

CONTENTS

PREFACE	ii
CONTENTS	iii
Message from the Chief Guest, Chairperson, University Grant Commission, Sri Lanka Prof (Mrs). Kshanika Hirimburegama	iv
Message from the Vice Chancellor, University of Ruhuna Prof. Gamini Senanayake	v
Message from the Dean, Faculty of Agriculture Prof. S. Subasinghe	vi
Message from the Coordinator, ISAE 2013 Prof. K.L. Wasantha Kumara	vii
Key Note Speech of the Inaugural Session Prof. E.R. Ørskov The James Hutton Institute, Craigebuckler, Aberdeen, Scotland, UK	viii
Paper Index	14
Oral Presentations	
Food Technology and Nutrition	27
Innovative Technologies and Farming Systems	71
Livestock and Aquaculture	131
Soil and Nutrient Management	183
Agronomy and Biotechnology	235
Social Sciences and Management	291
Poster Presentations	344
Organizing Committees, ISAE 2013	600
Sponsors, ISAE 2013	603

Paper Index
Oral Presentations

Food Technology and Nutrition

Keynote Speech

Making the World Healthier–Recent Advances in Nutritional Sciences Research

Dr. Jaanaki Gooneratne

Consultant Food Scientist/Nutritionist and Former Deputy Director (Food Technology),

Industrial Technology Institute, Colombo. 29

Effect of Milk Base Heat Treatment on Physicochemical, Physical, Textural and Sensory Attributes of Plain Set Yoghurt Made Employing Ultrafiltration

N. M. N. K. Narayana and V. K. Gupta..... 33

Development of a Spice Cube for a Mixed Vegetable Curry

G.R. Tennakoon, P.L.N. Lakshman and M.K.W. Gamage..... 39

Influence of *Garcinia cambogia* on Histamine of Tuna Fish (*Thunnus albacores*)

P.K.D. Randilinie, M.A.J.P. Munasinghe..... 43

Development of a Rice Based Ice Cream and Determination of Its Quality Parameters

H.S. Jayawardene, B.M.K.S. Thilakarathne, R.M.N.A. Wijewardene, C.A.K. Disanayake and

R.M.R.N.K. Rathnayake..... 47

Quality Evaluation of Avocado (*Persea americana*) Fruit Yoghurt Made from Buffalo Milk

K.D.T. Hettige, C.S. Ranadheera, N.W.I.A. Jayawardena and J.K. Vidanarachchi..... 51

Effect of Plantain Starch Edible Coating on Shelf Life and Quality of

Tomatoes Stored at Ambient Conditions

Thevaki Mahendran..... 55

Effect of Different Bran Removal Degrees on Quality Attributes of Stored Parboiled Rice

C.R. Gunawardhane, W.M.C.B. Wasala, C.A.K. Dissanayake, R.M.R.N.K. Rathnayake,

B.M.K.S. Thilakarathne..... 59

Effect of Generally Recognized As Safe (GRAS) Compounds to Control the

Growth of *Aspergillus flavus* and its Aflatoxin Production in Maize (*Zea mays* L.)

R.M.R.N.K. Rathnayake, C.A.K. Dissanayake, W.M.C.B. Wasala, C.R. Gunawardane,

R.M.N.A. Wijewardane, H.S. Jayawardane and B.M.K.S. Thilakarathne..... 65

Development of a Spice Flavoured Tea

A.J.P.A. Sewwandini, P.L.N. Lakshman, and M.K.W. Gamage..... 69

Innovative Technologies and Farming Systems

Keynote Speech

Present Status of Climate Change, its Impact on Sri Lankan Agriculture and the Way Forward

Dr. W.M.A. D. B. Wickramasinghe

Director, Natural Resources Management Centre

Department of Agriculture, Peradeniya..... 73

Assessment of Phosphorus Enriched Vermicompost from Organic Wastes for Use in Agriculture

Abhisek Saha and G.N.Chattopadhyay..... 79

Role of Precision Farming in Sustainable Development of Hill Agriculture

Kaushik Luthra and Akshita Mishra..... 83

Influence and Counter Measures for Combating Monetary Inflation on

A4 Paper Waste Recycling Industry in Sri Lanka

B.F.A. Basnayake, R.T.K. Ariyawansa, A.K. Karunarathna and A.S.H. Chandrasena..... 87

