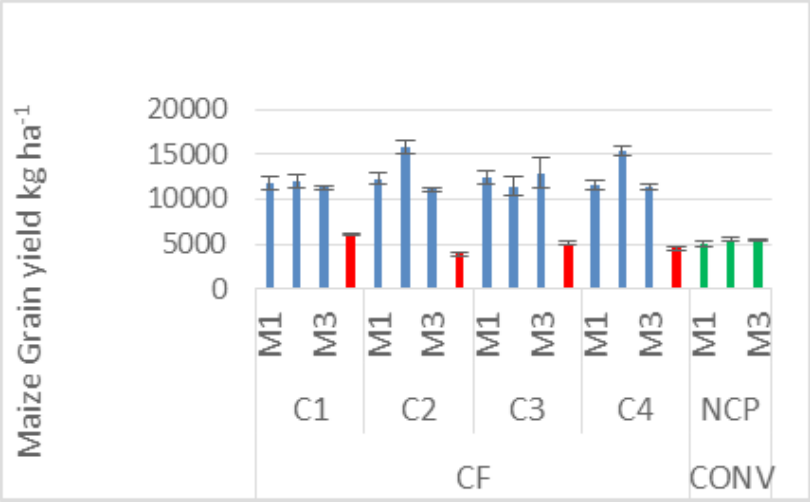
Simunji Simunji, Kalaluka Munyinda, Obed Lungu and **Elijah Phiri**
University of Zambia, Zambia

Statement of the Problem: About 80% of the one million five hundred smallholder farmers in Zambia depend on producing maize (*Zea mays*) which is a major staple food for over 90% of the Zambians. Productivity of the maize crop among the smallholder farmers is quite low giving a national average yield of 2.3 tons per hectare. The major causes of low yields countrywide are attributed to prolonged droughts, low soil fertility, insufficient plant nutrients and poor farming practices. The purpose of this study is to evaluate performance of drought and Low N tolerant maize genotypes in the conservation farming system and identifying maize – cowpea combinations for high maize productivity in the CF system.

Methodology & Theoretical Orientation: The trials were established at two sites of different soil types. Three maize varieties ZMS 606, GV 640 and GV 635 were evaluated for water and nitrogen use efficiency under conservation and conventional farming systems. The experimental design used was split plot in a Randomized Complete Block Design (RCBD).

Findings: Between the two sites, Chisamba produced higher maize grain yield (7960kg ha^{-1}) than Batoka (4453kg ha^{-1}). Maize grain yield in conservation farming system was significantly higher at $P<0.05$ by 30% than in conventional farming system. ZMS 606 and GV 640 were superior over GV 635 during 2015/2016 and 2016/17 growing seasons respectively. Cowpea genotype BB 14-16-2-2 significantly contributed to high yields of maize.

Conclusion & Significance: Conservation farming performed better than conventional farming system on improved maize varieties. Smallholder farmers in Zambia can increase maize productivity through use of conservation farming system and improved maize varieties due high water and nitrogen use efficiency. Recommendations are made for farmers to select improved high water and nitrogen efficient maize varieties to optimize productivity of maize in conservation farming.



Biography

Simunji Simunji is a PhD student at University of Zambia and he is working for Golden Valley Agricultural Research Trust (GART). He has experience in applied research mainly in conservation farming as an Agronomist since 2004. The study was conducted to determine improved methods of optimizing water and nitrogen use efficiency in conservation farming systems to increase yields of maize.

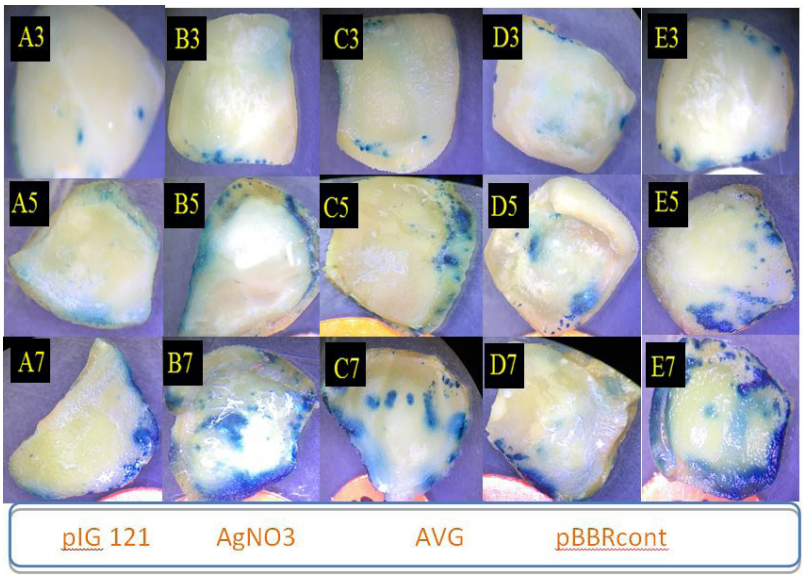
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Malambane Goitseone et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Comparative effects of ethylene inhibitors in agrobacterium mediated transformation of wild watermelon

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[2]University of Tsukuba, Japan

Ethylene (C_2H_4), a phytohormone that is produced in response to both abiotic and biotic stresses, is an important factor in the plant-microbe interaction. It is produced from the freshly cut wounds and has shown to be a major limiting factor in successful Agrobacterium-mediated plant transformation. In this study, experiments were conducted to evaluate the effectiveness of ethylene inhibitors on the genetic transformation in wild watermelon. Two chemical ethylene inhibitors silver nitrate ($AgNO_3$) and aminoethoxyvinylglycine (AVG), and a plasmid pBBRacdS harboring a 1-Aminicyclopropane-carboxylic Acid (ACC) deaminase gene for which cleaves ethylene precursor ACC into α-ketobutyrate and ammonia, were used in the experiment. Evolved ethylene gas from the watermelon explants inoculated with Agrobacterium was quantified using a gas chromatography, and the results shows that explants inoculated with the Agrobacterium harboring pBBRacdS was highly effective in inhibiting ethylene evolution as the amount recorded from 3-7 days after inoculation was lower as compared to the other treatments. The GUS histochemical assay using pIG121-GUSint reporter gene plasmid after 7 days of co-cultivation shows that pBBRacdS was more effective in gene transfer with 46% of the explants been stained blue, followed by AVG (22%) and $AgNO_3$ (13%) treatments in wild watermelon explants. The spectrophotometric GUS enzyme assay results indicates a higher gene transfer in explants harboring plasmid with ACC deaminase gene as shown with a higher rate of nitrophenol production (8.68 nmols min^{-1} g^{-1}) as compared to those with chemical inhibitors AVG and AgNO3 (5.31 and 4.54 nmoles min-1 g-1, respectively). Understanding the effectiveness of different ethylene inhibitors will be beneficial for improving the efficiency of the Agrobacterium-mediated gene transfer in crop plants of interest.



Biography

Malambane Goitseone is a PhD student at Tottori University, Japan. His current research is mainly on drought tolerant genes of a wild watermelon species that grow and strive in the Kalahari Desert under very harsh conditions. Currently, he focuses on the characterization of the genes expressed during the acclimatization of the crop during its exposure to moisture and slight stress.

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Geetanjali Baruah et al., Agrotechnology 2017, 6:4(Suppl)
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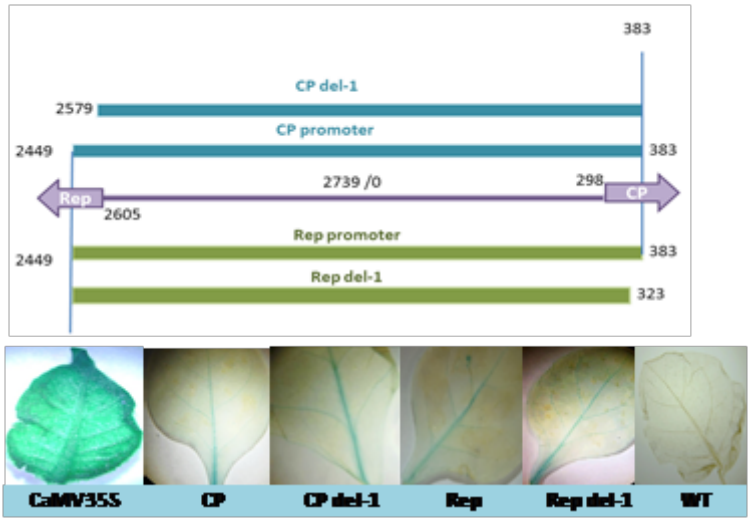
Insight into the promoter of *Indian cassava mosaic virus* (ICMV) by deletion analysis

Geetanjali Baruah, Debashish Panda, Basanta Kr Borah, Priyabrata Sen and **Mahendra Kr Modi**
Assam Agricultural University, India

Statement of the Problem: Although promoters are an essential part of heterologous expression systems there have been a scanty number of reports available for successful isolation of novel promoters especially in the case of tissue specific expression. In addition to that, systems biology approach has not been used widely to delineate regulatory elements of promoters.

Methodology & Theoretical Orientation: In this study, an attempt has been made to characterize a novel bi-directional promoter from the *Indian cassava mosaic virus* (ICMV, family: *Geminiviridae*) by both transient and transgenic assays to satisfy such demands. We have made several sequential deletion constructs of the bidirectional promoter of ICMV, both in the viral-sense orientation (driving the expression of AV1/ coat protein and AV2; the CP-promoter) and in the complementary-sense orientation (driving the expression of Replication associated protein and other 3 ORFs; the Rep-promoter). The deletion-constructs, two for each of these promoters were made in p*BI*121 binary vector driving the expression of the *Gus* gene; care was taken not to delete key motifs such as TATA box (using PlantCARE analysis). Transient as well as transgenic expression was assayed.

Findings: In transient expression assay in Agrobacterium and tobacco, the deleted versions (del-1) of both the promoters showed higher expression than the full-length promoters of CP and Rep. Interestingly, all the promoter constructs showed phloem specific expression. Similar observations were found in transgenic *Nicotiana tabacum* plants, raised using the full-length CP, full-length Rep and their del-1 constructs. Alongside, transcription factor (TF) binding analysis using TRANSFAC for the promoter sequences showed that the TF; CDC5 (a known transcription enhancer) was unique and over-represented in CP del-1 construct showing the highest expression. It is the first report of comparison for the deletion constructs of the viral-sense and complementary-sense cassava mosaic virus promoters and their phloem-limited expressions.



Biography

Geetanjali Baruah is a PhD Scholar in the Department of Agricultural Biotechnology at Assam Agricultural University, India. She has five years of research experience in the field of Promoter Analysis of Geminivirus and Application of Bioinformatics tools.

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Simranbir Kaur et al., Agrotechnology 2017, 6:4(Suppl)
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Impact of hexanal on quality and shelf life of grapes (*Vitis vinifera* L.) cv. Flame Seedless under low temperature storage

Simranbir Kaur, N K Arora, B V C Mahajan and **S K Jawandha**
Punjab Agricultural University, India

The potential of hexanal, GRAS (generally regarded as safe) compound was investigated for maintaining the quality and enhancing shelf life of table grapes (*Vitis vinifera L.*) *cv*. Flame Seedless during 2016 and 2017 respectively. Grape bunches were harvested at commercial mature stage and treated with various concentrations of hexanal 0.010, 0.015 & 0.020% for 5 minutes followed by cold storage (3-4°C, 90-95% RH). Fruit was analyzed for various physico-chemical attributes after 15, 30, 45 and 60 days of storage. Hexanal @ 0.010 % effectively maintained berry firmness and cluster rachis freshness, stabilized anthocyanins and phenolic components and reduced poly methyl esterase activity. Additionally, it also retarded total soluble solids (TSS) and acidity degradation during entire storage period as compared to control. The significant physiological weight loss (PLW) reduction and maximum palatability rating was recorded in bunches treated with hexanal @ 0.010% along with no decay losses. The minimum concentration of hexanal (0.010%) exhibited superior fruit quality attributes. Based on results of this study, it can be concluded that hexanal @ 0.010% to be the most suitable postharvest treatment in maintaining physico-chemical traits i.e. storage quality and improving shelf-life of grapes cv. Flame Seedless for 60 days under cold conditions.

Biography

Simranbir Kaur is pursuing her PhD at Punjab Agricultural University, India. Her interests include "Horticultural sciences, strategic studies in commercial fruit production and post-harvest studies". She has spent approximately five years in research studies on fruit crops in Department of Fruit Sciences. She completed her Master's degree in Fruit Sciences at Punjab Agricultural University, India from 2012-2014.

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Notes:

Funda Yoldaş, Agrotechnology 2017, 6:4(Suppl)
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Investigation of green fruit yield of indeterminate tomato varieties at different locations in open field conditions

Funda Yoldaş
Ege University, Turkey

The study was carried out in Odemis Vocational High School's practice and research field, and Bozdag plateau. Tomato seedlings were planted in 75x40 cm planting distance as 15 plants in each plot. 2 locations, 2 varieties (Delphin F1-Elitra Company, V1; Newton F1-Syngenta Company, V2), two years were used in randomized block design in three repeats. Number of green fruits per plant (pcs), green fruit total yield (kg/da) were studied. In the study, the results of the first year, the green fruit total yield were found to have statistically significant levels. The highest yield with a value of 743, 13 kg (Bozdag) were obtained in first year. In second year, the highest value was obtained from Newton F1 (2768, 37 kg). In Odemis location, highest yield with a value of 2531, 94 kg were obtained in second year. The highest number of green fruits per plant with a value of 4, 60 pcs (Odemis) were obtained in first year. In second year, the highest value was obtained from Newton F1 (13, 04 pcs). In Odemis location, highest value of 13, 23 were obtained in second year.

Biography

Funda Yoldas was born in Izmir, Turkey. She's completed her primary and elementary education at Yavuz Selim primary school in Izmır. And now she's studying and also working at Ege University. Also she takes courses from the Faculty of Agriculture to improve yourself and degree. Her studies are about vegetable production, production planning, and relates to the management of alternative products. She has many studies, which are received promoting achievement and the award in her Country.

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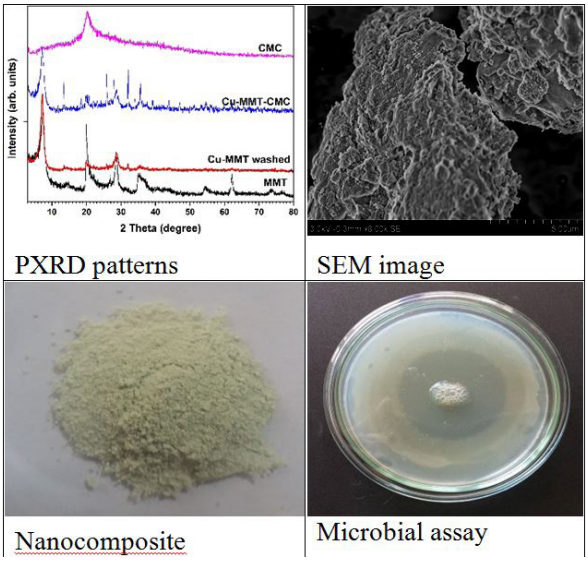
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Ryan Rienzie et al., Agrotechnology 2017, 6:4(Suppl)
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In vitro antimicrobial properties of carboxymethyl cellulose spray coated copper-montmorillonite nanocomposites

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Cu^{2+} is one of the major active ingredients which is widely being used in many agricultural biocides due to its relative effectiveness in terms of reduction of inoculum level and lower production cost. However, Cu is known as a heavy metal that pollutes ecosystems and thereby leading to bioaccumulation. Nanotechnological approaches permit controlled release of active ingredients to retain on the target surface for an extended time and further requires low loading. *Erwinia carotovora* is a soil borne bacterium that causes soft rot in many cash crops including potato. At present in Sri Lanka, the disease is found to be prevailing in the fields in which the cut tubers are being used as planting material, though not encouraged. In this study, Cu-montmorillonite (Cu-MMT) nano composites were prepared and spray coated with carboxymethyl cellulose (CMC) at three levels of viscosity (2.5, 5 & 7.5 g/L) as antimicrobial formulations and then characterized using powder X-ray diffraction (PXRD), scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FTIR). Furthermore, all three nano composites were tested using different weights for their *in-vitro* antibacterial properties. Accordingly, the PXRD patterns showed a basal value of 1.23 nm which has increased compared to the Na-MMT original nano composites used (1.19 nm). SEM images showed that the plate like layered structure is continues to be remaining and FTIR spectra further confirmed the bonding interaction between Cu-MMT and CMC. Nanocomposites coated with CMC with different viscosities were tested using different weights exerted antibacterial activity on *E. carotovora* at a cell concentration of 2x106 colony forming units /mL, and the level of inhibition was increased with the weight used. When Cu^{2+} ions are intercalated into MMT interlayer space, it enhances slow releasing nature of Cu^{2+} while improving the textural properties while the CMC coating further triggers their slow releasing activity. The outcome of the present study is to be further experimented towards applying as seed/tuber treatments where the problem prevails.



