

Combined Congress

23 - 26 January 2017
ATKV Klein Kariba



Combined Congress 2017 – Participating Societies
Gesamentlike Kongres 2017 – Deelnemende Verenigings



South African Society of Crop Production
Suid-Afrikaanse Vereniging vir Gewasproduksie

E-mail: sascp.secretariat@gmail.com

Website: www.sascp.org.za



Soil Science Society of South Africa
Grondkunde Vereniging van Suid-Afrika

E-mail: NortjeN@ufs.ac.za

Website: www.soils.org.za



Southern African Society for Horticultural Sciences

**Suider-Afrikaanse Vereniging vir
Tuinbouwetenskappe**

E-mail: Karin@arc.agric.za

Website: www.sashs.co.za



Southern African Weed Science Society
**Suider-Afrikaanse Vereniging vir
Onkruidwetenskap**

E-mail: mikefe@elsenburg.com

Website: www.weeds.org.za

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LOCAL ORGANISING COMMITTEE

Dr Reinet Gouws

Dr Martin Maboko

Dr Diana Marais

Dr Nicky Taylor

Dr Juan Vorster

Dr Michael van der Laan

Mr Ronnie Gilfillan

Mr Jacques Marneweck

Mrs Leushantha Mudaly

Mrs Nancy Nortje

Ms Stephanie Roberts

Mr Louis van der Merwe

Reviewers: Our sincerest gratitude to all the editors and reviewers.

Klein Kariba support: Mrs Irma Day and staff for their assistance in making this a pleasure to have organized. Mrs Kim du Plessis and staff for the tasty food and snacks that we will be enjoying at the congress.

Photo: Mrs Irma Day (ATKV Klein Kariba)

MESSAGE FROM THE CHAIRMAN OF THE LOCAL ORGANISING COMMITTEE (LOC)

Dear Delegate, it is the privilege of the LOC to present the Combined Congress 2017 at the beautiful Klein Kariba ATKV Resort in Limpopo. It is the first time in the history of the Combined Congress that we are in the Limpopo Province and we do hope you will enjoy your stay and deliberation in this part of our Country.

It has again been a difficult year for all involved with Agriculture. Academics and students experienced volatile times in the latter part of 2016 with the continued "Fees must fall" campaign, while researchers had to work even smarter to get further with smaller budgets. Despite all of these, around 400 delegates could still see their way open to attend our annual congress and we will be listening to 155 oral presentations and be viewing 130 poster presentations. On this note, the LOC would like to express their sincere gratitude to all the reviewers for ensuring quality abstracts. The LOC has decided to go semi-paperless this year and has not included the abstracts in the programme book. The abstracts can be found on the Combined Congress website, should you wish to have a look at specific topics.

We are also grateful to our sponsors and exhibitors (**Monsanto, Haifa, FERTASA, NTK, Lasec, Syngenta, PNS, OAC, ARC, Klein Karoo Seed and Campbell Scientific**) for their support. Without them it would have been impossible to present this congress. Some of the sponsors will be presenting at the congress, while others will have displays and representatives to advise you on their products and support services. Please also show them your support and visit these displays. We also would like to thank Jasper Raats from Landbouweekblad who will join us Tuesday. As scientific writers, we need people such as Jasper to assist us with transforming our language into a more palatable format. So if you want to go that route, be sure to catch him during tea or lunch.

The South African Council for Natural Scientific Professions is the legislated regulatory body for Natural Science Professionals in South Africa. A number of the delegates at the congress are members of this organization, but there is always questions around the role of the Council, qualifications required in order to register, registration itself and many more raised at AGM and Board meetings of the Crops, Hort, Weed and Soil Science Societies. To answer these, sometimes complicated issues, we have invited Dr Rampersadh and Ms Van Aardt to be available during the congress on Tuesday and Wednesday. They will have a table in the Kariba Hall, so make use of this opportunity to visit them.

Apart from the sponsors and SACNASP, The South African Journal for Plant and Soil and the four Scientific Societies (SASCP, SAWS, SASHS and SSSSA) will also have displays set up on the verandah outside the Kariba Hall. They will be there to assist with publication advice, applying for membership, sorting membership fees and other queries etc. Remember, without Society members and Journal publications we will not survive!

Lastly, a big thank you to all the delegates who support the congress, please enjoy the congress with us, meet up with old friends and colleagues, make new friends and take pleasure in the relaxing, yet stimulating environment at Klein Kariba. (Hope you brought your swimsuit and towel!!)

Diana Marais

Chairman LOC 2017

GENERAL INFORMATION

Registration

Registration will take place at the Kariba hall on Monday the 23rd from 15:00.

Opening and key note addresses

This will take place at the start of each day in the Kariba Hall. The times are indicated on the programme.

Parallel sessions

Parallel sessions will be held in the Kariba hall, Bosveld, Bosbok and Dassie venues.