Evaluation of Leachate Treatment System at Gohagoda Dumpsite

R.T.K. Ariyawansa, H.P.A. Chathurangi, B.F.A. Basnayake, S.A.D.N. Senevirathne,

C.A. Basnayake and A.S.H. Chandrasena..... 91

Community Based Adaptation and Mitigation Strategies in Relation to

Water and Crop Management in Batticaloa District

M. Rajendran and R. Thivyatharsan..... 95

Proposed Spatially Distributed Rain Gauges to Improve Rainfall Database in

Jaffna District

M.Thushyanthy..... 99

Performance Evaluation of a Screw Type Oil Expeller for Extraction of Sesame Oil

D.M.S.P. Bandara, T.M.R. Dissanayake, H.M.A.P. Rathnayake and D.P.C. Swarnasiri..... 103

Effect of Modified Atmospheric Conditions of Hermetically Sealed Large

Capacity Cocoons for Storage of Maize Seeds (*Zea mays*)

D.M.C.C. Gunathilake and B.M.K.S. Thilakaratne..... 107

Water Footprinting: Impacts of Potato Production on Water Resources

Indika Herath, B. Clothier and S. Green..... 111

Performance Assessment of Radio Frequency Based Centralized Wireless Sensor Network to an Agriculture Field	
K. Jayaweerarathna, H.L.T.T. Dinuka, D.A. Chathurika, R.W.R.V. Mettananda, K.W.J. Charith and S.H.K.K. Gunawickrama.....	115
Mobile Phone Assisted Irrigation Management System for an Agriculture Field	
K.W.J. Charith, W.U.K. Mendis, H.L.W. Anjana and M.M. Amaratunga.....	121
Relationship of Bark Yield, Bark and Leaf Oil Contents with Stick Parameters of True Cinnamon (<i>Cinnamomum zeylanicum</i> Blume)	
R.A.D.R.A. Ranasinghe , K.G.G. Wijesinghe and I.K. Ruwansiri.....	127
Livestock and Aquaculture	
Keynote Speech	
Protein Metabolism in Swamp Buffalo	
Dr. Vo Thi Kim Thanh	
Department of Animal Physiology, College of Agriculture and Forestry, Hue University, Vietnam.....	133
Effect of Type three Secretion System and Phospholipases on Virulence of Harveyi clade vibrios (<i>Vibrio harveyi</i> and <i>Vibrio campbellii</i>)	
H.A. Darshanee Ruwandeepika, T. Sanjeeva Prasad Jayaweera, Indrani Karunasagar and Peter Bossier	139
Common Health Problems and Indigenous Medicinal Practices of Cattle and Goat in Small Scale Farming System in Ratnapura District, Sri Lanka	
R. M. A. S. Bandara, H. M. G. P. Herath and P. G. H. M. S. N. Herath	143
Behaviour and Growth Performances of New Zealand White Rabbit Kits Weaned at Three Different Ages under Tropical Climate	
R.M.A.S. Bandara, T.S. Samarakone, M.M.P.Sumith and M.P.B.Wijayagunawardane	147
Effect of Different Packaging Materials on Quality Characteristics of Chicken Eggs during Storage at Room Temperature (32 °C)	
H. K. J. P. Wickramasinghe, Janak Vidanarachchi, S. M. C. Himali and P.S. Fernando	151
Evaluation of F1 Progeny from Multi-Hybrid Crossing of Local Chicken Genotypes	
A.V. Chrishanthan, E. Subalini and M. Rameskaran.....	155
Detection of Antibiotic Resistance of <i>Salmonella</i> Species Isolated from Broiler Chicken	
T. Sanjeeva Prasad Jayaweera, B.K.H.F.A. Wickramasuriya and H. A. Darshanee Ruwandeepika.....	159

Cowpea (<i>Vigna unguiculata</i> L. Walp.) Incorporated Experimental Diets Modulate Caecal Fermentation and Serum Lipid Metabolism in Wistar Rats (<i>Rattus norvegicus</i>)	
G.W.A.S. Lakmini, R. Liyanage, B.C. Jayawardana, J.K. Vidanarachchi and N.W.I.A. Jayawardana.....	163
Effectiveness of Fish and Shrimp Seed Stocking Strategies on Inland and Aquaculture Production in Sri Lanka	
M.K. Upali Kithsiri.....	167
Effects of Citric Acid and Multi Enzyme Supplementation on Growth Performance of Broiler Chicken Fed Diets Containing Rice Bran	
A.K.G.S. Jinasena, N.S.B.M. Atapattu and D. Senaratna.....	171
Interrelationships between Two Gait Scoring Systems, Tibia Ash Contents, Body Weights and Latency-To-Lie of Commercial Broiler Chicken	
N.S.B.M. Atapattu, N.M. Gunawardane and K.G.S. Chaminda.....	175
Present Status of Shark Liver Oil Industry in Sri Lanka	
N.Y. Hirimuthugoda, H.G.T.N. Gunawardhana, G.S. Gamage, N.A. Pethiyagoda and Kumudu R. Gamage.....	179