Biography

Ryan Rienzie is a young researcher and academician in the field of Plant Pathology and Pesticide Technology. His research focuses on Nanotechnology applications on plant disease control and management.

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Rinku V Patel et al., Agrotechnology 2017, 6:4(Suppl)
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Efficacy of priming treatment on germination, development and enzyme activity of *Allium cepa* L. and *Brassica oleracea* var capitata

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Sardar Patel University, India

The aim of this study was evaluation of the effect of aging germination and activity of antioxidant enzymes in seeds of *Allium cepa* L. and *Brassica oleracea var* capitata with seed priming treatment. In the present paper the different seaweed extract from *Ulva lactuca* L. (G1), *U. reticulata forsskal* (G2), *Padina pavonica* L. (B3), *Sargassum johnstonii* Setchell & Gardner (B4), *Kappaphycus alvarezii* (R5) and *Gracillaria corticata* J. Ag. (R6) was applied as seed priming and performed prior to accelerated ageing treatment with the investigation of activities of catalase (CAT) and peroxidase (POD) during accelerated aging. Our result indicates that to enhance germination characteristics in aged seeds with priming treatment also reveals positive effect of seed priming on the germination percentage, vigour index, seedling length and antioxidant activity of enzyme. The highest germination percentage, vigour index, seedling length and enzyme activity were achieved in given priming treatment with aging (12 day of aging) as compared to control condition (0 day of aging).

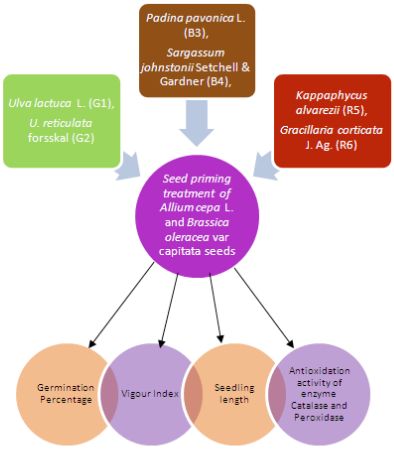


Figure-1: Effect of seaweed extract priming treatment on seeds of *Allium cepa* L. and *Brassica oleracea* var capitata

Biography

Rinku V Patel has her expertise in Evaluation of Seaweed Biofertilizer and its Application for Sustainable Development. She has passion for research activity based on improving the soil health and organic farming. Her research work model is based on production of seaweed liquid fertilizer and its application to evaluate its effect on maximum crop yield with respect to quantitative and qualitative assessment. Organic farming is the way forward to green technology with sustainable development as it is ecofriendly and economical method. She has one year of teaching experience in Agriculture University and two years of research experience in Environmental Science as UGC-JRF.

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Notes:

Maria Luisa Raimondo et al., Agrotechnology 2017, 6:4(Suppl)
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Pathogenicity assessment of different *Plectosphaerella* species on basil, pepper and tomato crops in southern Italy

Maria Luisa Raimondo and **Antonia Carlucci**
Universita' degli Studi di Foggia SAFE, Italy

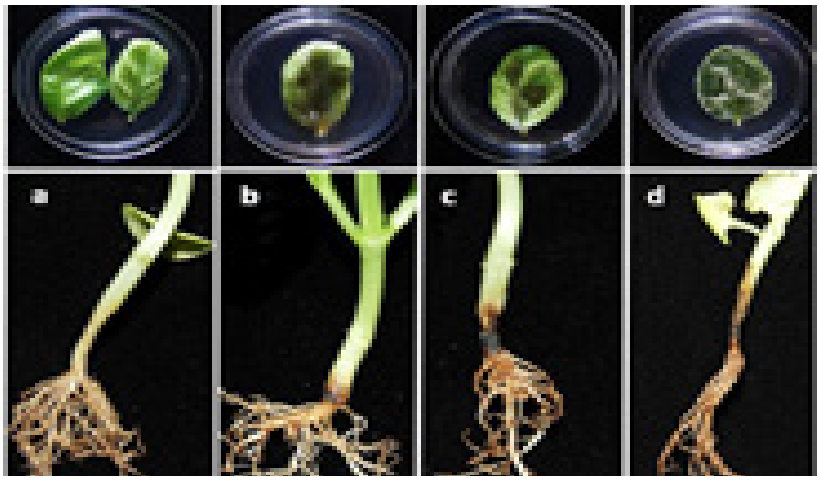
Statement of the Problem: *Plectosphaerella* species have been isolated from different hosts throughout the world such as basil, tomato, sunflower, soybean, cucurbits, pumpkin, endive, rocket, and Lamb lettuce. To date *Plectosphaerella* genus consists of 12 species such as *Pa. alismatis, Pa citrulli, Pa. cucumerina, Pa. delsorboi, Pa. melonis, Pa. oligotrophica, Pa. oratosquillae, Pa. pauciseptata, Pa. plurivora, Pa. populi, Pa. ramiseptata* and *Pa. sinensis*. The most common and known species of *Plectosphaerella* is *Pa. cucumerina*, which has been reported as pathogen and endophyte from different horticultural crops as well as biological agent to control of *Galium spurium*, *Sagittaria trifolia* and nematodes of potato.

Aim: The purpose of this study is to ascertain the role that these fungi play in affected horticultural crops by pathogenicity tests.

Methodology & Theoretical Orientation: Nine *Plectosphaerella* species were artificially inoculated on three different hosts (basil, pepper and tomato) to perform pathogenicity tests in-vitro (detaches lives) and in-vivo (young 30-day old plants) conditions. The pathogenicity tests were carried out in a greenhouse with experimental design consisting of 'two independent batches'. Each host × isolate combination was replicated five times. The disease severities were recorded after 15-35 days after incubation on leaf surface and on roots and collar showing symptoms.

Findings: Pathogenicity tests demonstrated that except for *Pa. oratosquillae*, all *Plectosphaerella* species essayed in this study are able to cause disease symptoms on all hosts used with different disease severity degrees. *Plectosphaerella paucisepatata* and *Pa. plurivora* showed a vascular behavior while the other seven species a parenchymatous behavior. Finally, *Pa. ramiseptata* resulted to be the most pathogenic species on all the three hosts.

Conclusion & Significance: We consider that the Plectosphaerella species investigated in the present study are not endophytic fungi, but pathogenic fungi as they cause necrosis symptoms with different degrees of disease severity.



Biography

Maria Luisa Raimondo is a Plant Pathology PhD and actually have a research fellowship in the Department of Sciences of Agriculture, Food and Environment in Foggia, Italy. Her main expertises are in taxonomic studies of fungi by morphological and molecular tools, as well as by use of Bionformatic softwares. She collaborates in several research projects related to Plant Pathology and described seven novel fungal species by molecular approaches. Dr. Maria Luisa Raimondo has been also interesting to research and study new control means by biostimulants, resistance inducers, fungal antagonists and biocides substances.

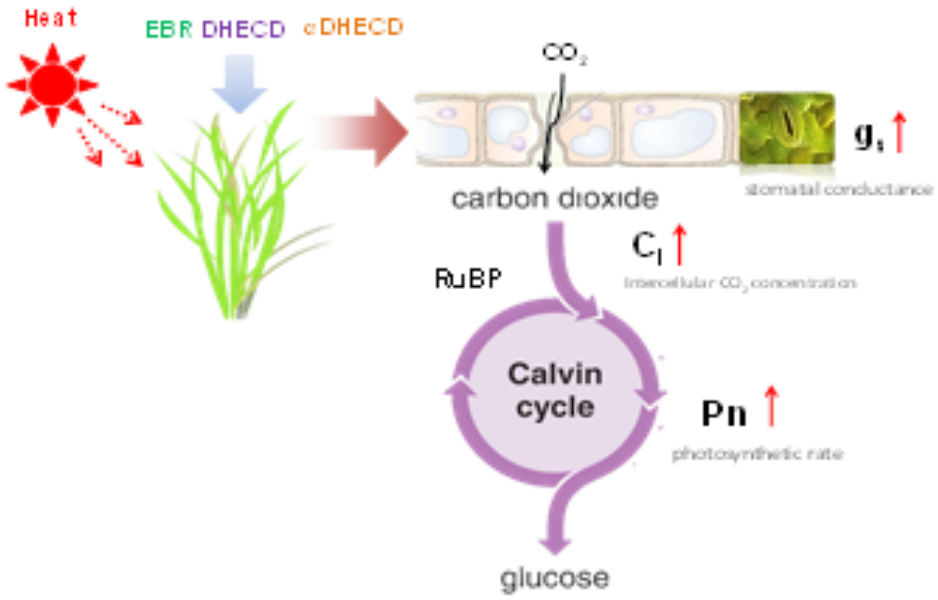
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Weerasin Sonjaroon et al., Agrotechnology 2017, 6:4(Suppl)
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Exposure brassinosteroid and brassinosteroid mimics continually improve photosynthesis in rice subject to heat stress

Weerasin Sonjaroon[1], **Jutiporn Thussagunpanit**[2], **Kanapol Jutamanee**[1], **Ornusa Khamsuk**[1] and **Apichart Suksamrarn**[3]
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The Epibrassinolide (EBR) is a steroids plant growth regulator. The 7,8-dihydro-8α-20-hydroxyecdysone (DHECD) and 7,8-dihydro-5α,8α-20-hydroxyecdysone (αDHECD)-a brassinosteroid mimics which has a chemical structure similar to natural BRs and functions like a BR on the physiological responses of rice under heat stress. In this experiment, we continually applied water, EBR, DHECD and αDHECD on rice leaves every other day for 4 times. Rice was exposed to two differences, the temperature in a greenhouse where the temperature was controlled at 30/26°C day/night (normal temperature) and 40/30°C day/night (high temperature) for 7days. The treatments consisted of: control plants; control plants treated with EBR, DEHCD and αDHECD; heat-stressed control plants; heat-stressed plants treated with EBR, DEHCD and αDHECD foliar application at the reproductive growth stage. EBR, DHECD and αDHECD were effective in increasing the net photosynthetic rate, stomatal conductance, Intercellular CO_2 concentration and transpiration rate at normal temperature. Under heat stress, EBR, DHECD and αDHECD steadily enhanced the net photosynthetic rate, stomatal conductance, Intercellular CO_2 concentration and transpiration rate. The results indicated that the foliar application of EBR, DHECD and αDHECD continually during reproductive growth could enhance heat tolerance in rice by increasing photosynthetic performance under high temperature stress.



Biography

Weerasin Sonjaroon is pursuing his PhD program in Department of Botany at Kasetsart Univeristy. He is interested in Plant Hormone and Plant Physiology. Recently, global warming predictions suggest an increase in the temperature by 0.3°C to 0.7°C from 2016 to 2035 (IPCC, 2013). High temperature affects normal plant growth and productivity (Havaux 1993). Brassinosteroids (BRs) can act as a plant growth regulator. BRs has been applied to increase the crop yield as well as to mitigate the effects of biotic and abiotic stresses in plant (Yu et al., 2004). Currently, there are efforts to utilize EBR substances in agriculture. Nevertheless, the extraction of natural BRs from explants has been generally low, and too expensive for large-scale applications (Grove et al. 1979: Serna et al. 2012). Therefore, I offer brassinosteroid mimics which can increase photosynthesis in rice under heat stress similar to natural BRs.

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Zaheer Ahmad Nazar et al., Agrotechnology 2017, 6:4(Suppl)
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Characterization of novel QTLs associated with sugarcane smut resistance and yield traits

Zaheer Ahmad Nazar[1], **Idrees Ahmad Nasir**[1] and **Hafiz Muhammad Walayat Ali Khan**[2]
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Sugarcane yield depends upon various agro-morphological traits, *viz*., stalk number, cane height, cane girth, sugar recovery and smut resistance. Detection of Quantitative Traits Loci (QTLs) linked with these traits could greatly help in marker-assisted selection of sugarcane lines in various breeding programs. Structure and TASSEL software based integration of genotypic and phenotypic data of 103 sugarcane genotypes resulted in in the identification of eighty-seven (87) highly associated alleles ($p \leq 0.05$), 34 with whip smut resistance; 27 with sugar recovery; 13 with cane weight and 20 with each of cane height and girth. The phenotypic variance (R^2-values) explained by the linked alleles ranged 2.81-23.46% for cane height, 1.75-12.8% for cane girth, 2.9-14.34% of cane weight, 2.67-22.5% for sugar recovery and 3.1-24.6% for whip smut. The varying proportions of phenotypic variance explained by the associated alleles indicate that these traits may be controlled by the additive effect of multiple genes. These are in fact the genuine quantitative traits. Moreover, the alleles showing maximum degree of association for cane height (52-121), cane girth (82-184), sugar recovery (51-131), cane weight and smut resistance (51-145 & 51-146) could best be selected for marker assisted selection of sugarcane lines for these traits.

Biography

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Notes:







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Session Chair
Bangavadi Muniswamy Anandakumar
University of Agricultural and Horticultural Sciences, India

Session Co-chair
Parashuram Chandravanshi
University of Agricultural and Horticultural Sciences, India

Session Introduction

Title: **Soil fertility status of major nutrients, micronutrients and mapping in Nicchapura-2 micro watershed of Davanagere district, Karnataka**

Parashuram Chandravanshi, University of Agricultural and Horticultural Sciences, India

Title: **Site specific major nutrient variation maps through GIS and recommendations for coconut gardens of farmers in different agro climatic situations**

Malligenahalli Dinesh Kumar, University of Agricultural and Horticultural Sciences, India

Title: **Efferent of soil microbiological properties, yield attributes and yield of Rainfed maize (*Zea mays* L.) influenced by different organic methods application**

Tojyanaik Basavaraj Naik, University of Agricultural and Horticultural Sciences, Shivamogga, India

Title: **Evaluation of pre and post emergent herbicides for control of weeds in Castor (*Ricinus communis* L.) under rain fed conditions of central dry zone of Karnataka, India**

Alurahatty Hanumanthanaik Kumar Naik, University of Agricultural and Horticultural Sciences, India

Title: **Shelf-life studies on b-carotene and total carotenoids in maize**

Sapna, ICAR-Indian Institute of Maize Research, India

Title: **Long term effect of integrated nutrient management on growth, yield, uptake of nutrients and economics of groundnut**

Parashuram Chandravanshi, University of Agricultural and Horticultural Sciences, India

Title: **Effect of soil and water conservation techniques along with integrated nutrients on cashew nut yield in coastal zone of Karnataka**

Bangavadi Muniswamy Anandakumar, University of Agricultural and Horticultural Sciences, India

Title: **Effect of different organic nutrient management practices on growth and yield of pigeon pea (*Cajanus cajan* L. *Millsp.*)**

Shivanand Pradeep, University of Agricultural and Horticultural Sciences, India

Title: **Anti-diabetic and antioxidant activity study of maize silk (*Maydis stigma*)**

Sapna, ICAR-Indian Institute of Maize Research, India

Parashuram Chandravanshi et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Soil fertility status of major nutrients, micronutrients and mapping in Nicchapura-2 micro watershed of Davanagere district, Karnataka

Parashuram Chandravanshi, Krishna N and **Ashok L B**
University of Agricultural and Horticultural Sciences, India

The investigation was conducted to study the soil fertility status of available macro and micronutrient in Nicchapura-2 micro watershed of Davanagere district. 103 soil samples were collected grid-wise by using cadastral map of study area and were analyzed for their fertility. The value of pH, electrical conductivity, and organic carbon was ranged from 6.2 to 8.7, 0.11 to 0.84 dS m^{-1} and 3.1 to 5.6 g kg^{-1} respectively. The available N, P_2O_5, K_2O, was ranged from 135 to 236 kg ha^{-1}, 10 to 34 kg ha^{-1},130 to 415 kg ha^{-1}, 8.1 to 38.1 cmol (p^+) kg^{-1}, 6.3 to 26.2 cmol (p^+) kg^{-1} and 6.3 to 12.1 ppm respectively. Available micronutrients iron, manganese, zincs and copper was ranged from 0.58 to 5.92 mg kg^{-1}, 0.60 to 10.83 mg kg^{-1}, 0.01 to 0.41 mg kg^{-1}, 0.06 to 4.81 mg kg^{-1} respectively. Available micronutrients such as zinc and iron are deficient but copper and manganese were sufficient in these soils of micro-watershed. The study concluded that available nutrients content are low to medium in red soils. The black soils show high phosphorus than red soils. These variations of phosphorus in soils may be due to variation in soil properties like clay content, CEC and P fixation capacity. The exchangeable Ca and Mg content were sufficient surface samples. Low in available sulphur content may be because of acidic reaction, low EC and OC values in both black and red soils. Available micronutrients such as zinc and iron are deficient but copper and manganese were sufficient in these soils of micro-watershed.