Refreshments, lunch and functions

Refreshments will be served in the Kariba hall at the times indicated in the programme. Bottled water will be provided during the first tea break and after lunch. If you would like to re-fill your bottle, water stations are available at the Bosveld, Bosbok and Dassie venues.

Lunch will be served at the Klein Kariba restaurant. The cocktail function, braai and the gala dinner will be held in the same venue.

The cocktail function is on Monday the 23rd at 19:00.

Important information for presenters

All presenters must take note of the date, venue and time of their presentations. You have 15 minutes for an oral presentation and an additional 5 minutes for questions. Time allocated for questions may also be used for you to move to another venue.

Please remember to have your presentation on a flash drive, ready to be uploaded. All Powerpoint presentations need to be uploaded beforehand during registration on Monday. Mr Ronnie Gilfillan is the responsible person in this regard. If you are unable to do so, you need to do so no later than the break before your session begins. The contact person for this is Mr Ronnie Gilfillan. Please check your biographical information with Mr Ronnie Gilfillan. If you have not provided your biographical information yet, you need to do so when uploading your presentation.

Tuesday 24 January 2017

Time	Event	Venue		
07:00 – 08:30	Registration	Kariba Hall – Klein Kariba – 24°50'59" S / 28°20'20" E		
PLENARY SESSION				
08:30 – 08:40	Welcome	Dr Diana Marais		
Keynote address – Kariba Hall				
08:40 – 09:10	SAWSS	Mr. Ivo Brants	Facts and myths of glyphosate	
09:10 – 09:30	Poster Session 1	Viewing of posters 1 - 65		
SESSION 1 - Tuesday 24 January 2017				
Subject	Crop nutrition and water	Crop breeding and adaptation	Horticulture production and cultivation	Soil fertility
Chairperson	Prof Martin Steyn	Dr Sanesh Ramburan	Dr Martin Maboko	Dr Rianto van Antwerpen
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
9:30 – 9:40	OPENING ADDRESS BY GERRIT BURGER - HAIFA GROUP SOUTH AFRICA	OPENING ADDRESS BY GERHARD SCHOLTEMEIJER - PNS	OPENING ADDRESS BY ROD DREW - ISHS	OPENING ADDRESS BY ADAM MOSTERT – FERTASA
9:40 – 10:00	THE EFFECT OF DIFFERENT NITROGEN SOURCES ON THE YIELD AND WATER USE EFFICIENCY OF RAINFED MAIZE (ZEA MAYS L.) GROWN IN A SEMI-ARID REGION – Ehlers	IDENTIFYING THE BEST SOYBEAN CULTIVARS FOR THE DIFFERENT CLIMATIC REGIONS – De Beer	THE EFFECT OF PLANT DENSITY AND NITROGEN APPLICATION ON YIELD AND QUALITY OF BABY RED CABBAGE –Phahlane	QUANTIFYING SOIL ORGANIC MATTER LOSS DUE TO CULTIVATION IN SOUTHERN AFRICA – Swanepoel