Soil and Nutrient Management

Keynote Speech

No-Tillage Farming for Sustainable Biomass Production	
Dr. Masakazu Komatsuzaki College of Agriculture, Ibaraki University, Japan.....	185
Ecosystem based Adaptation Options against Salinity Intrusion in Freshwater Aquaculture System in Sundarban Delta of India	
B.K. Chand, R. K. Trivedi, S. Rout, S. K. Ghosh, M. M. Beg, U. K. Das and S. K. Dubey.....	189
Effect of Different Mulching Materials on Productivity of Papaya (<i>Carica papaya</i>) and Soil Moisture Availability	
A.G. Chandrapala, S.H.S.A De Silva and H.A.P Jayalath.....	193
Origin and Spatial Distribution of Heavy Metals in a Soil Map Unit of Sri Lanka	
U.K.P.S. Sanjeevani, S.P. Indraratne, W.A.U. Vitharana, R. Weerasooriya and F. Rosemary.....	197

Spatial Variability of Soil Properties in a Dry Zone Soil Catena of Sri Lanka F. Rosemary, U.W.A. Vitharana, S.P. Indraratne and S.V.R. Weerasooriya.....	201
Nutrient Management Strategies for Two Different Soils in the Wet Zone of Sri Lanka A.A. Mariaselvam, W.S. Dandeniya and S.P. Indraratne.....	205
Site Specific Nutrient Management for Low Productive Soils from Two Agro-Ecological Zones of Sri Lanka J.A.S. Chathurika, S.P. Indraratne and W.S. Dandeniya.....	209
Seed Crop of Bitter Gourd as Influenced by Soil Application of Phosphorus and Micro nutrient Spray Joydip Mandal	213
Evaluation of the Recent Nitrogen Fertilizer Recommendation for Rice Variety Bg 300 in Dry Zone of Sri Lanka through a Modelling Approach R.K.Amarasingha and L.D.B. Suriyagoda.....	217
Extending the Soil Database of the Dry Zone of Sri Lanka to Cover the Northern Region Ranjith B. Mapa, P. Gowthamy Nalina Gnanavelrajah and A.H. Kulasiri.....	221
Exogenous Application of Salicylic Acid With Irrigation to Alleviate Drought Stress of Rubber Nursery Plants in the Intermediate Zone of Sri Lanka S. A. Nakandala, K. D. N. Weerasinghe, P. Senevirathne, S. M. M. Iqbal and P. D. Pathirana.....	225
Cadmium and Lead in Dry and Wet Zone Rice – Vegetable Cropping Systems D.W.A.W. Dilshani, S.P. Indraratne and N.R.N. Silva.....	231

Agronomy and Biotechnology

Keynote Speech

Effects of Climatic Changes on Plant Pathogenic Bacteria

Prof. Kubilay Kurtulus BASTAS

Dept. of Plant Protection, Faculty of Agriculture, Selcuk University, Turkey..... 237

Germination Behavior of Weedy Rice at Different Sowing Depths under Field Conditions