Biography

Parashuram Chandravasnshi has expertise in Soil Nutrient Management, and having experience in teaching, research and extension methodology adopted for soil sampling and developed soil information system for nutrient and cropping pattern. In 11 years of experience, he has published more than 25 research papers and attended 15 international and national conferences especially on soil fertility and sustainability.

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Malligenahalli Dinesh Kumar et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Site specific major nutrient variation maps through GIS and recommendations for coconut gardens of farmers in different agro climatic situations

Malligenahalli Dinesh Kumar, Binny Gopal and **Dhananjaya B C**
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Karnataka state stands third in India for coconut accounting 13.83 per cent of the country's production. At present, there is uniform recommendation of major nutrients (170:120:400 and 330:200:800 g NPK for young and old palm) across soils of various agro-climatic zones. Farmers are practicing blind application of fertilizers based on many other considerations than plants requirement leading to mismatch of fertilizers, loss of resource management also higher incidence of pests and diseases. A study was undertaken to assess the nutrient variability in the farmer's field to derive site specific recommendations for readdressing the major nutrient recommendations for improving the garden fertility status for sustainable yields. Spatial distribution of nitrogen, phosphorus and potassium were studied from 99 coconut farmers covering 195 acres of 20-25 years old representing different irrigation situations. The standard technique of grid method with a spacing of 50x50 m was employed to drawn soil samples from the selected study area in 0-30 and 30-60 cm depth with geographical identity by GPS. The standard lab techniques are used to find major nutrients in samples and mapped on GIS environment. Across all locations nitrogen status remained low, phosphorus shared medium to high status in equal proportion and top soil depth of 0-30 cm remained high status with 68 percent for potassium. Based on these site specific variations, rescheduling of major nutrients emphasized slightly higher application of nitrogen, less application of potassium with almost no perceptible change in application of phosphorus. Re-allocation of major nutrients based on site specificity in different study area encourages sustainability production.

Biography

Malligenahalli Dinesh Kumar is working as a Professor and Head in Department of Agronomy. He has been serving for the university for the past 30 years. He got vast experience in research and teaching along with extension work. He has expertise in nutrient management aspects and guided more than 10 students. Presently, he is working in precision aspects of inputs for crop management. He has published 100+ papers in national, international journals and also participated in national and international symposiums.

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Tojyanaik Basavaraj Naik et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Efferent of soil microbiological properties, yield attributes and yield of Rainfed maize (*Zea mays* L.) influenced by different organic methods application

Tojyanaik Basavaraj Naik, Sureshnaik and **Pradeep S**
University of Agricultural and Horticulture Sciences, India

A field experiment was conducted during kharif 2010 under rainfed condition on red sandy loam soil to study the effect of farmyard manure and bio-digester liquid manure on soil microbial activity and yield of rain fed maize (*Zea mays* L.) at Agricultural Research Station, University of Agricultural Sciences (Bangalore), Bhavikere, Tarikere taluk. The experiment was laid out in randomize complete block design (RCBD) with three replications. There were totally 13 treatments in combination compassion of different levels farmyard manure (7.5, 10 and 12.5 t ha^{-1}) and bio-digester liquid manure equivalent (75, 100, 125 and 150 kg N ha^{-1}) compared with control (FYM 7.5 t ha^{-1} + RDF: 100:50:25 kg NPK ha^{-1}). Application of 12.5 t ha^{-1} FYM + bio-digester liquid manure equivalent at 150 kg N ha^{-1} recorded significantly higher microbial population in soil after the crop harvest (50.5×106 CFU g^{-1}, 26.0×104 CFU g^{-1}, 23.8×103 CFU g^{-1} of total bacteria, fungi and actinomycetes, respectively), grain weight per cob (105.2 g), number of seeds per cob (421.0), number of rows per cob (15.1 g), cob girth (15.6 cm) and cob length (17.0 cm), grain yield (56.2 q ha^{-1}) and straw yield (108.9 q ha^{-1}) compared with remaining treatments and recorded lower microbial population with application of FYM at 7.5 t ha^{-1} + bio-digester liquid manure equivalent to 75 kg N ha^{-1} (32.3×106 CFU g^{-1}, 13.8×104 CFU g^{-1}, 9.5×103 CFU g^{-1}, of total bacteria, fungi and actinomycetes, respectively), attributes grain weight per cob (87.8 g), number of seeds per cob (390.3), number of rows per cob (9.8 g), cob length (9.2 cm), grain yield (42.2 q ha^{-1}) and straw yield (85.4 q ha^{-1}).

Biography

Tojyanaik Basavaraj Naik is working as Associate Professor of Agronomy at University of Agricultural and Horticultural Sciences, Shivamogga. He has been working as Senior Farm Superintendent at Bhavikere Research Station, involved in seed production, teaching and guiding PG students in various field of crop production under University of Agricultural and Horticultural Sciences, Shivamogga. He has conducted nearly about 15 research experiments on crop production of different fertilizer levels and health management, nutrient studies, and soil and tillage conservation methods. During four years of extension services, many technologies has been transformed through field demonstrations, on farm technology and on farm testing research trails in the farmers' field and research stations. He has also worked as station superintendent for the period of nine years for identifying tools for effective farm management tools. During eleven years of his services, he has attended national and international conferences and published 20 research papers, 10 research abstracts, eight research notes and five technical bulletins and one book chapters in national and international journals.

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Evaluation of pre and post emergent herbicides for control of weeds in Castor (*Ricinus communis* L.) under rain fed conditions of central dry zone of Karnataka, India

Alurahatty Hanumanthanaik Kumar Naik, Parashuram Chandravanshi and **Pradeep S**
University of Agricultural and Horticultural Sciences, India

Acquiring knowledge on weed control in castor crop is still limited, and new research into this area is necessary. A field experiment was conducted during 2012, 2013 and 2014 to find out most suitable and cost effective weed management practice for rain fed castor on the medium black soils of Central Dry Zone of Karnataka. The experiment consist of ten treatments involving two pre-emergence herbicides (trifluralin and pendimethalin) alone and in combination with hand weeding/inter-cultivation, inter-cropping of castor+groundnut (1:3 ratio), three weeding (20, 40 and 60 DAS), farmers' practice (one weeding at 20 DAS fb two inter-cultures at 45 and 60 DAS), two post emergence herbicides (Quizalofop ethyl and fenoxaprop-p- ethyl, both at 50 g/ha at 25 DAS) and weedy check. The pooled results of three seasons revealed that pre-emergence application of pendimethalin at 1.0 kg/ha fb one inter-cultivation at 40 DAS resulted in better weed control efficiency and seed yield (1612 kg/ha) and B:C ratio (4.3) comparable to farmers' practice (1332 kg/ha) and three weeding (1995 kg/ha). Herbicides controlled grasses gave moderate yield comparable to farmers' fields. Weedy check reduced the yield by 76% due to severe competition offered by grasses and broad leaf weeds. The large scale demonstration on five farmers' fields in Chitradurga district also revealed that pendimethalin at 1.0 kg/ha fb one inter-cultivation at 40 DAS (1477 kg/ha and 3.90) gave seed yield and B:C ratio comparable to farmers' practice of weed control (1493 kg/ha and 3.70).

Biography

Alurahatty Hanumanthanaik Kumar Naik is serving as an Agronomist with a research experience of five years in the area of Castor and Groundnut. He is currently working on ICAR-All India Coordinated Research Project at Hiriyur University of Agricultural and Horticultural Sciences, Shivamogga (India). He has expertise in castor and groundnut and noted for his contributions in the field of castor and released five technologies in castor and published more than 30 research papers in the research journals.

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Notes:

Sapna et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Shelf-life studies on b-carotene and total carotenoids in maize

Sapna and **Dharam Paul Chaudhary**
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The present investigations were done to standardize the storage techniques for total carotenoids and B-carotene in maizes as carotenoids are subject to destruction on storage. Thirteen public and private hybrids as well as composites taken for the study were stored using different storage techniques. Total catoenoids were estimated using standard procedure whereas b-carotene which is a precursor for vitamin-A was standardized by using Ultra-Performance Liquid Chromatography on an interval of 2 months and its degradation was modelled during storage. The results showed that lyophilized seed showed minimum destruction of carotenoids and highest nutritive value and metal bin was the next strategic option to be followed to check the carotenoids destruction. In contrast, mud bin was having highest level of destruction. Carotenoids content and hence vitamin-A activity decreased markedly with time. Rate of degradation of b-carotene was less in lyophilized seeds as compared to other storage techniques. The average shelf-life at room temperature was approximately six months for total carotenoids while much less for b-carotene.

Biography

Sapna has completed Msc. Biochemistry from Chaudhary Charan Singh Haryana Agricultural University, hisar. She is doing in service Phd from Jamia Hamdard University, Delhi. She is working as a scientist, Biochemistry at ICAR-Indian Institute of Maize Research, Ludhiana, India, a premier institute for agriculture in the Ministry of Agriculture. She has published more than 10 papers in reputed journals and has been serving as an editorial board member of reputed journals. She has a wide experience of working in nutritional quality of maize with specialization in carotenoids.

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Parashuram Chandravanshi et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Long term effect of integrated nutrient management on growth, yield, uptake of nutrients and economics of groundnut

Parashuram Chandravanshi, Hugar A Y, Chandrappa H Sathish A and **B M Anandakumar**
Zonal Agricultural and Horticultural Research Station, India

A field experiment was conducted at Main Centre for Integrated Farming System Research located at Agricultural and Horticultural Research Station, Kathalagere, Davanagere (Karnataka), India comes under the Southern Transitional Zone of Karnataka (Zone-7) during summer 2007 to 20012 under protective irrigation condition of Bhadra Command area to study the effect of integrated nutrient management on growth, yield, uptake of nutrients and economics of groundnut production. The results revealed that application of 100% NPK+secondary and micro-nutrients based on soil test (10 kg $ZnSO_4$ ha^{-1}) has recorded higher dry pod yield (1953 kg ha^{-1}), kernel yield (1555 kg ha^{-1}), haulm yield (3617 kg ha^{-1}), harvest index (0.57), net returns (Rs. 71717) and benefit cost ratio (2.34) as compared to all other organic farming practices. This might be due to higher growth and yield attributes such as plant height (57.86 cm), number of branches plant-1 (7.20), pods plant-1 (30.12), dry pod weight (29.32 g $plant^{-1}$), 100 pod weight (28.50 g) and shelling percentage (79.64). Thus, the treatment receiving 100% NPK+secondary and micro-nutrients based on soil test (10 kg $ZnSO_4$ ha^{-1}) is better for realizing higher growth, yield attributes, yield and net returns as compared to all other organic farming packages.

Biography

Parashuram Chandravasnhi completed his PhD in Soil Science and Agricultural Chemistry at University of Agricultural Sciences, Bangalore. He became Assistant Professor in 2007 and completed 11 years in teaching, research and extension. Presently, he is working as Senior Farm Superintendent at ZAHRS, Hiriyur under University of Agricultural and Horticultural Sciences, Shivamogga. He worked as Junior Soil Scientist under All India Co-ordinated Research Project (ICAR) for a period of four years and conducted nearly about 35 research experiments on soil health management, nutrient studies, and soil and tillage conservation methods. During four years of extension services many technology has been transformed through field demonstrations, on farm technology and on farm testing research trails in the farmers' field and research stations. He has also worked as station superintendent for the period of three years for identifying tools for effective farm management tools. During 11 years of his services, he has attended national and international conferences and published 15 research papers, 15 research abstracts, 10 research notes and 15 technical bulletins and 2 book chapters in national and international journal.

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Anandakumar B M et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Effect of soil and water conservation techniques along with integrated nutrients on cashew nut yield in coastal zone of Karnataka

Bangavadi Muniswamy Anandakumar, Parashuram Chandravsnhi, E T Puttaiha and **Guru Prasad**
Agricultural and Horticultural Research Station, India

Cashew is a cash crop having good export potentiality in gaining foreign exchange. The soil and water conservation measures were lack in coastal zone of Karnataka. In view of this, the present study was conducted in Ariyapu village, which is situated in coastal zone of Karnataka (zone-10) with operational area of putter Taluk, Dakshina Kannada District. The experiment was laid out in plot design with three replication having 108 plants in interaction between soil and water conservation measures and integrated nutrient levels were responded in normal planting. The experimental plants were seven years old with space of 8x6 m. the trench across the slope on four side conservation recorded highest cashew nut (10.79q/ha and 11.48q/ha during 2009 and 2010 respectively) yield in combination of organic and inorganic fertilizer levels. Similarly moisture content was also improved in the conservation method of trench across the slope on four side conservations.

Biography

Anandakumar B M completed his PhD in Water Management and Soil Conservation from Kuvempu University, Karnataka. He joined as Assistant Professor in extension education unit of the university and presently working as Principal of Diploma (Agri) at College of Kathalagere and involved in research, teaching and extension activities of the programmes. During the period of his services, he attended national and international conferences and published 10 research papers, nine research abstracts, 10 research notes and 15 technical bulletins and two book chapters in national and international journal.

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Shivanand Pradeep et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-027

Effect of different organic nutrient management practices on growth and yield of pigeon pea (*Cajanus cajan* L. *Millsp*.)

Shivanand Pradeep, Ullasa M Y and **Kumar Naik A H**
Organic Farming Research Station, India

A field experiment was conducted during Kharif season of 2016 to study the effect of organic nutrient management practices on growth and yield of pigeon pea (*Cajanus cajan* (L.) *Millsp*.) in sandy loam soils of Zonal Agricultural and Horticultural Research Station, Navile Shivamogga, Karnataka. Among the different nutrient management treatments, application of recommended dose of FYM along with 100% N equivalent vermicompost has recorded significantly higher grain yield (10.89 q/ha) as compared to rest of the treatments. Similarly higher pods per plant (223.3 pods/plant) test weight (11.3 g/100 seeds) yield per plant (84 g/plant) also recorded with the same treatment and it was closely followed by application of recommended dose of FYM along with application of 100% N equivalent FYM. Maximum soil microbial population at different growth stages were also observed in the treatment which received recommended dose of FYM along with 100% N equivalent vermicompost.

Biography

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Anti-diabetic and antioxidant activity study of maize silk (*Maydis stigma*)

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Maize is the third most important cereal crop of the world. Maize silk (*Zea mays* L.) refers to the stigmas from the female flower of the maizeand present in abundance after maize harvest. It contains carbohydrates, proteins, Ca, K, Mg, vitamins fixed and volatile oils, steroids such as sitosterol and stigmasterol, saponins, alkaloids, tannins, and flavonoids. Methanolic extract of corn silk has very high antioxidant activity. The male wistar rats were orally administered with corn silk extract and their blood glucose was significantly decreased in streptozotocin-induced hyperglycemic mice in Type-II diabetes, whereas the level of insulin secretion was increased markedly in streptozotocin-induced hyperglycemic. The streptozotocin -damaged pancreatic β-cells were partly recovered gradually after the rats were administered with maize silk extract. However, maize silk extract increased the level of hepatic glycogen in the streptozotocin-induced hyperglycemic rats; there was no significant difference in the control group. The study suggests that maize silk extract can be a potential hypoglycemic or antidiabetic agent in terms of this modern pharmacological industry and can acts as a connection between agriculture and medicine.