10:00 – 10:20	WATER, NITROGEN AND PHOSPHOROUS USE EFFICIENCIES IN SEED POTATO UNDER CENTRE PIVOT IRRIGATION – Machakaire	INITIAL SCREENING OF SOYBEAN FOR MICROSATELLITE MARKERS CONFERRING RESISTANCE TO SCLEROTINIA STEM ROT – Mbedzi	COMPARATIVE PERFORMANCE OF RED SWEET PEPPER CULTIVARS GROWN IN A SHADENET STRUCTURE VS TEMPERATURE CONTROLLED PLASTIC TUNNEL – Lekala	INFLUENCE OF MANAGEMENT PRACTICES ON SOIL ORGANIC MATTER INDICATORS UNDER KIKUYU, RYEGRASS AND CLOVER PASTURE MIXTURES ON DAIRY FARMS IN THE TSITSIKAMMA REGION, SOUTH AFRICA – Phoho
10:20 – 10:40	COMPARING DIFFERENT WATER FOOTPRINT METHODOLOGIES – Le Roux	EVALUATION OF TEPARY BEAN ACCESSIONS FOR DROUGHT TOLERANCE AND YIELD RELATED TRAITS. – Mchunu	RAINWATER HARVESTING AND CONSERVATION TECHNIQUES FOR IMPROVED PRODUCTION OF LEAFY VEGETABLES IN DRY AREAS OF SOUTH AFRICA –Ibraimo	INOCULATION AND PHOSPHORUS APPLICATION A NECESSITY FOR SOYBEAN PRODUCTION IN MOZAMBIQUE – Engoke
10:40 – 11:00	TEA – Kariba Hall			
SESSION 2– Tuesday 24 January 2017				
Subject	Crops, Soils, Horticulture, Weeds	Crop nutrition and water	Horticulture nutrition and water	Soil biology
Chairperson	Prof John Annandale	Dr Gert Ceronio	Dr Nicolette Taylor	Dr Ailsa Hardie-Pieterse
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
11:00 – 11:20	USING AN AGRO-ECOLOGY BASED APPROACH FOR UNDERUTILISED CROPS IN SOUTHERN AFRICA – Walker	APPRAISAL OF FARMERS' SORGHUM PRODUCTION CONSTRAINTS AND VARIETY PREFERENCES IN THE LIMPOPO PROVINCE, SOUTH AFRICA – Mofokeng	EFFECT OF REDUCED NUTRIENT CONCENTRATION AND FOLIAR FERTILISER APPLICATION ON HYDROPONICALLY GROWN FRESH MARKET AND CHERRY TOMATOES – Maboko	EFFECT OF TIME, TILLAGE AND CROPPING SYSTEMS ON GLOMALIN PRODUCTION BY ARBUSCULAR MYCORRHIZA IN WESTERN CAPE SOILS – Koch
11:20 – 11:40	INVESTIGATING THE IMPACT OF PROJECTED TIMING OF CLIMATE DEPARTURE ON CROP YIELD OVER WEST AFRICA – Egbebiyi	A REVIEW ON THE POTENTIAL OF ECOLOGICAL INTENSIFICATION TO IMPROVE FOOD PRODUCTION SYSTEMS IN SMALLHOLDER AGRICULTURE IN SOUTHERN AFRICA – Rusere	EVALUATING COMBINATIONS OF CALCIUM AND BORON FORMULATIONS ON REDUCTION OF SUNBURN ON 'GOLDEN DELICIOUS' AND 'GRANNY SMITH' - Daiber	COMPARING APPLE ORCHARD FLOOR MANAGEMENT PRACTICES USING SOIL ALTERATION INDEX THREE (AI3) - Meyer