K.M.A.S.K. Rupasingha and Disna Ratnasekera..... 245

Genotypic Variations on Yield and Yield Related Parameters of Mung Bean (<i>Vigna Radiata</i> (L.)Wilczek) under Water Stress in the Low Country Dry Zone of Sri Lanka	
R. Eeswaran, W.M.W. Weerakoon and U.R. Sangakkara.....	249
Some Parasitoids of Rice Pests Collected from Insecticide-Free Rice Fields in Sri Lanka	
L.H.D.S. Lakshman, H.N.P. Wijayagunasekara and M.A.R.A. Mandanayake.....	253
Diversity and Abundance of Ground Beetles (<i>Carabidae: Coleoptera</i>) in Eco-Friendly Home Gardens in Comparison with Conventional Home Gardens in Southern Dry Zone of Sri Lanka	
K.S. Hemachandra, B.P.U.R. Bandara, W.A.P. Weerakkody, J.K.S. Wasantha, U.G.A.I. Sirisena, T.D.C. Priyadarshani and J.M. Soorasena.....	257
Efficiency of Callogenesis and Amenability to Agrobacterium Mediated Transformation of Selected Traditional Sri Lankan Rice Varieties	
M.M.K. Bandara, D.S. Kekulandara, D.M.R.B.N. Dissanayake, W.L.G. Samarasinghe and T.C. Bamunuarachchige.....	261
Assessment of Genetic Diversity of Cowpea Germplasm Based On Morphological Characters	
M.C. Millawithanachchi, S.N.K. Saranasinghe, A.P. Bentota and N.T. Prathapasinghe.....	265
Use of ITS Region for Molecular Differentiation of <i>Exobasidium vexans</i> Causing Blister Blight in Tea	
D.C.M. Kulatunga, G.D. Sinniah, A. Balasuriya, K.H.T. Karunarathna and K.M. Mewan.....	271
Allometric Relationship among Leaf and Floral Parameters in <i>Anthurium andraeanum</i> Variety "Tropical Red": Simple Indication of Floral Display	
T.M.R.S. Perera, B.L.H.N. Balasooriya and C.K. Benaragama.....	275
Induction of Polyploids from Purple Coneflower (<i>Echinacea Purpurea</i> L.) Through Colchicine Treatments	
N. Dahanayake and Yue-Sheng Yang.....	279
Intercropping of Rice (<i>Oryza sativa</i>) Varieties AT 401 and AT 402 with Green Gram (<i>Vigna radiata</i>) and Radish (<i>Raphanus sativus</i>) in <i>in vitro</i> Condition.	
I.P. Manawadu, N. Dahanayake and S.G.J.N. Senanayake.....	283

Leaf Spot Diseases in Banana (<i>Musa spp.</i>) and their Control (<i>in vitro</i>)	
N.A.T.T.Perera, D.B. Kelaniyangoda and A.S.A. Salgadoe.....	287

Social Sciences and Management

Keynote Speech

Knowledge Economy in Sri Lanka

Prof. Sampath Amaratunga

Faculty of Management Studies and Commerce

University of Sri Jaywardenepura.....	293
---------------------------------------	-----

Effect of Business Communication on Consumers' Purchase Behavior in a Product Harm Crisis

Ganganee Chandima Samaraweera, Ping Qing and Yanjun Li	301
--	-----

What Drives Firms to Act Positively on Environmental Quality Overtime?

Evidence Based on Panel Data from Sri Lankan Agri-Food Processing Sector

J.S.M. Madanayake, J.M.M. Udugama and U.K. Jayasinghe-Mudalige.....	305
---	-----

Recruitment, Selection and Retention Challenges of Export Processing Businesses in Sri Lanka

I.C. Hettiarachchi, D.M. De. Silva.....	309
---	-----

Effect of Environmental Stringency on Polluting Industry Exports:

A Study Related to the Exports of Bilateral Refined Petroleum Products

J.W.P.C. Malmi and J.C. Edirisinghe.....	313
--	-----

Economic Viability of Sprinkler Irrigation System on Onion (*Allium cepa*) in Vavuniya (A Case study in Nedunkerny)

T. Suceendra and A. Nanthakumaran	317
---	-----

Impact of Quality and System Certifications on Profitability of Tea Estates in Up Country Region

I.M.D.U. Siriwardana, R.A.P.I.S. Dharmadasa and M.T. Ziyad Mohamed.....	323
---	-----

Information Utilization Pattern of Coconut Farmers in Batticaloa District

Viharnaa Selvarajah, and Thivahary Geretharan.....	327
--	-----

Assessment of the Impact of Internationally Recognized Quality Standards on the Business Performance of Firms in Sri Lanka

C.K. Rajapaksha and J.C. Edirisinghe.....	331
---	-----

Consumers' Expectations of Corporate Social Responsibilities in a Product Harm Crisis: A Comparative Study

Ganganee Chandima Samaraweera , Ping Qing and Yanjun Li	335
---	-----

**Economic Impact of Establishment of Quality Management Systems in Tea Industry:
A Case Study in Matara District**

N.K. Kalansuriya, L.M. Abeywickrama..... 339

Poster Presentations

Existence of Spore Forming Bacteria in Raw Milk

M.A.A. Pubudu Kumari and K.F.S.T. Silva..... 346

**Development of a Beverage from Nutmeg (*Myristica fragrans* Houtt.)
Pericarp and Determination of Its Consumer Acceptance**