Biography

Sapna has completed Msc. Biochemistry from Chaudhary Charan Singh Haryana Agricultural University, hisar. She is doing in service Phd from Jamia Hamdard University, Delhi. She is working as a scientist, Biochemistry at ICAR-Indian Institute of Maize Research, Ludhiana, India, a premier institute for agriculture in the Ministry of Agriculture. She has published more than 10 papers in reputed journals and has been serving as an editorial board member of reputed journals. She has a wide experience of working in nutritional quality of maize with specialization in carotenoids.

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Kei Hanzawa, Agrotechnology 2017, 6:4(Suppl)
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Identification and diversity analysis of the four-major host-defense peptide families in quail

Kei Hanzawa
Tokyo University of Agriculture, Japan

Statement of the Problem: Quails are bred for their meat and eggs in East Asia, and are widely used as experimental model animals at research institutes around the world. We are currently focusing on subclinical infection in quail with infectious diseases, such as influenza. Utilization of innate immunity has the potential to reduce the use of antibiotics and to control the emergence of drug-resistant bacteria. We identified the gene families of four quail host-defense peptides (HDPs): NK-lysin, liver expressed antimicrobial peptide 2 (LEAP-2), cathelicidin (CATH) and β-defensin (AvBD), and investigated their genetic diversity.

Materials & Methods: Genome information was obtained from DNA derived from blood samples collected from 99 quails in 6 lines. Nucleotide sequences were determined by capillary sequencing and next-generation sequencing. The obtained base sequence was analyzed by Genetyx Mac and CLC Genomics Workbench software packages.

Findings: Quail NK-lysin consisted of a single locus, suggesting that amino acid substitution in the antibacterial active region is closely related to antibacterial activity. LEAP-2 also consisted of a single locus, no polymorphisms were observed in the amino acid sequence, and the amino acid sequence of mature peptides was consistent with that found in chicken. CATHs consisted of four loci homologous to those found in chicken, with amino acid substitutions in two loci. AvBDs were basically composed of 12 loci, 1 to 5 copy number variation (CNV) associated with gene duplication was observed at one locus with numerous amino acid substitutions.

Conclusion & Significance: The gene structure of major quail HDPs and their DNA *polymorphisms* were clarified. Future studies will examine the effects of DNA polymorphisms in HDPs on antibacterial activity *in vitro*, and clarify the relationship between HDPs, innate immunity receptors (Toll like receptor: TLR) and enterobacterial flora

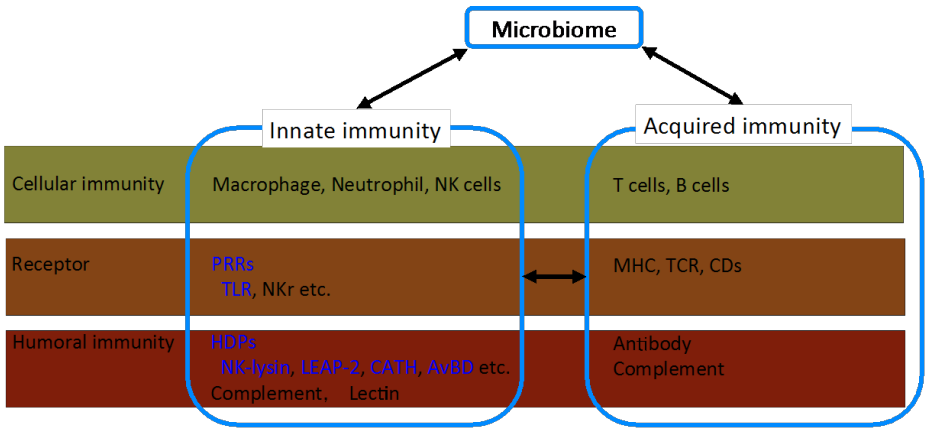


Figure 1: Overview of interaction between innate immunity (host defense peptide: HDPs and pattern recognition receptors: PRRs) and acquired immunity, and microbiome

Biography

Kei Hanzawa is a Professor in Department of Animal science, Faculty of Agriculture, Tokyo University of Agriculture. He researches animal physiological genetics: particularly identification and diversity analysis of quail major histocompatibility complex gene region and host defense peptides genes, gene identification and analysis of heat shock response of quail heat shock protein 70s and 90s, and equine membrane transporters and exercise physiology of erythrocytes. He is the Vice President of the Japan Society of Animal Science and the Auditor of the Japanese Society of Poultry Science.

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Ju Young Lee et al., Agrotechnology 2017, 6:4(Suppl)
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Effect of accumulated temperature on the growth and development of tomato fruits in flowering clusters

Ju Young Lee, Hyung Seok Kim and **Un Seok Lee**
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Tomato fruits ripened 57 in the first, 71 in the second, 78 in the third, 57 in the fourth, 58 in the fifth, 58 in the sixth, 48 in the seventh, 51 in the eighth, and 51d in the ninth flower cluster after fruit set when plants were grown under environmental conditions at whole growing season. The different responses to accumulated temperature were observed when the accumulated temperatures gave to the individual clusters while the plants were grown in the greenhouse. These data were used to develop an individual clustering thermal model for fruit maturation. In previous model, the overall clustering thermal model was a poor predictor of the time of ripening. However, this thermal model was made by individual cluster. The seed of tomato (*Lycopersicon esculentum* Mill 'Tabor') were sown in to seed trays containing a peat based seed and were germinated in the place of raising seeding in a minimum 24^0c. Then, plants were moved to greenhouse (Chun-An City, South Korea) in which experimental treatment were applied. In the field experiment, 100 plants of tomato were selected during total growth period (1^{st}-9^{th} flower cluster). Every week, the height and diameter of tomato were measured at individual cluster after fruit set. The volume of tomato was estimated according to the relationship between theoretical volume and actual volume. For this relationship, the height and diameter of 2000 fruits were measured and the relationship was a "y=1.1122x+12.545 (r^2=0.9534)". Here, the relationships between accumulated temperature and fruit volume were obtained based on average fruit volume in individual cluster.





Biography

Ju Young Lee has a strong background in Ecological Engineering field based on Statistical and Mathematical Modeling about plant growth and yield model. He has served in main positions for Smart Farm Projects with governmental funds.

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Karina Balestrasse et al., Agrotechnology 2017, 6:4(Suppl)
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Non-thermal plasma: new technology for pathogen control and improvement on the quality of soybean seeds

Karina Balestrasse[1], Cecilia Pérez Pizá[1], Leandro Prevosto[2], Carla Zilli[1,4], Guillermo Noriega[3] and **Hector Kelly[2]**
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Statement of the Problem: Soybean (*Glycine max* L.) is one of the most important crops worldwide. *Diaporthe/Phomopsis* complex is one of the causal agents of soybean stem canker and pod and stem blight. It is well known that agrochemicals remain in the harvested products as in the fields and they disrupt the natural state of the microbiological flora leading to the formation of resistant strains. Considering the fact that storage provokes a deterioration of the biological quality of the seeds, the reduction of fungal contamination is of great interest.

Methodology & Theoretical Orientation: Non-thermal plasma is a fast, economic and pollution-free method. It is based on non-ionizing low-level radiation, which can activate the vitality of seeds but without causing gene mutations. Soybean seeds were exposed to a multi filamentous dielectric barrier (Pertinax – Mylar (P-M) and Thernophase (T)). Different gases (O_2 and N_2) were used to transport the active agents of the plasma. In this work, we focus on the ability of the plasma to control *Diaporthe/Phomopsis* in soybean seed.

Findings: The results showed a decreased in the presence of the pathogen and an increase of the germination percentage and vigour test on the seeds with plasma treatment (P-M: O_2 2 min and N_2 3 min and T: O_2 3min and N_2 3min) respect to the pathogen control. We evaluated different oxidative enzymes as well as lipid peroxidation in seeds. These results demonstrated an activation of the antioxidant defenses in soybean seeds reversing the oxidative damage caused by the fungi. Changes in the lipid composition of the seed membranes were evaluated.

Conclusion & Significance: Plasma treatments were efficient in controlling *Diaporthe/Phomopsis* infection in soybean seeds. Therefore, this innovative technology would allow a reduction of environmental contamination by agrochemicals in soil and water.

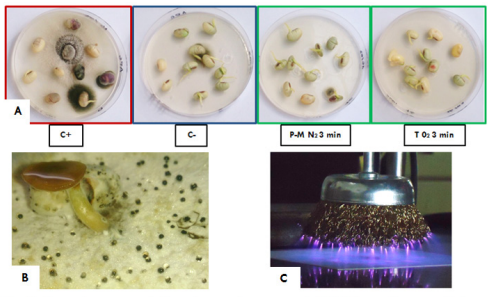


Fig. A: C+: pathogen control; C-: without pathogen control; PM-N_2 3 min: Pertinax – Mylar barrier; T O_2 3 min: Thernophase barrier. **Fig. B:** soybean seed with fungal infection (Diaporthe/Phomopsis complex). **Fig. C:** plasma photo.

Biography

Karina Balestrasse has graduated in Biochemical at Buenos Aires University, Argentina. She finished her Doctoral thesis in Vegetal Biological Chemistry in 2003. She is a Professor of Buenos Aires University and Independent Investigator of The National Scientific and Technical Research Council (CONICET). She works in Agronomy Faculty of Buenos Aires University and Institute for Research in Agricultural and Environmental Biosciences (INBA) Argentina. Her expertise is oxidative stress and metabolism vegetal. Her current research program focuses on the use cold plasma to pathogen control in seed. She leads an interdisciplinary group of Engineers, Biotechnology Physicists and Biochemists. In the last year, she received two awards for her innovative work. She carries out research in collaboration with the CSIC of Granada through the program I-Links 2015. She has published more than 40 research papers in national & international journals. She currently directs Doctoral Thesis and grants.

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Bong Choon Lee et al., Agrotechnology 2017, 6:4(Suppl)
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One-step multiplex reverse transcription-polymerase chain reaction for the simultaneous detection for barley virus diseases

Bong Choon Lee, Ju Young Bae, Sang Min Kim, Ji-Eun Ra, Nak Jung Choi, Man Young Choi and **Ki Do Park**
National Institute of Crop Science, RDA, South Korea

Virus disease surveys on barley cultivation areas were conducted during 2014-2015 in Korea. In this result, we detected *Barley yellow mosaic virus* (BaYMV), *Barley mild mosaic virus* (BaMMV) and *Barley yellow dwarf virus* (BYDV) by RT-PCR from barley leaves. These viruses are of great economic importance for wheat and barley, causing significant quantitative and qualitative losses in yield. In this study, a multiplex reverse transcription polymerase chain reaction (mRT-PCR) method was developed for the simultaneous detection of these three viruses. Virus-infected barley leaves were collected from naturally infected barley in several provinces of Korea. Primers were designed from conserved regions of the capsid protein (CP) gene of viruses and the GenBank accession numbers for the CP coding genes are as follows: D01091(BaYMV), L49381(BaMMV), and NC021481(BYDV). Three sets of specific primers targeted to the CP coding genes of BaYMV, BaMMV and BYDV were used to amplify fragments that were 594 bp, 461 bp, and 290 bp, respectively. The one-step mRT-PCR assay proved to be a rapid and specific barley virus diagnostic tool. The diagnosis of mixed infections with barley viruses in one single reaction will reduce the cost, significantly increase the number of samples that can be analyzed, which will allow an examination of the viral disease epidemiology in barley.

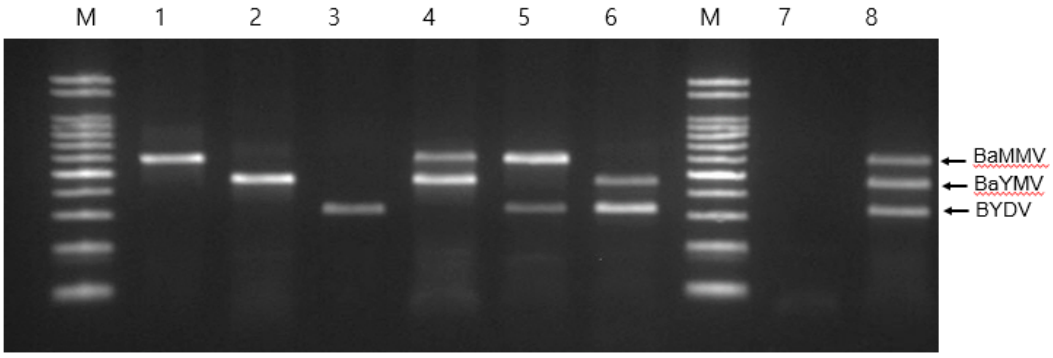


Figure 1. One-step mRT-PCR results from field barley plants collected in several provinces of Korea. One-step mRT-PCR for the single detection of BaMMV, BaYMV, BYDV (lanes 1,2,3) and the simultaneous detection of BaMMV + BaYMV (lane 4), BaMMV + BYDV (lane 5), BaYMV + BYDV (lane 6) and BaMMV + BaYMV + BYDV (lane 8). Lane 7 is negative control.

Biography

Bong Choon Lee has completed from Hokkaido University in Japan and Postdoctoral studies from Chonnam National University in Korea. She is the Senior Researcher of National Institute of Crop Science, RDA, Korea. She has published more than 50 papers in journals and has been serving as an Editorial Board Member of Research in *Plant Disease Journal* in Korea.

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Notes:

Olamide Falusi, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Nigerian plant resources; an incredible responsibility for alleviating food insecurity and malnutrition

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Food insecurity and malnutrition is a sincere concern in Africa and other parts of the world impacting heavily on health, socio-economy and well-being of the population. Plant resources of a region represent heritable materials, which are of economic, scientific or societal value to humankind. They form an integral part of a huge inter-dependent system that encompasses the physical components and the biological community of life. Nigeria is a physically and climatically diverse country that is endowed with substantial amount of plant resources. There are about 7,895 indigenous plant species from over 338 families and 2,215 genera that have been identified in the country with a few them demonstrating potential in alleviating food security, hunger and malnutrition. Both the physical and the climatic diversity of Nigeria permit the growth of a wide variety of such plants. This paper discusses those plant resources in Nigeria as nature's incredible generosity with potential in alleviating food security, hunger and malnutrition. It also highlights the responsibility of harnessing them for future development and food security and safety.

Biography

Falusi Olamide has his expertise in Applied Plant genetic and Breeding. He has been involved in germplasm collection of many economic crops in Nigeria and has provided the backbone information and materials required in their improvement for better productivity. He also has passion in the study of plant chromosomes to reveal genomic identities and inheritance patterns.

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Notes:

Kim Sang -Min et al., Agrotechnology 2017, 6:4(Suppl)
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Pantoea ananatis causing grain discoloration is widely distributed in the rice-growing fields of the Republic of Korea

Kim Sang -Min, Ra Ji-Eun, Seo Su Jwa, Lee Bong Choon, and **Choi Nak Jung**
National Institute of Crop Science, Republic of Korea

We collected local isolates of *Pantoea ananatis* causing bacterial grain discoloration from southern rice-growing fields in Korea and constructed phylogenetic tree to see the genetic variation of P. ananatis. In 2016, rice panicles showing symptoms of grain discoloration and grain abortion were collected and the inside of lemma and palea were streaked on the King's B agar plate for pathogen isolation. 63 regional isolates were randomly selected for avoiding selection bias and gDNA were extracted for gene-based species identification. Based on 16S rRNA gene, B. *glumae*, the major pathogen of grain rot, amounted for 49.2% and Pantoea spp. amounted for 22.2%, separately. Multilocus sequence analysis (MLSA) by four *gyr*B, *rpo*B, *inf*B, and *atp*D identified *Pantoea* spp. as P. *ananatis*. The pathogenicity of collected P. *ananatis* isolators were tested and showed weak symptoms of stem rot by artificial injection and weak symptoms of grain discoloration by spraying to the panicles of rice. In this study, we show the incidence and the regional distribution of P. *ananatis*, and the phylogenetic relationship among P. *ananatis* regional isolates in Korea, 2016. As the risk of the grain rot and grain discoloration is increasing according to the climatic change, it would be the basic data for understanding P. *ananatis* in the Republic of Korea.

Biography

He is a researcher for plant pathology in the National Institute of Crop Science, RDA. Main works include diagnosis, identification and control of crop diseases on the field and on the lab.