11:40 – 12:00	EFFICACY OF POST-HARVEST SILICON DIPS ON THE MANAGEMENT OF CHILLING SUSCEPTIBILITY OF "M37" MANDARIN SELECTION – Shibambu	TOWARDS ECOLOGICALLY SUSTAINABLE CROP PRODUCTION IN SOUTH AFRICA - Van der Laan	INFLUENCE OF NITROGEN APPLICATION ON YIELD, LEAF COLOUR AND ASCORBIC ACID OF LEAFY LETTUCE CULTIVARS GROWN IN CLOSED HYDROPONIC SYSTEM – Mampholo	A GREENHOUSE ASSESSMENT OF COAL MINE STOCKPILED SOILS: ARBUSCULAR MYCORRHIZAL FUNGAL SPORE DENSITY AND COLONIZATION IN MAIZE (ZEA MAYS) TRAP CULTURES - Ezeokoli
12:00 – 12:20	SOIL QUALITY INDICATORS AND THEIR SPATIAL VARIABILITY ON A CONTINUOUSLY CULTIVATED FIELD AT THE RESEARCH SITE OF THE UNIVERSITY OF LIMPOPO EXPERIMENTAL FARM - Kganyago	VEGETABLE SOYBEAN CULTIVAR RESPONSE TO SEEDING RATE AND SEASON – Arathoon	EFFECTS OF ORGANIC AND INORGANIC FERTILISERS ON THE GROWTH OF PSEUDERANTHEMUMATROPURPUREUM, SOIL FERTILITY AND LEACHATE COMPOSITION – Constance	THE IMPACT OF A ONCE-OFF PHOSPHATE FERTILIZER APPLICATION ON SOIL NUTRIENTS AND MICROBIAL COMMUNITIES IN GRASS-LEGUME MIXTURE AT LUSHINGTON, EASTERN CAPE, SOUTH AFRICA – Mkile
12:20 – 12:40		PERFORMANCE OF COWPEA VARIETIES UNDER STRIP INTERCROPPING AND PHOSPHORUS FERTILISATION IN LIMPOPO PROVINCE – Nkuna	ENHANCING CABBAGE (BRASSICA OLERACIA L. VAR. STAR 3301) PRODUCTION THROUGH APPLICATION OF 'VERTE GUANO' – Huma	ANALYSIS OF PLANT BIOMASS CARBON AND ITS RELATIONSHIP WITH SOIL CARBON STOCKS UNDER DIFFERENT ENVIRONMENTAL CONDITIONS - Mathew
12:40 – 13:25	LUNCH – Klein Kariba Restaurant			
SESSION 3 - Tuesday 24 January 2017				
Subject	Crop physiology	Crop protection	Horticulture breeding and propagation	Soil genesis, classification and mapping
Chairperson	Prof Maxwell Poswal	Dr Elbe Hugo	Dr Zelda Bijzet	Mr Martiens du Plessis
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
13:25 – 13:45	BIOLOGY AND GERMINATION CHARACTERISTICS OF UROCHLOAMOSAMBICENSIS AND UROCHLOAPANICOIDES – Malan	DETERMINATION OF FUSARIUM RESISTANCE IN WHEAT GERMLASM - De Villiers	HONEYBUSH BREEDING: IMPORTANT ROLE OF COMPLIMENTARY RESEARCH - Bester	DIGITAL SOIL MAPPING APPLICATIONS FOR AGRICULTURE - Van Zijl
13:45 – 14:05	GROWTH STAGE INFLUENCES THE RESPONSE OF CONYZABONARIENSIS TO GLYPHOSATE – Malatji	EFFICACY OF THE ENTOMOPATHOGENIC NEMATODE STEINERNEMAYIRGALMENSE FOR THE CONTROL OF FOUR LEPIDOPTERAN STEMBORERS – Erasmus	EFFECT OF CHEMICAL SCARIFICATION ON SEED GERMINATION OF HIBISCUS CODDII SUBSP. BARNARDII - Du Plessis	GEOMORPHOLOGY AND SOILS OF THE LETABA TERRACES – Rozanov
14:05 – 14:25	HARVEST MATURITY EFFECT ON MAIZE SEED QUALITY – Modi	BASELINE SUSCEPTIBILITY OF BUSSEOLAFUSCA TO BT MAIZE IN SOUTH AFRICA – Strydom	MOLECULAR MARKERS IN HORTICULTURE: A TOOL FOR THE MODERN PLANT BREEDER AT THE AGRICULTURAL RESEARCH COUNCIL-TROPICAL AND SUBTROPICAL CROPS – Hajari	HYDROPEDOLOGY: LINKING GROUNDWATER AND SURFACE WATER - Van Tol
14:25 – 14:45	A PRELIMINARY STUDY: IMPACT OF BIO-STIMULANTS ON WHEAT UNDER HERBICIDE STRESS - Van Der Watt	TUTA ABSOLUTA (LEPIDOPTERA: GELECHIIDAE), A NEW DEVASTATING TOMATO PEST IN SOUTH AFRICA – Visser	INDUCED POLYPLOIDY IN GUAVA (PSIDIUMGUAJAVA) AND ITS EFFECTS ON SELECTED HORTICULTURAL CHARACTERISTICS – Hanweg	EVALUATING THE EFFECTS OF DEM RESOLUTION AND GENERALISATION APPROACHES ON THE EXTRACTION OF TERRAIN INDICES IN KZN – Atkinson