D.D.N. Hewage and M.D.K. Vithana..... 350

**Sensory Evaluation of Different Flavoured and Textured Cashew
(*Anacardium occidentale* L.) Butter Made from Cashew Nut Pieces**

S.A.S.P. Perera, M.D.K. Vithana and S.J.B.A. Jayasekera..... 354

Problems Associated with On-farm Storage Conditions of Paddy in Sri Lanka

C.A.K. Dissanayake, W.M.C.B. Wasala, R.M.R.N.K. Rathnayake, R.M.N.A. Wijewardhane,
C.R. Gunawardhane, H.S. Jayawardhane and B.M.K.S. Thilakarathne..... 358

**Effect of Storage Temperature and Period on Fruit Quality Characters of
Recommended Sweet Orange (*Citrus sinensis*) Cultivars in Sri Lanka**

W.R.K.D.W.K.V. Wickramasinghe, R.M.Y.S. Rathnayake and T.G. Dayananda..... 362

**Improvement of Quality and Shelf Life of Buffalo Curd by Adding Cinnamon
(*Cinnamomum zeylanicum*) Essential Oil**

R.A.P.D. Karunarathne, R.M.A.S. Bandara and M.A.J.P. Munasinghe..... 368

Effect of Hot Water Soaking on Hydration of Nadu Type Paddy Grains

K. Kajenthiny, M. Prabakaran, P. Alvappillai and N. Kannan..... 372

Effects of Hydrology on Constructed Wetland Vegetation in Tropic Region

P. Bama, M. Thushyanthy, P. Alvappillai and M. Prabhakaran..... 376

**Development of Nutrition Educational Tool on Carbohydrate Counting Concept for
Adult Sri Lankans with Diabetes**

Thakshila Adikari, Chanida Pachotikarn, Sunard Taechangam and Nipa Rojroongwasinkul..... 380

Development of a Rice Bran Incorporated Energy Rich Snack for Schoolers	
U. Pathirana, T. Madhujith, N.W.I.A. Jayawardana and Senaka Ranadheera.....	384
Development of Rice Cake Premix and Evaluation of Its Quality Parameters	
P.L.P.S. Sandaruvini, P.L.N. Lakshman and S. Ekanayake.....	386
Estimation of Soil Moisture Contents of Paddy Fields in Vavuniya District using Remote Sensing Technology	
K. Arjunan, S. Suthakar and P. Loganathan.....	389
Effect of Feeding Strategies on the Production and Composition of Milk in Small Scale Dairy Farms in the Thirunelvely Area of the Jaffna District	
S. Thavalanky and J. Sinniah.....	393
Diffusion of Crossbred Cow Technology in Sri Lanka using Duration Analysis	
H.D.A.A.M. Nandadasa and J.C. Edirisinghe.....	399
Cattle and Buffalo Farming in Dry Zone of Sri Lanka: A Preliminary Survey	
M. Pagthinathan and K. Sathiyasegar.....	403
Present Status of Goat Farming in Kurunegala District: Management Systems and Constraints	
H.A.Y. Biyanka, G.A.S. Ginigaddara and B.P.A. Jayaweera.....	406
Present Status of Lobster Fishery Industry in Matara, Sri Lanka	
N.Y. Hirimuthugoda, U. Liyanage and A.S. Jayathilaka.....	410
A Study on the Influence of Effective Temperature on Performance of Broiler Chickens	
M.G.C.R. Wijesinghe and T.S.P. Jayaweera.....	414
Length-Weight Relationship of <i>Dasyatis Kuhlii</i> in Kurunahar Waters, Sri Lanka	
R. Ajantha.....	418
A Comparison of Performance of Productive and Fertility Characters of Dairy Cattle in Dairy Villages and Non Dairy Villages	
H.G.T.N. Gunawardhana, Thusith S. Smarakoon and W.W.D.A. Gunawardena.....	422
Iron Toxicity Tolerance of Improved Rice Varieties in the Low Country Wet Zone of Sri Lanka	
G.D.A. Priyantha, B.G.D.S. Weerasinghe and K.A.C. Rasanjali.....	428