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Notes:

Tiziana Panzavolta et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Tolerance of *Castanea sativa* cultivars to *Dryocosmus kuriphilus*

Tiziana Panzavolta, Matteo Bracalini, F Croci, A Turchi, E Giordani and R Tiberi
University of Florence, Italy

Background & Aim: The invasive Asian chestnut gall wasp (ACGW) (*Dryocosmus kuriphilus* Yasumatsu) is a major insect pest in chestnuts (*Castanea* spp.), in all its areas of distribution. ACGW gall formation can cause heavy reductions in plants' growth rates and fruiting, severely damaging the chestnut market. Some chestnut species and hybrids have proven to be tolerant of ACGW, this was probably due to a hypersensitive response to ACGW attack. Some *C. sativa* Mill. cultivars showed different tolerance levels to the ACGW. The purpose of this study is to extend current knowledge about the tolerance of *C. sativa* cultivars to ACGW.

Methodology & Theoretical Orientation: Some *C. sativa* cultivars grown in the municipality of Pistoia (Tuscany, Italy) were morphologically and genetically analyzed. Current-year shoots were collected from the same trees to determine ACGW attack levels, since the number of galls per shoot is related to nut yield losses.

Findings: Three *C. sativa* cultivars were identified, each showing significantly different tolerance levels to the ACGW: Carpinese, Nerattino and Pastinese. More specifically, Carpinese showed the highest level of attack, with an infested shoot rate of 84.38%, the highest number of galls per shoot, as well as bigger galls. On the contrary, Nerattino had the lowest attack rate, with only 53% of shoots affected, the lowest number of galls per shoot, and the smallest galls. Pastinese parameters were in between.

Conclusion & Significance: All the cultivars studied were attacked by the ACGW, however they had different tolerances to the insect. More research on this field will help in creating a list of the more highly tolerant cultivars, which can be used for new plantations and graft nurseries.

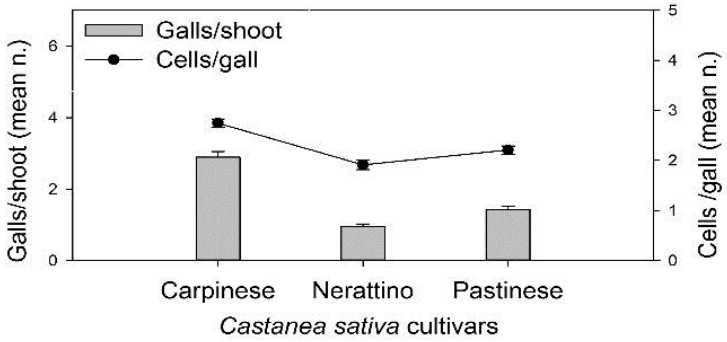


Figure 1. Attack level of *Dryocosmus kuriphilus* on three *Castanea sativa* cultivars in Tuscany (Italy)

Biography

Tiziana Panzavolta is a Researcher in the Department of Agri-food Production and Environmental Sciences at the University of Florence (Italy). Her field of expertise is bio-ecology and control strategies of forest and urban insect pests, as well as of invasive insect pests. Among her interests are tritrophic interactions (plant-phytophagous insect-natural enemy), particularly the role of pine terpenes in host selection and oviposition by pine processionary moth and its egg parasitoids, as well as the effects of pine monoterpenes and insect pheromones on predators of saproxylic insects.

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Antonia Carlucci et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Biscogniauxia rosacearum new fungal pathogen of rosaceous trees

Antonia Carlucci, Francesco Lops and **Maria Luisa Raimondo**
Universita' degli Studi di Foggia SAFE, Italy

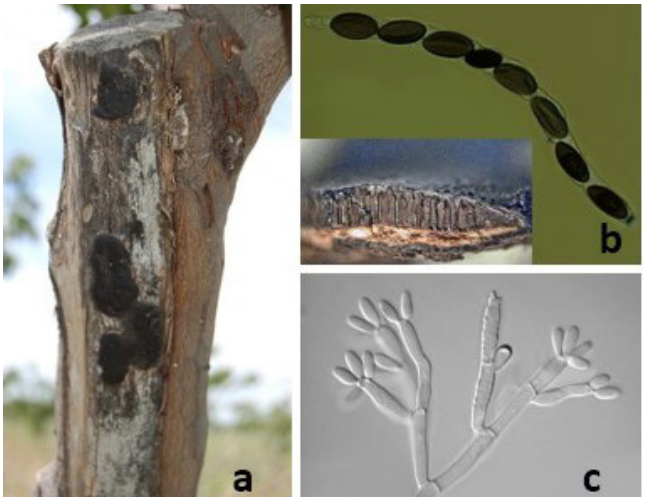
Statement of the Problem: The genus *Biscogniauxia* is paraphyletic to Xylariaceae and includes at least 52 species to date that are mainly pathogens of dicotyledonous angiosperm trees. Most of these are forest trees, such as *Acacia, Acer, Alnus, Eucalyptus, Fraxinus, Populus, Quercus* and other species of minor importance. *Biscogniauxia* species have been reported as endophytes or secondary invaders that attack only stressed forest plants. During a survey in rosaceous orchards in southern Italy, several charcoal cankers were observed and stroma samples were collected.

Aim: The purposes of this study are to characterize a collection of *Biscogniauxia* isolates from rosaceous hosts and to ascertain their virulence on rosaceous hosts by pathogenicity tests.

Methodology & Theoretical Orientation: By molecular tools the ITS region and the β-tubulin and actin gene were amplified and sequencing to perform the phylogenetic analyses. A detailed morphological study was also carried out. Four isolates of *B. rosacearum* were used in the pathogenicity tests performed on wood stems of about 15–20-year-old pear, plum and quince trees in open fields in orchards.

Findings: Combining morphological and molecular data, a new species of Biscogniauxia was foud and described as B. *rosacearum*. This new species was isolated for the first time from rosaceous hosts in Apulia. Pathogenicity tests showed that it causes symptoms on stems when artificially inoculated and produces stromata on the bark surface.

Conclusion & Significance: The phylogenetic reconstruction based on ITS and TUB/ACT gene sequences has allowed us to distinguish a new species within the *Biscogniauxia* genus. The presence of charcoal stromata from fruit hosts such as quince, plum and pear is very uncommon. In any case, on the basis of pathogenicity tests, it was possible to assess the ability of B. *rosacearum* isolates to infect quince, plum and pear stems.



Biography

Antonia Carlucci is a Researcher in the Department of Sciences of Agriculture, Food and Environment in Foggia, Italy. She is also head of plant pathology and diagnosis laboratory for quarantine fungal and bacterial pathogens in University of Foggia. Dr. Carlucci received her PhD in Biotechnology of agricultural and food products from University of Bari, Italy. She is expert of morphological and molecular characterization of fungi by phylogenetic studies. She has been involved in many research projects related to Plant Pathology and described ten novel fungal species by molecular approaches. Dr. Carlucci has been interesting to research and study new control means regarding the solarization practice, use of biostimulants, resistance inducers, fungal antagonists and biocides substances.

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Muyiwa Hilarious Ogunsipe et al., Agrotechnology 2017, 6:4(Suppl)
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Roxazyme G2G supplemental value in the utilization of cassava starch residue by broiler-chickens

Muyiwa Hilarious Ogunsipe[1], **Agbede J O**[2], **Aletor V A**[2] and **Igbasan F A**[2]
[1]Adeyemi College of Education, Nigeria
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This study assessed the supplemental value of roxazyme G2G in the utilization of cassava starch residue (CSR) by broiler-chickens in an eight-week feeding trial involving 450-day-old chicks. Fifty broiler-chicks were distributed to each of the nine dietary treatments, replicated five times of ten birds per replicate in completely randomization with 3 x 3 factorial arrangements of treatments. Cassava starch residue meal replaced maize in the diets at 0, 20 and 40% levels and enzyme supplementation at 0, 100 and 200 mg/kg to each level of CSR inclusion. Results showed that birds fed diet containing 20% CSR were similar (P>0.05) in the two physiological growth phases (starter and finisher) to the birds fed the control with respect to average daily weight gain (24.02 versus control: 24.24 g/b/d, and 40.94 versus control: 40.82 g/b/d, respectively) while enzyme supplementation at 100 mg/kg enhanced the replacement of maize with CSR up to 40% at both phases without compromising the weight gain of the birds. However, CSR x Enzyme supplementation interaction was not significant (P>0.05) suggesting that the trial could be independent of the two factors. Cost of feed $/kg weight gain significantly (P<0.05) decreased in broiler-chickens fed on CSR meal with 100 mg/kg enzyme supplementation with significant (P<0.05) interaction of CSR x Enzyme supplementation implying the dependency of cost of feed $/kg weight gain on these factors. The study revealed that replacement level of CSR for maize in broiler-chicken diet could be increased to 40% with roxazyme G2G supplementation at 100 mg/kg.

Biography

Muyiwa Hilarious Ogunsipe completed his Graduation from Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria and his PhD from Federal University of Technology, Akure, Nigeria. He is a Senior Lecturer in the Department of Agricultural Science, Adeyemi College of Education, Ondo, Ondo State, Nigeria. He has well over 20 published articles in reputed journals. He is a reviewer of many journals of repute.

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Notes:

Kulisara Marupanthorn, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Anti-adipogenic effect of *Moringa oleifera* leaves extract in porcine bone marrow derived mesenchymal stem cells

Kulisara Marupanthorn
Rajamangala University of Technology, Thailand

Moringa Oleifera leaves (MOL) extract was used as a traditional medicine. Recent year, many published studies have shown that alcohol, hydroalcohol, or water extracts of MOL possess a wide range of additional biological activities including antioxidant, anti-diabetic, and anti-obesity. Among these characteristics representing some of the hallmarks of metabolic syndrome, adipocytes also play an important role in this process through their metabolism. It is known that significant amount of adipocytes are derived from mesenchymal stem cells (MSCs) presented in bone marrow and adipose tissues. However, the studies on anti-adipogenic effects of M. oleifera leaves extract on adipogenic differentiation of bone marrow derived mesenchymal stem cells are still poorly characterized. The experiment was conducted to study the efficiency of MOL extract on adipogenic differentiation of porcine bone marrow derived mesenchymal stem cells (pBM-MSCs). pBM-MSCs were isolated and cultured in completed medium or adipogenic differentiation medium containing 0 (control group), 100, 200, and 300 µg/ml ethanolic extract of MOL to explore the anti-adipogenic differentiation ability. The results of MOL extract supplementation demonstrated that M. oleifera leaves extract inhibits the cytoplasmic lipid accumulation as well as adipogenic differentiation of preadipocytes.

Biography

Kulisara Marupanthorn currently working at Rajamangala University of Technology, Thailand

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Notes:

Saoud Zahia, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

The warning of the consumers about the effect of food synthetic dyes on children

Zahia Saoud
Pasteur Institute of Algiers, Algeria

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood disorders. It can continue through adolescence and adulthood. Symptoms include difficulty staying focused and paying attention, difficulty controlling behavior, and hyperactivity (over-activity).For more than 30 years, scientists have examined the effect of food additives, especially food colorings on children's behavior which gives rise to much controversy. The debate took birth when Dr. Benjamin Feingold has established a link between food dyes and hyperactivity in children in 1982. According to his hypothesis, some children are genetically predisposed to hyperactivity. He reported a dramatic improvement in the behavior of 50% of children who adopted a diet with no dyes, artificial flavorings or salicylates. The impact of this distant controversy continues to influence parents' opinions about the effect of food additives on children's behavior. A study published in 1987 highlighted the need for pediatricians have to manage the growing manifestations of anxiety aroused by the issue of food among parents. The author found that many parents have learned the possible effect of additives in the media In Algeria the synthetic dyes regulation exists in Algeria. The nonexistent is a regulation that requires a health warning on the labels. The aim of this project is to allow a new interdepartmental decree between the Department of Health and the Department of Trade It will require labeling of products containing synthetics dyes that can have adverse effects by adding the mention “may have an adverse effect on activity and attention of the children”. The aim of our study is to know if the synthetic food dyes have an impact on the lifestyle and the children's functioning. It will allow us to understand the risks associated with the use of these dyes. For this we have chosen to work on hyperactive children rather than the healthy ones because of the effect of the interaction which will be more apparent on the hyperactive children who have a lack of dopamine “induced hyperactivity”. The immediate purpose of the study is to raise public awareness about the effect that can have synthetic food dyes on children. We are based on hyperactive children because the effects of dyes are more noticeable than in "healthy" children, but our goal is to protect all children. The Overall objectives are to never put on the market a food product is its source before it is tested and labeled and to create a new decree to band the synthetic dyes which have bad effects on our health.

Biography

Zahia Saoud is a pharmacist master assistant in hydrology, environment and nutrition. He is working at the faculty of medicine of Algiers in the department of pharmacy and Institute Pasteur of Algeria which it depends on the network institute Pasteur of Paris. He worked as a quality manager for 4 years and at the moment he joined the laboratory of water, food and environment of the Pasteurb Institute of Algeria.

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Notes:







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Arup Giri et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Minerals bio-availability in soil, water, forage and dairy cattle at high altitude

Arup Giri and **Vijay K Bharti**
Defense Institute of High Altitude Research, India

In nature, a complex relationship between soil, water, plant and animal has been found due to specific characteristics of the plants and interaction between different minerals. In India where dietary concentrations of fodder fed to the animals are unknown or highly variable due to availability, season, location, forage, species and animal potentials, it is important to determine mineral concentrations in animals' region-wise, to estimate needs of livestock to obtain optimum productivity and to assess the effect of mineral deficiencies on dairy cattle physiology. Limited information is available on the feeding practices and mineral status of soil, water, forage, and animal's blood in this high-altitude region. Keeping this in view, the present study was conducted in Leh valley; situated at 3327-3575 meter altitude above mean sea level, to establish the relationship for different minerals among soil, water, forage and dairy cattle to suggest dietary supplementation of area specific mineral mixture. Total 105 (soil), 210 (hand pump water, irrigation water, river water), 315 (forage- Spinacia oleracea, Triticum aestivum, Brassica oleracea var. capitata) and 70 (blood sample of lactating cattle) were collected from seven different sites in the Leh valley. All the minerals (Fe, Mg, Mn, Zn, Cu, Co and B) were estimated in the digested water samples by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). The result showed that the levels of studied essential minerals are available in sufficient amount in the various soil ecosystems and the mineral elements were below the optimum level, under the maximum permissible limit in water sources. In the case of plants and in cattle body, most of the minerals showed the lower level. Based on present findings, it was concluded that availability and the dynamics of mineral elements in plants and dairy cattle from less to higher concentration in plants, and animals over the studied region. Therefore, further studies should elucidate the bioavailability and strategic dietary supplementation of minerals for livestock.

Biography

Arup Giri is pursuing PhD since 2012 at Defense Institute of High Altitude Research (DIHAR), Defence Research and Development Organization (DRDO), Jammu & Kashmir; a high-altitude region located in the Trans-Himalayan range of India (3327-3575-meter altitude above mean sea level). He has the expertise on several instruments like HACH Spectrophotometer for Water Analysis, Haematology Auto-Analyzer, Biochemistry Auto-Analyzer, Serum Semi-Auto-Analyzer, Urine Analyzer, Ion-Analyzer, UV-Visible Spectrophotometer, Multimode ELISA Plate Reader, Gradient Thermal Cycler (PCR), Gel Electrophoresis, Inductively Coupled Plasma Optical Emission of Spectroscopy (ICP-OES), Real Time PCR, Flow Cytometry, Ion Chromatography, High Performance Liquid Chromatography (HPLC) etc. He is working on certain DRDO project related to improvement in animal health and productivity under high-altitude stress condition. His current research work is now going on the studies on some heavy metals and trace minerals in drinking water of various sources and animal blood at high altitude and development of remedial measures to ameliorate their effects on animal health. Now, he has been developed on technique to ameliorate the excess level of fluoride from drinking water at high altitude region.