14:45 – 15:05	SELECTION OF OSMOTOLERANT AND EFFECTIVE RHIZOBIAL STRAINS ON SYMBIOTIC NITROGEN FIXATION EFFICIENCY IN SOYBEAN UNDER WATER DEFICIT STRESS – Kibido	COMPARING EFFICACY OF NEMACUR, BIOCULT MYCORRHIZAE AND NEMARIOC-AL PHYTONEMATOCIDE ON MELOIDOGYNEJAVANICA POPULATION DENSITIES AND GROWTH OF POTATO – Seshweni	SEED QUALITY OF CHICORIUMINTYBUS DIFFERING IN SEED COLOUR - Bertling	VERIFYING LAND ASSESSMENT TECHNIQUES USING HIGH RESOLUTION YIELD DATA – Barichiev
15:05 – 15:25	PROTEIN EXPRESSION IN MAIZE LEAVES EXPOSED TO COMBINED DROUGHT AND HEAT STRESS – Mutengwa	HOST-STATUS AND HOST-SENSITIVITY OF BEETROOT TO M. INCOGNITA RACE 2 UNDER GREENHOUSE CONDITIONS - Mokoale	THE ABILITY OF CITRUS ROOTSTOCKS TO IMPART GOOD QUALITY AND PRODUCTION TO CITRUS SCIONS – Bijzet	EFFECTS OF LAND USE CHANGE ON SOIL AND WATER QUALITY AND PLANT SPECIES COMPOSITION OF CEDARA WETLANDS – Ndayi
15:25 – 15:45	TEA – Kariba Hall			
SESSION 4 - Tuesday 24 January 2017				
Subject	Crop nutrition and water	Horticulture post harvest	Horticulture production and cultivation	Soil fertility
Chairperson	Prof Cornelius Chiduzo	Prof Isa Bertling	Mr. Mark Penter	Me LeushanthaMudaly
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
15:45 – 16:05	CLASSIFICATION OF SMALLHOLDER FARMERS FOR EFFECTIVE RAINFALL VARIABILITY MANAGEMENT IN SOUTH AFRICA – Mkuhlani	EFFECT OF 1-METHYLCYCLOPROPENE AND HARVEST TIME ON 'HASS' AVOCADO FRUIT SKIN COLOUR CHANGE –Mathe	THE EFFECT OF FRUIT TO FRUIT VARIATION, HARVEST DATE, TREE AND ORCHARD EFFECTS, AND CULTIVAR DIFFERENCES ON WATER VAPOURPERMEANCE OF NECTARINE FRUIT – Chigwaya	SHORT-TERM EFFECTS OF TILLAGE, CROP ROTATION AND CROP RESIDUE MANAGEMENT ON THE SOIL QUALITY OF TWO EASTERN CAPE ECOTOPIES – Gura
16:05 – 16:25	AN IRRIGATION CONTROL SYSTEM WITH A WEB-BASED INTERFACE FOR THE MANAGEMENT OF EUCALYPTUS SEEDLINGS IN A NURSERY – Kaptein	DYNAMICS OF LONG-TERM COLD STORAGE CONDITIONS FOR FYNBOS PRODUCTS AS RELEVANT FOR SEA FREIGHTING – Matsikidze	NUTRITIONAL EVALUATION OF HYDROPONICALLY GROWN TOMATO CULTIVARS UNDER DIFFERENT PRODUCTION SYSTEMS - Amoo	SOIL NITROGEN BEHAVIOUR IN CEREAL-LEGUME CROPPING SYSTEMS – Hlatshwayo
16:25 – 16:45	QUANTIFYING SWEET POTATO (IPOMOEA BATATAS) EVAPOTRANSPIRATION USING THE EDDY COVARIANCE TECHNIQUE - Mulovhedzi	EFFECT OF SELECTED PRODUCTION SITE, WAX PLUS DEHYDRATION AND COLD STORAGE TEMPERATURE ON RIND PITTING DEVELOPMENT ON "TURKEY" SWEET ORANGE – Mothapo	EFFECTS OF LITSEAGLUTINOSA PLANT BIO-WASTE ENRICHMENT MEDIA ON PLANT GROWTH OF THYME AND ROCKET – Anumanthoo	INVESTIGATING AVAILABLE SOIL NUTRIENT LEVELS IN IRRIGATED WHEAT FIELDS IN SOUTH AFRICA – Sosibo
16:45 – 17:05	POTENTIAL OF THE COSMIC RAY NEUTRON PROBE AS AN IRRIGATION MANAGEMENT TOOL FOR POTATOES – Kumasamba	POSTHARVEST TREATMENTS TO ENHANCE THE COLOUR DEVELOPMENT AND FRUIT QUALITY OF CHERRY TOMATO (SOLANUM LYCOPERSICUM L. VAR. CERASIFORME) – Ngobo	INFLUENCE OF MARGINAL SOILS ON GROWTH OF MORINGAOLEIFERA SEEDLINGS – Nkuna	SPATIAL AND VERTICAL DISTRIBUTION OF SELECTED PHYSICO-CHEMICAL PROPERTIES IN TREATED WASTE-WATER-IRRIGATED FIELDS – Kgopa
17:05 – 17:25		THE EFFECT OF WHITE SHADE NET ON POST-HARVESTS FRUIT QUALITY AND STORAGE POTENTIAL OF 'NADORCOTT' MANDARINE (CITRUS RETICULATE BLANCO) - Ngwamba	POTENTIAL TO COMMERCIALIZE AND DEVELOP PRODUCTS FROM INDIGENOUS VEGETABLES: A CASE STUDY OF AMARANTH (AMARANTHUSCRUENTUS L.) – Mndzebele	ELEMENTAL COMPOSITION AND FERTILISER VALUE OF HAIR WASTE FROM DIFFERENT ETHNIC GROUPS - Malepfane