Potential use of <i>Trichoderma</i> sp. and <i>Pseudomonas fluorescens</i> to Control <i>Phytophthora capsici</i> in vitro and Promoting the Growth of Black Pepper (<i>Piper nigrum</i> L.) in the Nursery	
R.D. Kodithuwakku, A.G.A.N. Dayananda, I.S.Kumari, D.P.P. De Silva, W.M.R.B.Wijekoon and D.S. Pillai.....	434
Growth, Phosphorus and Potassium Nutrition of Long- and Short-Age Rice (<i>Oryza sativa</i> L.) Varieties Under Limited Moisture Availability	
K.A.T.N. Somaweera, D.N. Sirisena, W.A.J.M. de Costa, L. Suriyagoda.....	440
Effect of Different Mulching Materials on Weed Abundance, Growth and Yield of Okra (<i>Hibiscus esculentus</i>) Under Drip Irrigation	
S. Selvaskanthan and S. Sivachandiran.....	444
Association Analysis of Different Carpel Types of Sesame (<i>Sesamum indicum</i>.L) on Length and Width of Capsules and Seed Number	
S. Vasanthakumar, G.T hirukkumaran, V. Arulnandhy.....	448
Prevalence of diseases on <i>Carica papaya</i> L. in Western and Southern Provinces	
H.B.P. Sandani, C. Ranasinghe, W.G.S.M. Kumari, N.P. Dissanayake, R.T. Ekanayake, D.M.K.W. Gunasekara and S. Priyadarshani.....	452
Effect of Explants and Hormone Levels on Callus Induction in Tomato (<i>Lycopersicon esculentum</i> Mill.): Variety Thilina	
I.P. Manawadu, N. Dahanayake and S.G.J.N. Senanayake.....	456
Effects of Explants and Hormone Levels on Regeneration of Radish (<i>Raphanus sativus</i> L.) Variety Beeralu Rabu	
I.P. Manawadu, N. Dahanayake and S.G.J.N. Senanayake.....	460
The Contents of Major Pigments and Solvent Effectiveness of Edible Seaweed Species Available in Sri Lanka	
P.S. Jayasinghe, V. Pahalawattaarachchi and K.K.D. S. Ranaweera.....	464
Effect of Rice Residue Incorporation on Seed Germination and Seedling Growth of Weedy Rice (<i>Oryza sativa</i> var. <i>spontanea</i>)	
A.S. Ranagalage, T.S.D. Jayakody and Deepthi L. Wathugala.....	466
Drought Resistance and Post-Drought Recovery of Three Warm Season Turf Grasses	
B. L. H. N. Balasooriya, T. M. R. S. Perera and C. K. Beneragama.....	470

Extending the Postharvest Life of <i>Calathea lancifolia</i> (Rattlesnake Plant) Cut Leaves Using 1-Methylcyclopropene (1-MCP)	
W.A.C.S. Weerasekara, P. J. Gunawardena and C.K. Beneragama.....	474
Fertilizer Response of Traditional Rice Cultivars with Different Maturity Durations	
U.G.S. Amarasinghe, A.L. Ranawake and S.G.J.N. Senanayake.....	478
Understanding Submergence Tolerance of Some Traditional Rice Cultivars at Vegetative Stage	
M. J. Hewage, A. L. Ranawake, N. Dahanayake and S. Subasinghe	484
Iron and Manganese Removal Efficiency of Biosand Filter from Groundwater at Thottaveli Source, Mannar	
M. Sutharshiny, N. Anoya and M. Thushyanthy.....	489
Genetic Variation in Allelopathic Activity of Traditional Rice Cultivars on <i>Echinochloa crusgalli</i> (Barnyard Grass)	
N.G.J. Pradeepika, A.L. Ranawake, M.J. Hewage and N. Dahanayake.....	493
The Study of the Efficacy of Vilvam Pinchukalkam (Tender Unripe Fruit of <i>Aegle marmelos</i>) on Gunma Noi (Peptic Ulcer)	
T. Kumutharanjan.....	497
Field Performances of Some Sri Lankan Traditional Rice Cultivars at Reproductive Growth Phase	
M.J. Hewage, N.G.J. Pradeepika and A.L. Ranawake.....	501
Time Dependent Contact Angle of Soils Amended with Animal Manure and Fine Woody Debris	
D.A.L. Leelamanie and H.G.C. Dilhani.....	505
Effects of Heating on Organic Matter Induced Soil Water Repellency	
D.A.L. Leelamanie and P.K. Jayasekara.....	509
Isolation and Morphological Characterization of Endophytic Bacteria from <i>Oryza rufipogon</i>	
H.W.K.S. Lalith Kumara, A.N. Kodithuwakkku and Sudarshanee Geekiyanage.....	513
Variability of Some Morpho-Physiological Characteristics of Weedy Rice in Ampara District of Sri Lanka	
K.M.A.S.K. Rupasingha, Disna Ratnasekera and Gamini Senanayake.....	517