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Notes:

Victor I Balabanov, Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Research trends in precision farming

Victor I Balabanov
Russian State Agricultural University, Russia

Educational and scientific center of precision agriculture was opened in 2007 based on the experimental field of the Russian State Agrarian University - Moscow Timiryazev Agricultural Academy (Timiryazev RSAU–MAA). The framework of the implementation of innovative educational program for the organization and implementation of educational, research and development of innovative activities based on the use of modern agricultural technologies and principles coordinate agriculture. Long-term results of research in a field experiment scientific center of precision agriculture demonstrated the advantage of the individual elements of precision farming technologies, crop and landings of agricultural crops, for growing potatoes, fertilizing of winter wheat herbicides in crops, indirect determination of the content of nutrients in the soil, with the preparation of electronic maps of yields. For example, it has been found that the pesticide and the flow of the working solution by using precision farming techniques is reduced by 25-30%, saving of fertilizers and averages 20-30%. Currently, the most advanced technologies, which paid close attention to the Timiryazev RSAU–MAA - is the use of unmanned aerial vehicles (UAVs) and the development of robotic systems for agricultural purposes. The use of UAVs allows you to quickly and effectively conduct an inventory (geofencing) of agricultural land, create field maps to assess their inventory value, build orthophotos field surface, to monitor the state of fallow fields, agricultural crops, carry out the calculation of standardized biomass vegetation index and other plant indices, as well as to carry out various kinds of control and management of agro-technical measures. Russian agrarian sector as in the entire world agriculture still lags in the use of robots than on other sectors of the economy, so research in this area will grow with each passing year more and more rapidly.



Biography

Victor I Balabanov is a Doctor of Technical Sciences, Professor and Dean of the faculty "Processes and Machinery in Agribusiness" at Russian State Agrarian University - Moscow Agricultural Academy named after K A Timiryazev. He is Head of Sub Committee (SC 8) "Radio navigation and control system in agriculture" of the Technical Committee for Standardization (TC 363) "Radio navigation" Federal Agency for Technical Regulation and Metrology (Rosstandart). He is an Author of over 300 scientific and educational works, including 25 monographs, scientific journals and popular science books, 25 descriptions of inventions and 11 on scientific research reports.

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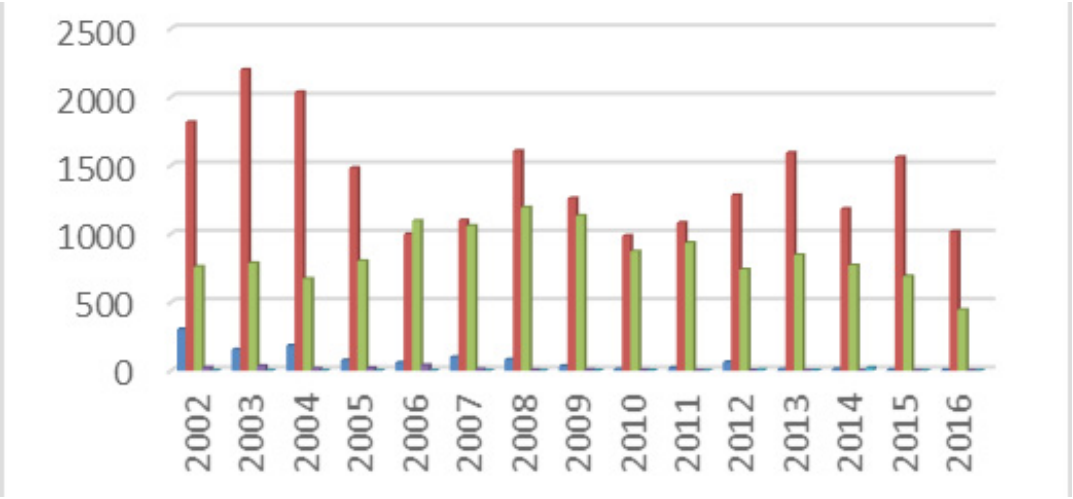
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Ana María Castagnino et al., Agrotechnology 2017, 6:4(Suppl)
DOI: 10.4172/2168-9881-C1-028

Market evolution of garlic (*Allium sativum* L.) in Argentina (*Ex aecquo*)

Ana María Castagnino[1], Karina E Diaz[1], Sabrina Mondini[1], W John Rogers[1], Andrea Guisolis[1], Oscar Liverotti[2], José Fernandez Lozano[3] and **Mario E Peralta[4]**
[1]UNCPBA, Argentina
[2]Pontifical Catholic University of Argentina, Argentina
[3]University of Buenos Aires, Argentina
[4]University of Belgrano, Argentina

Garlic is one of the most economically, productively and socially important horticultural products in Argentina, valued for its nutraceutical, bacteriostatic, fungistatic and antioxidant properties, amongst others. It is commercialized mainly in fresh form for both the internal market and exportation, in which Argentina occupies second place (behind China). Exportation is concentrated into three months, whereas the internal market operates all year, represented by several types of variety in distinct provinces. With the aim of analyzing garlic market evolution in Argentina based upon the volume received by the Buenos Aires Central Market, the following aspects were evaluated: total commercial volumes 2002-2016, type of varieties commercialized over the study period (TV) and province of origin commercialized in 2016. From comparative analysis between the first and final years of the study, a decrease of 50% was observed (2002: 2902t and 2016: 1466t). The total volume commercialized in the period was 35313t and the mean annual volume was 2354t, with the following exceeding the mean: 2003: by 35% (a) and 2004, 2002 and 2008: by 23% (ab), 2013: by 4% and 2009: by 3%. Garlic for the internal market was produced in nine provinces, with 98.25% of the total commercial volume concentrated in three provinces: San Juan (33%), Mendoza (32.75%) and Buenos Aires (32.5%), followed by Río Negro (0.72%), Corrientes (0.5%), Santa Fe (0.32%), Santiago del Estero (0.3%), Jujuy (0.2%) and Tucumán (0.15%). Regarding TV for 2002-2016, 99.44% corresponded to three varieties: Colorado 60.03% (a), Chino 36.25% (b) and Blanco 3.16% (c), followed by Rosado 0.45% (c) and Ruso 0.11% (c). The results demonstrate the excessive concentration of the offer in just a few provinces. Furthermore, they indicate the institutional necessity to promote increased varietal diversification and expand the production and commercialization of the internal market of this highly beneficial product for health.



Biography

Ana María Castagnino is a Horticulture Specialist (UNIPI, Italy) with a Master's Degree in Business Management (UNCPBA, Argentina), and is Professor of Horticulture at UCA, Buenos Aires and Associate Professor at UNCPBA. She is a member of CRESCA (Regional Centre for the Systemic Study of Agro-Food Chains) and directs the programme "Promotion of the production and consumption of asparagus and other non-traditional vegetables".

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Ana María Castagnino et al., Agrotechnology 2017, 6:4(Suppl)
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October 02-04, 2017 London, UK

Evolution of the tomato market in Argentina (*Ex aecquo*)

Ana María Castagnino[1], Karina E Diaz[1], Sabrina Mondini[1], W John Rogers[1], Andrea Guisolis[1], Oscar Liverotti[2], José Fernandez Lozano[3] and **Mario E Peralta[4]**

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Tomato is the principal greenhouse vegetable grown in Argentina. The aim of the current work is to analyse tomato market evolution in this country, based upon volumes received by the Buenos Aires Central Market, the main national point of reference. The following aspects were evaluated: total commercial volumes (CV) 1999-2016, evolution (E) and mean prices (MP), principal varieties (V) commercialized in 2016, origin (O), distribution by province of origin (DP) and the proportion that tomato comprises of the total volume (TV) of the horticultural produce commercialized in the reference period. For the factors evaluated, one-way analysis of variance was carried out on the tonnage values. The VC was 119,600, with a decrease over the period of 18% compared to the first year (1999: 142,968t and 2016: 117,744 t/year). In 2016, the mean monthly E was 9812t, where the following months exceeded this value, without significant differences between them: October-14586, December-11870, September-11494, November-10865, August-10446 and January-10027 t. The annual MP was 0.62 US$kg^{-1}, which was exceeded in September (1.03), May (0.82), October (0.80) and November (0.63). For DP, the highest volumes were observed for Buenos Aires: 3936t^{a}, Salta: 2187t and Corrientes: 2081t^{b}, with the remaining origins in the following order of importance, without significant differences between them: Jujuy-774, Mendoza-625, Brasil-72; Tucumán-48; Entre Ríos-29; San Juan-28; Rio Negro-9.82, Santa Fé-8; Córdoba-5.15; Santiago del Estero-2.82; Misiones-2; Formosa-1.4; Chubut-0.75 and San Luis-0.2 t^{c}. Overall, tomato represented 14% of the TV (850240t) commercialized (16.7% in 1999 and 13.8% in 2016). For V, the monthly volumes gave differences for Larga Vida (October^{a}, November, July, February, September, August and June^{ab}); for Platense (January and December^{a}, April and February^{ab}) and the rest^{b}. For origin, differences were found for all varieties: Larga Vida: Corrientes^{a} and the rest^{b}, Perita: Salta^{a}, Jujuy, Buenos Aires^{b} and Mendoza^{bc}, Cherry: Buenos Aires^{a}, Salta, Corrientes^{b} and Jujuy^{bc}, Redondo: Buenos Aires^{a}, Corrientes^{b} and Salta^{ab}. These results provide evidence of the positioning of tomato throughout the year in the Argentinean market.



Biography

Ana María Castagnino is a Horticulture Specialist (UNIPI, Italy) with a Master's Degree in Business Management (UNCPBA, Argentina), and is Professor of Horticulture at UCA, Buenos Aires and Associate Professor at UNCPBA. She is a member of CRESCA (Regional Centre for the Systemic Study of Agro-Food Chains) and directs the programme "Promotion of the production and consumption of asparagus and other non-traditional vegetables".

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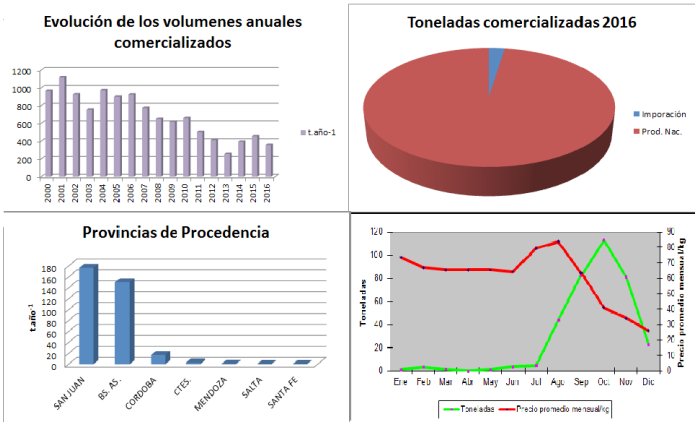
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Evolution of the commercialization of asparagus in Argentina

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Asparagus is a perishable, seasonal horticultural product that lies amongst the first fifteen commercialized vegetables in Argentina, a market that needs dietary diversification given that 70% of annual consumption is concentrated in just five species: potato, tomato, onion, squash and carrot. The aim of the current work is to analyse the commercial situation in Argentina based upon the incoming volume registered by Buenos Aires Central Market, the main national point of reference. To this end the following aspects were evaluated: tendency in incoming volume between 2000 and 2016 (TIV), region of origin (RO), volume and country of origin of imports (VI and OI) and the evolution of commercialized volume and mean price through 2016 (EP). Data were analyzed by ANOVA-LSD (P≥0.05). In TIV, the mean annual incoming volume was 685t, with a decreasing tendency, where the period 2000-2007 was outstanding, with an annual mean of 8% compared to the total of the study period. 93% of the total commercialized volume corresponded to the period September to December, demonstrating the marked seasonality of the production. For RO, the following provinces stood out: San Juan (51%) and Buenos Aires (43%), followed by Córdoba (5%), Corrientes (2%), Mendoza (0,2%), Salta and Santa Fe (0.1%). For OI, of the total received by the Central Market, 97.6% corresponded to asparagus produced in Argentina, and only 2.4% was imported, in counter-season, from May to August, from Chile (May) and Peru (May-August). VI in 2016 was 8.7t/year in total (Peru 8.3 and Chile 0.4). Regarding EP, the annual mean for 2016 was 3.62 US$.kg^{-1}, with the lowest price in December (1.6 US$.kg^{-1}) and the highest in August (5.13 US$.kg^{-1}). These results indicate the need to intensify the implementation of strategies aimed at promoting the production and consumption of asparagus in Argentina; regarding the former, this is because it is a perennial crop of great economic and social value, and, regarding the latter, since it is a non-traditional vegetable of high nutritional quality. Given the notably seasonal nature of its internal production, it could be added that the Argentinean asparagus market also represents an opportunity for producers and exporters from other countries, as well as for those national entrepreneurs who orientate their production towards obtaining early produce under glasshouse conditions.



Biography

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Fruit cultivation in apple state of India: Opportunities and challenges

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Increased urbanization and changing lifestyle have changed the demand for food consumption from food grains to non-food grains. Horticulture development has emerged as one of the major thrust area in agriculture sector. The importance of these crops compounds in hilly and undulating terrains, like the North-East region of India, Himachal Pradesh, Jammu & Kashmir and Uttaranchal where traditional agricultural activities catering to field crops are not economically remunerative and sustainable, while the climate in general is suitable for growing temperate and subtropical fruits. This suitability of Himachal has resulted in shifting of land use pattern from agriculture to fruit crops in the past few decades and the state is known as 'fruit bowl of nation'. There has been a phenomenal increase in the area and production of fruits, particularly apple, in the state due to which the state has deservingly earned a place of pride as 'The Apple State of India'. Many farm families are depending on apple cultivation. The cultivation of apple in Himachal is more remunerative than the other field crops. Apple determines the income and purchasing power of the farmers and has a positive impact in term of people's living standard in the state. Excluding apple growers who are depending directly, the processes of grading, picking, packing and transportation provides employment to many persons. The area and production of apple in Himachal Pradesh have been increasing over the years. But the productivity has been low in terms of global standard and in fact it has been declining. Many factors and problems are responsible for the low productivity like socio-economic, agro-climatic, infrastructure, market, policy issues etc. Many of the problems of apple growers are beyond the control of apple growers themselves. Net return from apple cultivation can further be enhanced with the efficient marketing/investment support from the state and central governments. Local markets should be developed which would provide somewhat better bargaining position and may also reduce transport costs. There should be availability of cold stores in nearby market or village/block/tehsil so farmers can sell their crop at time of decent price or fair price.

Biography

Kalpna Negi is presently a PhD Research Scholar at School of Economics, University of Hyderabad. She has completed her Master's in Philosophy from the same University. Her research area is broadly on Agricultural Economics. She has participated in academic workshops, seminars, conferences.

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Investigating the effect of arbuscular mycorrhizal fungi (*Glomus etunicatum*) and air pollutants on growth parameters of maize (*Zea mays* L.)

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To investigate the effect of *Glomus etunicatum*, air pollutants and acidic rain on growth parameters of maize plants (*Zea mays* L.), a completely randomized experiment with ten replications was conducted from February 2016 to April 2017. Experimental treatments included four categories containing the plants treated by mycorrhiza fungus irrigation by acidic rains, plants treated by mycorrhiza fungus irrigation by control water with (p=H=7), witnessing plants irrigation by acidic rain and witnessing plants irrigation by control water. Results from analysis of variance revealed that the effect of mycorrhizal inoculation on chlorophyll, protein and carotenoid content of leaves, plant height, leaf dry wt., leaf fresh wt., root fresh wt., fruit number and leaf number and surface, were significant ($p<0.05$). Mycorrhizal inoculation enhanced all parameters significantly in comparison to the witnessing plants and the highest value for these traits obtained by the plants inoculated with mycorrhiza irrigation by control water and the least obtained in witnessing plants irrigation by acidic rain water. Furthermore, the research revealed that the amount of these parameters in plants inoculated with mycorrhiza irrigation by acidic rain is significantly more than witnessing plants irrigation by control water. In general inoculation by mycorrhizal fungi in addition to enhancing growth parameters can enhance the photosynthesis and production of oxygen in maize even under acidic rain circumstances and air polluted environments, compared to non-mycorrhizal plants in regular circumstances.

Biography

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Assessing the navigational accuracy of an autonomous orchard robot equipped with 2D laser scanner and particle filter

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Statement of the Problem: A challenge faced when growing fruit in orchards is efficient weed control. Weed control is often done with tractors and mowing devices. The labour intensive nature of this operation causes that the frequency of mowing is limited to a minimum. An autonomous platform that can carry out this operation without human intervention would allow farmers to regularly tackle weeds in their orchards without the large labour requirement. In the design of an autonomous orchard robot, a combination of sensors and navigation algorithms need to be chosen which provides similar or higher navigational accuracies compared to current mowing with manual steering. The objective of this study is to investigate the accuracy of a sensor and algorithm combination for autonomous in-row navigation of an orchard robot.