19:00 - Late	BRAAI – Klein Kariba Restaurant
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Wednesday 25 January 2017

Time	Event	Venue
8:00 – 08:30	Registration	Kariba Hall – Klein Kariba – 24°50'59" S / 28°20'20" E

PLENARY SESSION

Keynote address – Kariba Hall

08:40 – 09:10	SASHS	Dr Rod Drew	There has never been a more important era to work in Horticulture
09:10 – 09:30	Poster Session 2	Viewing of posters 66 - 130	

SESSION 5 - Wednesday 25 January 2017

Subject	Crop nutrition and water	Weeds, crops and herbicides	Horticulture breeding and propagation	Soil chemistry
Chairperson	Prof Ochanda Ogola	Dr Juan Vorster	Dr Karin Hannweg	Prof Jude Odhiambo
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
9:30 – 9:50	WATER USE OF CROPS AND NUTRITIONAL WATER PRODUCTIVITY OF SELECTED GRAIN LEGUMES FOR FOOD PRODUCTION, NUTRITION AND HEALTH IN POOR RURAL COMMUNITIES – Chibarabada	EFFECT OF TEMPERATURE STRESSED AMARANTHUSCRUENTUS L. RESIDUES AND EXTRACTS ON PEPPER GERMINATION AND SEEDLING GROWTH – Allemann	VARIANCE IN THE DORMANCY PROGRESSION OF APPLES IN SOUTH AFRICA. – Louw	SHOULD SLUDGE PRODUCED BY ACID MINE WATER NEUTRALISATION BE CLASSIFIED AS HAZARDOUS MATERIAL? – Sukati
9:50 – 10:10	SYMBIOTIC N ₂ FIXATION AND GRAIN YIELD OF THE UNDER-UTILIZED KERSTING'S GROUNDNUT (MACROTYLOMAGEOCARPUM HARMS) LANDRACES IN RESPONSE TO INOCULATION WITH BRADYRHIZOBIUM SP. UNDER FIELD CONDITIONS IN GHANA – Mohammed	EFFICACY OF GLUFOSINATE AMMONIUM ON RYE-GRASS AS INFLUENCED BY DIFFERENT TEMPERATURES AND PLANT GROWTH STAGES – Mucheri	CROSS COMPATIBILITY BETWEEN SIX PROMISING IMPORTED LITCHI (LITCHI CHINENSIS) CULTIVARS. – Mabirimisa	THE EFFECT OF COMPOSTED BIOCHAR ON COMPOST PROPERTIES AND MINERALISATION – Botha
10:10 – 10:30	EFFECT OF DEFICIT IRRIGATION ON YIELD, QUALITY AND PHYTOCHEMICALS IN TWO LETTUCE (LACTUCA SATIVA L.) CULTIVARS AT HARVEST – Malejane	COMPARING THREE HERBICIDE RESISTANCE SCREENING METHODS - Nienaber	UNLOCKING THE POTENTIAL OF CROP WILD RELATIVES USING PREDICTIVE CHARACTERIZATION - Jansen van Rensburg	AN EVALUATION OF LIME REQUIREMENT METHODS FOR SOUTH AFRICAN SOILS - Van der Berg
10:30 – 10:50		TEMPERATURE AND GROWTH STAGE INFLUENCE GLYPHOSATE RESISTANCE IN CONYZABONARIENSIS (L.) CRONQ. FROM SOUTH AFRICA – Okumu	EVALUATING DIVERSITY AMONG SOUTH AFRICAN SWEETPOTATO GENOTYPES USING MORPHOLOGICAL AND SIMPLE SEQUENCE REPEAT MARKERS – Laurie	VERTICAL DISTRIBUTION OF ESSENTIAL ELEMENTS AND TRACE METALS ON A CONTINUOUSLY CULTIVATED AND FERTILIZED FIELD. – Phadu
10:50 – 11:10	TEA – Kariba Hall			

SESSION 6 – Wednesday 26 January 2016

Subject	Crop production	Horticulture indigenous and medicinal plants	Horticulture nutrition and water	Horticulture crop protection
Chairperson	Dr Marcellous le Roux	Prof Karen Theron	Mrs Louisa Blomerus	Dr Elmi Lötze
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
11:10 – 11:30	SUSTAINABLE INTENSIFICATION THROUGH ROTATIONS WITH GRAIN LEGUMES IN SUB-SAHARAN AFRICA: A REVIEW – Franke	POST-HARVEST FACTORS AFFECTING THE INCIDENCE OF BLOSSOM-END CLEARING IN GRAPEFRUIT – North	INFLUENCE OF LATE NITROGEN APPLICATION ON 'NADORCOTT' MANDARIN FRUIT QUALITY – Marais	RESPONSES OF BETA VULGARIS GROWTH TO NEMAFRIC-BL PHYTONEMATOCIDE APPLICATION UNDER MICROPLOT CONDITIONS – Mashitsoa
11:30 – 11:50	INTRODUCTION OF OYSTER MUSHROOM FARMING TO POTENTIAL GROWERS IN SOUTH AFRICA – Koch	THE EFFECT OF 1-METHYLCYCLOPROPENE (1-MCP) AND PROCHLORAZ ON THE STORAGE POTENTIAL AND QUALITY OF 'HASS' AVOCADO FRUIT – Roets	IMPROVED GROWTH OF HYDROPONICALLY GROWN ROUGH LEMON (CITRUS JAMBHIRI LUSH) SEEDLINGS TREATED WITH KELP AND ORGANIC EXTRACTS – Muchena	NEMATODE RESISTANCE IN SWEET POTATO CULTIVAR 'MAFUTHA' TO MELOIDOGYNE SPECIES IN SOUTH AFRICA – Nkosi
11:50 – 12:10	EFFECT OF NITROGEN APPLICATION AND LEAF HARVESTING ON YIELD AND QUALITY OF BEETROOT (BETA VULGARIS) – Mampa	EFFECT OF HARVEST TIME, POST-HARVEST STORAGE AND RIPENING TEMPERATURE ON QUALITY OF 'REED' AVOCADO CULTIVAR - Shikwambana	ESTIMATING WATER USE OF MATURE PECAN ORCHARDS: A SIX STAGE CROP GROWTH CURVE APPROACH – Taylor	INTERACTIVE EFFECTS OF BIOMUTI, MYCORRHIZAE AND PHYTONEMATOCIDES ON GROWTH OF TOMATO SEEDLINGS AND NEMATODES – Nyamandi