Effect of Cold Pre-Treatment on Callogenesis of Selected <i>Indica</i> Rice Genotypes Via Anther Culture	
P.L.P.S. Sandaruvini and Disna Ratnasekera.....	521
Callus Induction Ability of Anthers in Selected Improved Rice Varieties in Sri Lanka	
P.L.P.S. Sandaruvini and Disna Ratnasekera.....	525
Evaluation of Agronomic and Yield Characteristics of Selected Rice Varieties Grown Under Organic Conditions	
S.A. Nirukshi, A.P. Bentota, Disna Ratnasekera, A.P.T. Subhashi and Gamini Senanayake	529
Pollination studies in Hybrid Tomato Seed Production (<i>Lycopersicon esculentum</i> Mill)	
W.J.G. Buddhika, Ranjani Peris, Disna Ratnasekera, A.P.T. Subhashi.....	533
Long-Term Manure Application under Rain-Fed and Irrigation Increases Cu and Zn in Forage	
Srimathie P. Indraratne and Xiyang Hao.....	537
Screening of Some Traditional Rice Cultivars in Sri Lanka for Salinity Tolerance at the Seedling Stage in a Hydroponic System	
N.G.J. Pradeepika A.L. Ranawake and S.D. Wanniarachchi.....	541
Isolation of <i>Pseudomonas aeruginosa</i>, a Potential Petroleum Hydrocarbon Degrading Bacterium from Waste Water in Sri Lanka	
S.M.D. Perera, K. Vivehananthan, M.P. Dassanayake and A.N.K. Perera.....	545
Present Situation of Medicinal Plants Grown in Kiranchi, Kilinochchi District in Sri Lanka and Conservation Strategies	
V. Sathiyaseelan.....	549
The Effect of Salinity on Vegetative Growth of Three Finger Millet (<i>Eleusine coracana</i> L. Gaerth) Varieties	
Deepthi L. Wathugala, U.G.A.T. Premathilake and H.M.S. Kumarasinghe.....	555
Impact of Business Process Reengineering on Organizational Performance: A Case of Export Processing Company	
D. K. G. Amarasena, D. A. M. De Silva and K. G. J. Fernando.....	558
Agricultural Information Need and the Most Popular Sources of Information of the Farmers	
Madhavi Wijerathna, Kumudu Perera and L.D.B. Suriyagoda.....	564

Farmers' Awareness on Safe Use of Pesticides:	
A Case Study on Chilli (<i>Capsicum annuum</i>) Farmers in Kaluthawalai, Batticaloa	
S. Thanuejah and S. Suganiya	568
 Production and Marketing Policies in Paddy Sector in Sri Lanka: The Farmer Perceptions	
B. Gamhewage, U.K. Jayasinghe-Mudalige, J.C. Edirisinghe, M.S.S. Mendis, D.A.M. Perera, J.M.M. Udugama and H.M.L.K. Herath.....	
	572
 Socio Economic Determinants of Household Dietary Patterns:	
A Case Study in Anuradhapura Municipal Council Area	
S.H. Weerappuli , J. Weerahewa and S.N. Dissanayake.....	578
 Gross Income and Profitability of Onion Production in Trincomalee District	
S. Anojini and P. Sivarajah.....	582
 Perceived Constraints for Microfinance Accessibility of the Paddy Farmers - A Case of Anuradhapura District	
P.S.S.H. Kulathunga, A.M.T.P. Athauda, D.P.D.S. Edirisinghe and G.H.I. Anjalee.....	586
 Awareness of Three Communities about the Nutritional Importance of Animal Source Foods	
D.P.S.L. Kumara and N.S.B.M. Atapattu.....	590
 Farmer Knowledge, Awareness and Attitudes towards Organic Paddy Farming in the Kurunegala District	
N.M.S.K. Nayakarathna, A.M.T.P. Athauda, N.R. Abeynayake and G.H.I. Anjalee.....	596