Methodology & Theoretical Orientation: A Clearpath Robotics Husky A200 robot was equipped with a 2D laser scanner, a three-axis IMU, wheel odometry and an RTK-GNSS sensor. A navigational algorithm was built based on the particle filter. Experiments were done in a Dutch apple orchard to assess the navigational accuracy, by tracking the robots trajectory between two tree rows with RTK-GNSS and to calculate the lateral and angular deviation from the optimal AB-line.

Results: The particle filter guided the robot through the orchard path with an average lateral deviation of 0.07m and an average angular deviation of 2.57° from the AB-line at a speed of 0.25 m/s and respectively 0.08m and 1.73° at 0.5 m/s.

Conclusion & Significance: The selected sensor layout and navigational algorithm proved to be suitable for autonomous in-row navigation in fruit orchards as an alternative for manual driving. Headland detection and obstacle avoidance were not taken into account in this study, and are part of the further development of the autonomous orchard navigation.

Biography

Pieter M Blok is a scientific researcher at Wageningen University and Research. He is specialized in agricultural robotics, computer vision, mechatronics and sensor technology, with 6 years' work experience in various national and international research projects. He is author of several peer-reviewed conference papers. Pieter graduated in 2011 as a Master of Science (MSc) in Agricultural Engineering at Wageningen University and is currently conducting his PhD entitled "Agro-robotics in open field food production".

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A review: the essence of milkbutter; Trend and production analysis

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Milk is raw material for wide range items of biological importance. Milkbutter is the most enriched nutrition among milk products. There is no exact knowledge about the date and locality at which butter making was started. Making junction with the taming and domestication of wild animals scholarly estimates assert that butter making is one of the oldest customs to use and preserve the fat component of milk. The functions of milkbutter among others include making finished food product, food processing, sacrificial worship and its uses in ceremonies, medicinal and cosmetic purposes. The quality, yield and composition of milk vary among countries, mammal species and dairy management systems. Methods of butter making are traditional, modern and recombined types. Inspite of the fact that traditional butter making is the most prevailing, it is the poorest production system in terms of yield, quality, time, energy and production management. Reviews of related literatures indicate in most of the dairy farms there is a disproportionate relation between livestock population and livestock production ratio. Building market networks allows butter manufacturers to capture opportunities at current and future markets. Such joint segments strengthen the most valuable commodity exchange systems within the supply networks. In inference, improving butter production through adopting new production systems and technologies is a tool to improve the livelihoods of smallholder farmers.

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Forms and distribution of soil potassium in selected maize growing areas of Haveri district

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Potassium, the third major nutrient, exists in soil in different forms and these forms are in a state of quasi-equilibrium with each other. These different forms of potassium and their distribution were studied in 20 representative red and black soil types spreading over seven taluks of the Haveri district of Karnataka. Soils were generally sandy clay loam to clay in texture. The soil reaction ranged between slightly acidic and near neutral in reaction and electrical conductivity was well within the permissible limit. The OC was low to medium. The average CEC, potassium adsorption ratio, sum of exchangeable cations and available potassium of black soils was high compared to red soils at both the depths. The average value of exchangeable potassium percentage was high in red soils at both the depths. Results indicated that the all the forms of potassium was higher in black soils compared to red soils. The water soluble and exchangeable K was higher in surface sample than in the sub surface in both the soil type. Whereas, non-exchangeable, lattice and total K was higher in sub surface than the surface in both the soil types. The water soluble form of K showed a significant and positive correlation with sand in red (r=0.755*) and black (r=0.527*) soils. The exchangeable K was significantly and positively correlated with CEC (r=0.721* and r=0.807* in red and black soils, respectively whereas, non-exchangeable K, lattice K and total K showed positive correlation for clay.

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Malolactic fermentation and ageing in oak wood barrels: impact on ellagitannin and anthocyanin content, volatile composition and sensory profile of red wines

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Chemical composition, aromatic profile and sensory attributes of wines lie in the grape variety, winemaking procedure, maturation and ageing. Traditional red wine production usually consists of performing both alcoholic and malolactic fermentations in the same tank, and then, ageing in oak barrels for a variable period of time, ranging from a few months to over a year. In an attempt to obtain particular quality wines with their own personality and a higher organoleptic complexity, alternative production technologies, such as carrying out the malolactic fermentation (MLF) in the same oak barrels where ageing will take place, are being introduced in the wineries in an increasingly widespread way. The present research compares ellagitannin and anthocyanin profiles, woody volatile composition and sensory properties of wines in which malolactic fermentation (MLF) takes place in tanks prior to 12-months ageing or in oak barrels themselves. Three different barrel toasting (medium toast, MT; medium toast with watering, MTAA; noisette) were considered for ageing of each wine modality. Sensory analyses (triangle and rating tests) were also performed. Two-way ANOVA of the raw experimental data revealed that the toasting method and the container where MLF took place, as well as the interaction between both factors, have a significant influence on ellagitannin, anthocyanin and woody volatile profiles of Cabernet Sauvignon wines. Barrel-fermented wines generally presented 1.2-fold higher total phenolics, whereas tank-fermented wines exhibited 1.1 and 1.2-fold greater total proanthocyanidin and anthocyanin contents, respectively. Concerning the ellagitannin composition, barrel toasting effect seemed to be more important than differences due to MLF-container. Certain woody and fruity volatiles varied significantly depending on whether MLF occurred in barrels or tanks. Barrel-fermented wines were preferred in mouth, while olfactory preference depended on barrel toasting.

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Plant growth and leaf morphological change of *Spinacia oleracea* grown under different light-emitting diodes

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This study aimed to determinate effects of light-emitting diodes on leaf morphology and growth of two cultivars (world-star and sushiro) of *Spinacia oleracea*. Plants were grown for 25 days after transplanting (DAT) under the LEDs (White (W), Red and Blue (RB, ratio 2:1), Blue (B), Red (R) LED) under the same light intensity and photoperiod (130 μmol m^{-2} s^{-1}, 12 hours). Higher fresh and dry leaf weights, leaf number and leaf area were observed in the world-star cultivar, in which a 35% increase in leaf dry weight was found in both the RB and R LEDs than the B and W at 25 DAT. In the sushiro cultivar, the leaf dry weight was in the order of RB>R>B>W at 25 DAT. Leaf apinasty symptom was appeared in plants grown under both R and RB LEDS with much more severe degree of symptom under the R LED. Microscope analysis indicates that the cell size of leaf margin region was larger than that in the leaf blade region in the apinasty symptom-developed leaf. The chlorophyll content and photosynthetic activity were lower in the leaves grown under the R LED. All the integrated results suggest that the B or W LED is a proper light condition due to the leaf apinasty symptom for a closed cultivation of *Spinacia oleracea*.

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What this world needs is smarter farmers

Marc van der Sterren Kleopatra Chira
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Smallholder farmers are the most important people in the world. They produce 80 percent of all the food in the world, and almost 100 percent of our healthy food. Nevertheless they are widely neglected by the public, the media and most important: the people and organizations who rule this world. To keep up the demands for a growing world population and further increases in demand for high-protein food, the FAO estimates that food production will need to increase by about 60 percent. The main increase needs to come from smallholder farmers in developing countries. 80 percent of all hungry people depends on some sort of farming. If those people produce a bit more, the world food problem is solved. For most subsistence farmers in Africa it's possible to double or even to multiply their production. This means they can even produce for the growing cities in and outside Africa. In 2016 the United Nations ratified 17 sustainable development goals. The aim is to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. With the empowerment of smallholder family farmers through providing them access to independent information we can both keep up the demands for a growing world population and reach all 17 Sustainable Development Goals. The new publication SMARTER FARMERS is the start of a campaign which urges world leaders to focus on the empowerment of smallholder farmers by access to independent information.

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Hey "Ag" what's your pension plans?

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Globally, agriculture sector has undergone tremendous transformation in the last few decades. Our generation is facing some of the challenges unlike none of our predecessors. Owing to sustained increase in per-capita incomes enhancing life-expectancy, developed countries are ageing faster that nearly a third or more of their population is aged 50 and above. But, the developing world is endowed with a relatively larger share of young people. Perhaps, this 'work-force' macro crisis affects all the industries globally. Current median age of farmers from New Zealand to Alaska is between 50 and 60 years or even more in countries like Japan. With exceptions in Asia and Africa, this is a visible global macro trend and is definitely a matter of concern for the humanity. Instead of succession or transition plan, the word 'pension plan' is chosen as the title since relates readily to old age and subtly but strongly emphasizes ageing farmers. Hence the question "if the global food & agriculture industry were a person, what are (or should be) his/her pension plans?" To feed 9 billion people with adequate quantities of safe, nutritious and quality food by 2050, the world needs to produce nearly 60 percent more food. Technological innovations and scientific advancements are helping the industry but shortage of talent and skills has emerged a serious issue. Whether agribusiness is one of the top career paths for the youngsters needs to be examined deeply to ensure the industry continues to attract and retains best creative minds and skilled hands to feed us in future. Apart from improving overall perception on the agri-food industry among youth, it also is necessary to address gender equality appropriately. This paper is about analyzing the current situation and identifying key issues that need to be addressed in this regard. Also it elicits the crucial roles of different stakeholders including governments, policymakers, private sector and civil societies to collaborate in nurturing young talents.

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Current projects of weather engineering and their side effects on the environment, natural resources, agriculture and human health

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Weather engineering scientists developed a new chemtrail technology applied by jets in the stratosphere for decreasing the global warming. It is based on building synthetic chemical clouds of aluminum oxide as Welsbach particles to reflect the heat coming from the sun back in the upper atmosphere, and thus cooling the air on earth. The applied aerosol mixture contains also nanoparticles of barium monoxide which react with CO_2 when reaching the troposphere turning into barium carbonate and bicarbonate leading to minimization of its content in the atmosphere on the long run. In 2000, the UN approved the first global weather engineering project in the history of mankind to combat the global warming by chemtrail technology for the period from 2000 to 2050 with a budget of US $ 50 billion ($ 1 bill/year) financed and completely managed by USA alone. Since the application took place on the global level, climatologists, biologists, agronomists, and medical institutions around the globe recorded and explained undesirable side effects of this technology with severe impact on the weather, natural resources of flora and fauna and agriculture, as well as on human health. These effects could be summarized in the following: 1) Creation of completely new wind directions by induced air depressions. 2) Dehydration of certain ecosystems through the aluminum oxide. 3) Charging giant air electric fields leading to more lighting that induced wild fires in dehydrated forests and range land. 4) Increasing frequency and empowering the natural disasters by seeding air with precipitation nuclei causing floods. 5) Cooling upper air layers over warm water causing hurricanes, tornadoes, and building heavy snow and hail. 6) Decreasing air visibility due to suspended chemtrail particles in the air. 7) Causing health problems with allergic symptoms to chemicals and components of its aerosol. 8) Creation of extreme killer heat waves when reflecting heat back to earth by aluminum oxide. 9) Increasing human mortality in proportion to decreased air visibility, and 10) Increasing risk with calcification diseases caused by the stratospheric *Nanobacteria* carried down to earth on the chemtrail particles.

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Transition in mechanization of hillside farming for gender and socially inclusive rural development: A case study of agricultural mechanization policy in Nepal

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Nepal recently endorsed its first agricultural mechanization policy in 2014 though mechanization started in late 60s in Nepal. This paper examines the transition in agricultural and rural mechanization through the gender and socially inclusive lenses in the context of hillside terrace farming in Nepal. Findings suggest that most of the previous policy such as Agriculture perspectives plan, agricultural research and development policies are biased towards flat land and are gender neutral; and hillside farming was largely neglected from the beginning. Study further reveals that flat land biased rural and agricultural mechanization policy is a biggest challenge for Nepal as half of the country's production comes from hillside farming. Recently, new mechanization policy speaks about the gender and marginalized farmers issues along with hillside terrace farming. However, how this policy change will be able to address the above mentioned challenge at implementation level is unclear as there is not any such evidences and experiences of implementing mechanization policy strategies and guidelines for its effective implementation in ground.

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Changing oil palm industry image towards sustainable future

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Plantation agriculture is the fundamental building block in nation building acting as an economic engine for social engineering and rural development. Plantation agriculture starts with coffee and later was replaced by rubber. In the late 1970s and early 1980s, the oil palm is the major plantation crop and during this period Malaysia has transformed from agriculture to industrial nation. It has played an important role in transforming, expanding and shifting Malaysian economy from agriculture into industrial base. Unfortunately, in turn the industry is gradually taken the large part of agriculture labour force which created labour shortage in the oil palm industry. Plantation work known to difficult, dangerous and dirty making it less attracted to new generation of labour force. Initiatives has been proposed to combat these manpower shortage such as introduction of8 mechanization and automation however they met with poor acceptance due to high cost and still there is no pulling factor to gain interest from labour force to work in the plantation. In oil palm, harvesting is one of the important work that face labour shortage due to difficulties in harvesting tall palms. Incorporating the secondary trait such as semi-dwarf into high oil yield can greatly increase productivity, efficiency and less difficulty. Sime Darby has vast collection of oil palm germplasm and contained potential populations for semi-dwarf material development. Extensive selection and testing have been carried out to evaluate semi-dwarf populations. Combination of primary and secondary trait such as high oil yield and semi dwarf in recent population were succeed and grouped differently as showed in the Figure 1. High oil yield of semi dwarf oil palm will increased oil and harvesting productivity and indirectly reduced land expansion for sustainable future. Incorporating new technologies such as ripeness sensing technology and easy-to-operate harvesting tools with the semi-dwarf trait can be the first step towards transforming plantation agriculture.

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Characterization of aloe vera production (*Aloe barbadensis*, Miller), in Yucatán, Mexico

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Mexico is the country with the highest production of aloe in America. It is a semi-permanent crop, considered within organic and non-traditional products. Due to its properties it is used as raw material in the food, cosmetic and pharmaceutical industries. The state of Yucatan is the second producer of aloe in temporary in Mexico. It was established as an alternative crop, due to the near disappearance of the henequen crop in the beginning and as part of the search for raw material supply areas for the established industry in the United States. A diagnosis was made of the current situation of production-processing and aloe vera market. The profile of the producer, his properties and the status of his plantations were obtained. Producer profile: The average age of the producer is 56.8 years, in terms of gender, one in three producers is female (36%). Regarding the educational level, 45.4% have a basic level and the rest have a higher level of education. Profile of their land: Aloe producers are very small, since the average area is 9.4 ha, but almost 57% have an average area of less than 1 ha. Plantation status: 45% have their plantations taken care of, 11% in the neglected category, 24% abandoned and the rest in conversion. Some producers have abandoned their plantations, due to the difficulties in leaf marketing and lack of a safe market. Only in the state of Yucatan does the Sistema Producto Sabila A.C. (SPS), which has helped the permanence of the crop. It is considered that an alternative to improve the profitability of the producers, is the formation of small companies that can manufacture fine handicrafts products for sale to hotels in the tourist areas of the Yucatan Peninsula.

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Genetic diversity of *Aspergillus flavus* and occurrence of aflatoxin contamination in stored maize across three agro-ecological zones in Kenya

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Aflatoxin contamination at post-harvest poses a serious challenge in achieving millennium development goals on food security especially in the developing world. In Kenya, major outbreaks of aflatoxicoses have been attributed to poor post harvest storage practices. In this study, we conducted a cross-sectional survey within three Agro-ecological zones in Kenya, to determine occurrence and distribution of total aflatoxin in stored maize and the aflatoxigenicity potential of *Aspergillus flavus* in stored maize. The counties selected were; Kitui, Nakuru and Kitale (in Trans-Nzoia County). Sampling sites were selected based on previous aflatoxicoses outbreaks (Kitui) and major maize production areas (Nakuru and Kitale) where little information exists on the occurrence of aflatoxin contamination. A total of one hundred and thirty (130) kernel maize samples were random collected during the period between June and August 2012. Moisture content was determined using the standard oven method and *Aspergillus flavus* was isolated by direct plating technique. Genetic diversity of the isolates was determined by PCR and Single Sequence Repeats (SSR) micro satellites analysis. Positive strains were induced to produce B1 aflatoxins on Yeast Extract Sucrose Agar (YESA) and quantified using competitive ELISA technique. The results indicated mean moisture content of maize ranged between 6% and 34%, although this was found not to be significantly different ($p=0.23>0.05$). However, total aflatoxin contamination of postharvest stored maize samples between sites was significantly different ($p=0.000$, <0.05); with the highest contamination in Kitale at a mean of (9.68 µg/kg). *A. flavus* was isolated in 70% (N= 91) of the maize samples collected at postharvest. *A. flavus* isolates with the highest aflatoxigenicity potential were from Nakuru County with mean aflatoxin level at 239.7 µg/kg. Genetic distance based on Neighbor Joining (NJ) clustered the *A. flavus* isolates into five main clusters. Principal coordinate Analysis (PCA) analysis showed five distinct clusters with both axes explaining 60.17% of the variance. This study showed widespread distribution of aflatoxin contamination and a highly toxigenic *A. flavus* in stored maize in three major agro ecological zones in Kenya. These results suggest a potential health risk of aflatoxin outbreaks within these areas, thus call for more investigations.