12:10 – 12:30	EFFECT OF PLANTING TECHNIQUES (HORIZONTAL AND VERTICAL) PLANTED WITH 2, 3 AND 4 INTERNODES UNDERGROUND ON SWEET POTATO PRODUCTION – Hierema	IMPROVING TRANSPANTING SURVIVAL OF MORINGAOLEIFERA SEEDLINGS THROUGH SUPPRESSING GROWTH USING INDOLE ACETIC ACID – Mashamaite	USE OF CONTINUOUS STEM AND FRUIT GROWTH MEASUREMENTS FOR DETECTING WATER STRESS IN APPLE ORCHARDS - Zirebwa	CONCENTRATION OF NEMAFRIC-BL PHYTONEMATOCIDE TO STIMULATE GROWTH OF PELARGONIUM SIDOIDES – Sithole
12:30 – 12:50	VARIATIONS IN NITROGEN FIXATION, GRAIN YIELDS AND WATER USE EFFICIENCY OF PROMISCUOUS SOYBEAN GENOTYPES GROWN UNDER FIELD CONDITIONS AT TWO LOCATIONS IN MPUMALANGA PROVINCE, SOUTH AFRICA – Mbah	ESSENTIAL OIL YIELD AND COMPOSITION OF AFRICAN WORMWOOD (ARTEMISIA AFRA) FOUND IN DIFFERENT AGRO-CLIMATIC ZONES OF THE EASTERN CAPE, SOUTH AFRICA. – Mpambani	EFFECT OF ORGANIC AND INORGANIC MULCH APPLICATION ON THE YIELD AND WATER USE EFFICIENCY OF SWISS CHARD – Sithole	DEGREE OF NEMATODE RESISTANCE IN SWEET POTATO CULTIVAR 'MVUVELO' TO MELOIDOGYNE INCOGNITA - Makhwedzana
12:50 – 13:35	LUNCH – Klein Kariba Restaurant			
13:45 – 18:00	SASCP – Conservation agriculture and maize seed production	SSSSA – Soils in the BelaBela area	SASHS – Stone fruit production near Modimole	

Thursday 26 January 2017				
Time	Event	Venue		
8:00 – 08:30	Registration	Kariba Hall – Klein Kariba – 24°50' 59" S / 28°20' 20" E		
PLENARY SESSION				
Keynote address – Kariba Hall				
08:30 – 09:20	SSSSA & SASCP	Dr Adriana Marais	Watch this Space: Expanding our imaginations and our world	
SESSION 7 - Thursday 26 January 2017				
Subject	Crop quality	Weed management	Horticulture crop protection	Soil technology
Chairperson	Prof Phatu Mashela	Dr PJ Pieterse	Prof Puffy Soundy	Dr Cobus Botha
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
9:30 – 9:50	THE POTENTIAL RELATIONSHIP BETWEEN PREHARVEST SPROUTING TOLERANCE AND ALUMINIUM SENSITIVITY IN WHEAT – Barnard	ANNUAL RYEGRASS DYNAMICS – ARE WE WINNING THE BATTLE OR LOSING THE WAR? – Strauss	RESPONSES OF GREEN BEAN GROWTH TO NEMARIOC-AL PHYTONEMATOCIDE – Chokoe	UNDERSTANDING THE FATE OF NITROGEN FERTILIZER USING STABLE ISOTOPE AND CONSERVATIVE TRACER TECHNIQUES – Mangwende
9:50 – 10:10	PROTEIN QUALITY VERSUS PROTEIN QUANTITY IN SOUTH AFRICAN COMMERCIAL BREAD WHEAT CULTIVARS – Lindeque	FUNCTIONAL TRAITS FOR STRATEGIC WEED MANAGEMENT IN VINEYARDS – MacLaren	INTERACTIVE EFFECTS OF NEMARIOC-AL AND NEMAFRIC-BL PHYTONEMATOCIDES ON TOMATO CV. 'HTX 14' UNDER FIELD CONDITIONS – Maake	THE EFFECT OF SLUDGE TREATMENT METHODS AND POST TREATMENT DEWATERING TECHNIQUES ON THE NITROGEN FERTILIZER VALUE OF SLUDGE – Tesfamariam
10:10 – 10:30	OVERCOMING THE CHALLENGE OF PHYSICAL SEED DORMANCY IN BAMBARA GROUNDNUT BY SCARIFICATION - A SEED QUALITY STUDY – Miya	EVALUATION OF MESOTRIONE AS A PRE-EMERGENCE HERBICIDE TO CONTROL VOLUNTEER POTATOES – Allemann	MEAN CONCENTRATION STIMULATION POINT OF NEMARIOC-AL PHYTONEMATOCIDE FOR CUCURBITA PEPO UNDER MICROPLOT CONDITIONS – Lebea	EFFECT OF SAMPLING DEPTH ON DETERMINATION OF SOIL POTASSIUM AND CARBON STOCKS - Van Antwerpen
10:30 – 10:50	SOIL FERTILITY, YIELD AND FRUIT SIZE OF AVOCADO AS INFLUENCED BY DIFFERENT MULCH TYPES – Mohale		RESPONSES OF CUCURBITA PEPO CULTIVAR 'CASERTA' TO NEMARIOC-AL PHYTONEMATOCIDE – Lebea	
10:50 – 11:10	TEA – Kariba Hall			
SESSION 8 – Thursday 26 January 2017				
Subject	Crop breeding and adaptation	Conservation agriculture	Horticulture physiology	Horticulture breeding and propagation
Chairperson	Dr Sydney Mavengahama	Dr Johann Strauss	Dr Nhlanhla Mathaba	Dr Riana Kleynhans
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
11:10 – 11:30	FIELD PERFORMANCE OF SUGARCANE CULTIVARS DURING DROUGHT: INSIGHTS INTO DROUGHT TOLERANCE STRATEGIES – Ramburan	A FINANCIAL ANALYSIS OF CROP-LIVESTOCK INTEGRATION IN CONSERVATION AGRICULTURE – Basson	SENSITIVITY OF APPLE FRUIT PEEL PHOTOSYSTEMS TO HIGH LIGHT AND TEMPERATURE AS INFLUENCED BY A	EVALUATION OF PROGENIES OF DIALLEL CROSSES BETWEEN ORANGE-FLESHED AND CREAM-FLESHED SWEETPOTATO: HAS PROGRESS BEEN MADE? – Laurie