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Bamboo - A building material for construction

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Concrete and steel are the most widely used construction materials in the world. The concrete has high compressive strength but low tensile strength. Therefore, steel is used to reinforce the concrete. Steel has a very high tensile strength as compared to concrete, but there are certain problems associated with it. Some of these problems are high production cost, large energy consumption during its production; it is a non-renewable resource and large amount of carbon emission during its production. The urge to overcome these problems without the tensile capacity of reinforced concrete being compromised, has prompted numerous scientists and engineers to seek out locally sourced materials as a replacement for conventional steel reinforcement. Specifically bamboo is one of the most suitable materials that may be used as reinforcing bar in concrete. This project work assessed the suitability of bamboo as reinforcement in concrete. In this project, size of beams selected is 230x 300 x 2000 mm. treated bamboo reinforced concrete (TBRC) beam and steel reinforced concrete (SRC) beam was casted for each size of beam and they were tested on loading frame machine. The compare of the results for the bamboo reinforced beam and steel reinforced beam shows that the load was varying from the percentage of bamboo and steel. Hence, it can be recommended to use bamboo reinforced concrete beam for light load bearing structures like beam, plinth beam and slab for small panel. Also, it may be used for temporary structure.

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Control of soybean stem f*ly Melanagromyza sojae* (Diptera: Agromyzidae) by sticky color traps in soybean field

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Five color traps were used to study the effect of color upon the attractiveness of Soybean stem fly *Melanagromyza sojae* (Zehnter),(Diptera: Agromyzidae) in Nubaria Agriculture Research Station's farm, throughout 2015 and 2016 seasons. White, yellow, red, green and blue sticky traps were used to estimate of attraction to suppress of *M. sojae* damage in soybean fields. White and yellow traps had great effect in suppressing the damage, there were increasing in seed's weight by using white and yellow traps which mean the mass trapping of these two color were success in controlling *M. sojae* , blue trap was low effect and other traps were not effective in captivity the adult.

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From manned to full autonomy; factors influencing the development and adoption of automated agricultural field machinery

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The continuing evolution of agricultural field machinery is being shaped by technological developments in other sectors such as defense and transportation. Absent defense-related concerns, it is doubtful the private sector alone could have justified the expense of space-based radio navigation or Global Navigation Satellite Systems. Arguably, the single greatest factor supporting the automation of current agricultural field machinery has been the deployment of Controller Area Networks which were necessary to meet US and EU regulatory requirements for off-highway diesel engine emissions. The focus of this presentation is multifaceted; a review of historical trends in field machinery size, physical limitations faced by the industry, tradeoffs between mechanical life and technical obsolescence, evolving automation technologies in other sectors, and soil health. So what factors will accelerate the transition from manned to fully autonomous agriculture vehicles? Perhaps the current emphasis on reducing labor costs through up-sizing equipment (>30,000 kg) will begin to lose its appeal as producers learn more about the damage done to soil structure. Or, farmers may demand that machinery life be brought in line with technical obsolescence. The first commercially successful autonomous agricultural vehicles will be low power (<50 kW) and lightweight (< 4,000 kg). The shift to smaller equipment will be accompanied by a reduction in mechanical life (< 3,500 hrs.). Equipment designers will strive to develop iron with planned failure at obsolescence (approximately five cropping seasons). Further, symmetry will be utilized to minimize the number of parts required to build this machinery thereby increasing volume concomitant with reduced production and service costs. However, the single most crucial factor that will drive the transition from manned to supervised autonomous machinery will be increased agricultural productivity through mitigation of soil compaction via the use of lightweight (and low power), autonomous field machinery.

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Genotype X environment interaction and yield stability of arabica coffee (*Coffea arabica* L.) genotypes

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Lack of suitable varieties that exhibit stable yield performances across wide ranges of environments as a result of significant genotype x environment interaction (GEI) is the major factors among several production constraints contributing to low productivity of Arabica coffee in Ethiopia. In the present study, eleven advanced Limmu coffee genotypes were evaluated in eight environments (four locations over two years) to determine the existence of G x E interaction and yield stability performances. The experiment was laid out in a Randomized Complete Block Design of two replications under all locations. Combined analysis of variance showed a highly significant effect of genotype by environment interaction indicating the differential yield response of genotypes across different environments. The major proportion of the variation explained by environments was 42.74% of the total variation. Nevertheless, the contribution of the genotypes to the total variance was much smaller than the environments, and the genotype by environment interactions. This suggests that environmental variation, among other variance components, was the major factor affecting the yield performance of coffee genotypes. To this effect, different stability models such as AMMI, AMMI stability value, cultivar superiority index and yield stability index were used for stability analysis. The first two Interaction Principal Component Axis (IPCAs) of AMMI exhibited a highly significant effect and cumulatively contributed about 63.21% of the total interaction sum of squares which is greater than half of the total. This indicated the capability of the first two principal component axis for cross-validation variation explained by the interaction effect. Subsequently, two high yielding genotypes, namely; G3 (L52/2001) and G9 (L55/2001), on average, showed stable performance across environments. On the other hand, the study also illustrated the presence of location specific high yielding coffee genotype such as L56/2001 as a result of significant interaction of the genotypes with the environments. Regarding to test environments, Gera 2015/16 (E5) regarded as a more stable site for coffee bean yield improvement over the rest environments due to the IPCA score nearer to zero which is having little interaction effect, while Agaro 2015/16 (E7) was considered to be the most interactive environment. Based on the result of this study, coffee breeders or farmers would be recommended for wisely selecting either for location specific or wider adaptable coffee genotypes leading to substantial yield increment under Limmu coffee growing areas.

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Attraction of melon fruit fly, *Bactrocera cucurbitae* (Diptera: Tephritidae) to the odor of cultivable gut bacterial isolates

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The melon fruit fly is a destructive pest of cucurbits in India and microbiota plays an important role in insect biology. Understanding the gut microbiota composition is essential for the development of pest management strategies. Given this, the study intended to identify the cultivable bacteria inhabiting the intestinal tract of adult melon fruit fly (*Bactrocera cucurbitae*) from the field-collected population of the experimental fields of IARI, New Delhi, India; between 28°37'22" to 28°39'05" N latitudes and 77°08'45" to 77°10'24" E longitudes. Ten isolates were identified and characterized using biochemical, molecular and 16sRNA sequencing methods to assess the attractiveness of the bacterial odours to their hosts. Bacteria identified belong to family *Enterobacteriaceae, Staphylococcaceae, Enterococcaceae, Bacillaceae* and *Brucellaceae*. Laboratory bioassay was employed to examine the attractiveness of the different bacterial isolates to *B. cucurbitae* adults in normal and olfactory cages separately. The bioassay showed that a higher number of female flies were attracted to bacterial filtrates than male flies across all age groups. *Klebsiella oxytoca and Citrobacter freundii* were the most attractive species across all age group of adult flies. These findings will facilitate blooming of female targeting bacterial bio control emissary for the defense of cucurbit crops.

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Effect of differential nutrient doses and scheduling on growth yield attributes yield and nutrient efficiency in hybrid rice (*Oryza sativa* L.)

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Statement of the Problem: An experiment was conducted during Kharif seasons of 2011-12 and 2012-13 to study the effect of split application of NPK fertilizer growth yield parameters and yield of hybrid rice at Student Instructional Farm of Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad U.P. The experiment was laid out in RBD comprising of ten treatments with three replication and ten practices. The split timing with doses of NPK fertilizer (100% RDF) N 1/3(7DAT+MT+PI) P and K 1/3 (B + MT+PI) growth, yield (7.25-7.45 t ha-1) and availability of N (174.10- 175.55), P (17.75-17.93) and K (246.15- 248.61) kg ha-1 was significantly superior over the rest treatments. Significantly at par, yield attributes growth and yield parameters recorded by T10 NPK (75% RDF) N1/3 (7DAT+ MT+PI) P and K 1/3 (B+ MT+ PI) and T2 NPK (100% RDF) as Recommended practices (RP). This way 25% NPK could be saved by splitting NPK without losing yield.

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Market risk perceptions in smallholder maize production commercialisation: Implications for rural agricultural and marketing infrastructure development in the Eastern Cape

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South African government policies such as National Development Plan 2030 (NDP - 2030) of 2013 still place the development of smallholder commercial agriculture in the heart of solving the tripartite challenges of poverty, inequality and unemployment. Under these policies, the government has launched agricultural infrastructural development programmes targeted at unlocking Eastern Cape Province enormous potential for commercialised poverty reducing smallholder agriculture. Despite all external top-bottom approach support of agriculture by the government through several programmes, agricultural commercialisation remains an internalised decision made towards the market orientation of crop and livestock production. Furthermore, commercial agriculture is an inherently risky endeavour riddled with production, human, enabling environment, financial and market risk. How farmers perceive potential market risks becomes fundamental in decision making towards their market orientation as suggested by the Proactive Continuous Risk Assessment Reference Theory. Therefore, the main aim of this cross section designed study was to investigate market risk perceptions' influence on smallholder commercialisation levels and market risk perceptions. A multistage purposive sampling was used and Cochran equation was used to obtain a sample of 322 smallholder maize farmers in Ingquza Hill Local Municipality, South Africa. Their level of commercialisation was measured using Household Commercialisation Index (HCI) while a Likert Scale was used to aggregate their market risk severity perceptions. Bivariate Kendal's tau-b correlation analysis was used to empirically confirm the existence of a relationship between the variables their market risk perceptions and level of commercialisation. A strong negative correlation of rk = - 0.764 was confirmed displayed significance ($P < 0.05$). Tobit Regression Model was used to econometrically detect the significance of market risk perceptions among socio – economic, institutional and agronomic factors influencing the level of commercialisation. Market risk perceptions were confirmed to be significant ($P < 0.05$) in determining the level of commercialisation. Other significant socio – economic variables included the level of education, cropping programme/ cooperative membership, climate perceptions and experience in farming. This demonstrates that market risk perceptions are important in ensuring that smallholder farmers commercialize their production and agricultural post-harvest and marketing infrastructure is optimally used. This information can be used by the Department of Rural and Agricultural Development and Department of Agriculture, Forestry and Fisheries in an effort to improve their extension service in order to grow resilience among smallholder farmers and ensure facilitated rural markets remain viable.

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Social capital and agricultural technology adoption among Ethiopian farmers

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Despite the recent efforts to increase agricultural productivity in Ethiopia, food insecurity remains a major challenge in the country. Improving smallholders´ productivity requires the adoption of suitable agricultural technologies and practices. Previous researches highlighted the importance of socio-economic factors; but widely overlooked the role of social capital in technology adoption and its potential to create collective actions, reduce transaction costs, relax supply side constraints, and disseminate information. Using socio-economic data of 398 farming households, we assessed social capital, using a probit model, as a determinant for soil and water conservation practices (SWC) such as terraces, bunds and agro-forestry as well as adopting productivity enhancing technologies (PET) such as fertilizers and improved high yielding seed varieties. We found that members of Iddir (informal funeral group) were more likely to adopt SWC (18.2%). For the case of PET, Iddir members were 12.8% less likely to adopt. Being members of Jarsumma (informal conflict resolution) increased the likelihood of SWC and PET adoption by 12.87% and 17.8%, respectively. Therefore, we recommend that technology transfer should consider the different types of social capital as an alternative policy option to the prevailing top down approaches in order to improve smallholder livelihoods.

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Influence of ICTs Services and Applications on Agricultural Development

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The major problem was to bring improvement in the quality of life of rural people without ICTs services and applications in Agriculture. In rapidly changing local and global agricultural market and price mechanism, it is difficult for traditional and poor farmers to maintain their farm productivity and one of the major problem is clear the weakness of physical distance and logistic problems with time availability of relevant information are the foremost hurdles in personal communication and dissemination of information about cropping technologies especially in critically stage of crops, weather forecast. Punjab-Pakistan province was selected purposively as the study province for the said study. In the present study, convenient and simple random sampling techniques was used to cover the whole province of the Punjab. Total sample size of the study was three hundred (300) user-ICTs. It was concluded that information attained by ICTs (services and applications) like a telephone with toll-free number application, cell phone with text and robo calls applications, computer with internet application, personal characteristics and capacity building of the farmer were significantly correlated with the decision-making aspects with important for awareness, knowledge, capacity building, timely information, improved productivity and also marketing purpose etc. There is need to restructure and redesign present technology transfer and flow of information scenario of agricultural extension system to make convenient efforts for provision of counseling services and agricultural information sources (Information Hub Center) to rural farming societies by Government.

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A pilot study of toxic elements in cotton seeds with instrumental neutron activation analysis

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Cotton has been a major cash crop in South Carolina since revolutionary times to current day. Throughout the growing season, cotton assimilates numerous trace elements from the soil, including the toxic ones. Some of these trace elements are accumulated and enriched in cotton seeds. Therefore, cotton seeds can serve as a biological indicator of heavy metal contamination in local soil. Like other states, South Carolina is subject to the environmental impact of human behaviors. Dozens of heavily-polluted superfund sites are scattered in the state, and some of them are close to cotton plantations. It is conceivable that cotton may be under contamination impact of these sites through ground water movement or other migration paths. In this study, several cotton seeds and corresponding local soil samples from the Midlands Region of South Carolina were studied by instrumental neutron activation analysis (INAA). After irradiation of the samples with thermal and epithermal neutrons from the PULSTAR Reactor, all of short-lived, medium-lived and long-lived isotopes spectra were collected with HPGe spectrometers. The pilot study indicated that: INAA is a competent tool for conducting multi-element analysis in agricultural products, especially cash crops. It is capable to determine the level of elements in soil and cotton seeds with high accuracy and extreme sensitivity. Cotton, as a life form, works like a refining factory which has the ability to not only increase the concentration of essential elements in seeds but also block some elements which it does not need.

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Evaluation of phosphate solubilizing bacteria by their effects on lead (Pb) toxicity

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Lead (Pb) is regarded as a potent occupational toxin and its toxicological manifestations are well known. When soil is contaminated with lead plants would absorb it as it's a persistent contaminant. This lead poisoning can be detoxified by using physical, chemical and biological methods. Biological detoxification is defined as enzymatic degradation or transformation of toxins that leads to less toxic products. But a complete understanding of how these detoxification mechanisms influence their P solubilization is lacking. Microorganisms play an important role in the environmental fate of toxic metal including Pb with physiochemical mechanisms transformations between soluble and insoluble phases. Such mechanisms are important components of natural toxicity tolerance of heavy metal including Pb. Phosphate Solubilizing Microorganisms (PSMs) have specialized attributes for conversion of insoluble form of phosphate to soluble via methods like solubilization and mineralization. Therefore, this study was conducted to identify the capability of growth of PSMs in the presence of Pb. Agricultural soil was used to isolate the phosphate solubilizing bacteria and isolation was done by using National Botanical Research Institutes Phosphate (NBRIP) medium. 15 phosphate solubilizing bacterial isolates were found and their resistance to Pb was tested in a medium consist with different concentrations of Pb respectively 100ppm, 200ppm, and 400ppm. The survived bacterial strains were used to determine the phosphate solubilization under Pb toxicity. Survived bacterial strains were inoculated into NBRIP broth medium. Phosphorus solubilization, growth and pH were monitored respectively after 1, 3 and 5 days. Among 14 isolates 11 were growth in 100ppm, 10 were growth in 200ppm, and 7 were growth in 400ppm Pb concentration. 7 isolates from 400ppm Pb toxicity were used for further analysis of Phosphorus solubilization. Among them PSB-8 strain has shown a vigorous growth within a maximum Pb toxicity and has solubilized 72.02ppm phosphate under 400ppm Pb toxicity.

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