			RANGE OF DWARFING AND SEMI-VIGOROUS ROOTSTOCKS – Barasu	
11:30 – 11:50	TARGETED HAPLOTYPE COMPARISONS BETWEEN SA WHEAT CULTIVARS APPEAR PREDICTIVE OF PHS TOLERANCE - Sydenham	INFLUENCE OF DEGREE OF SOIL DISTURBANCE ON CROP PRODUCTIVITY, YIELD AND QUALITY OF WHEAT AND CANOLA WITHIN CROPPING SYSTEMS IN THE WESTERN CAPE – Labuschagne	CHEMICAL FRUIT THINNING STRATEGIES FOR LATE MANDARINS (CITRUS RETICULATA) – Stander	TESTING THE EFFECT OF AFRIKELP ORGANIC ABIOTIC STRESS PRODUCT ON THE GROWTH AND PRODUCTION OF SWISS CHARD UNDER FIELD CONDITIONS – Laurie
11:50 – 12:10	FIELD SCREENING OF MAIZE GENOTYPES FOR TOLERANCE TO ACIDIC SOILS OF MHLONTLO LOCAL MUNICIPALITY IN O.R.TAMBO DISTRICT, EASTERN CAPE – Mkafula	EPIGEAL ARTHROPODS IN CONSERVATION AGRICULTURE – Meyer	OPTIMIZATION OF A METHOD FOR FLAVONOID QUANTIFICATION IN GRAPEFRUIT - Van Der Loo	EFFECT OF STEM CUTTING LENGTH, ROOTING HORMONES AND PROPAGATION MEDIA ON ROOTING RESPONSE OF ROSE-SCENTED GERANIUM CUTTINGS – Matafeni
12:10 – 12:30	POPULATION STRUCTURE AND GENOME-WIDE MARKER-TRAIT ASSOCIATION OF KEY AGRONOMIC TRAITS IN WHEAT – Mwadzingeni	AN OVERVIEW OF CROP PRODUCTION PRACTICES BY SMALL SCALE FARMERS IN THE EASTERN CAPE PROVINCE – Mhlontlo	WHITE ROOT GROWTH DYNAMICS OF BEARING APPLE TREES IN ELGIN – Lotze	RESPONSES OF CITRUS ROOTSTOCK SEEDLINGS TO NEMARIOC-AL AND NEMAFRIC-BL PHYTONEMATICIDES – Mathabatha
12:30 – 12:50	OPTIMISATION OF NITROGEN AND POTASSIUM FERTILISATION FOR SELECTED NEW POTATO CULTIVARS - Nkhase	INDIGENOUS KNOWLEDGE SYSTEMS (IKS) USED BY FARMING COMMUNITIES TO CONSERVE SOIL AND WATER, AND IMPROVE CROP YIELDS IN THE FACE OF AN ERRATIC RAINFALL SUPPLY - Vilakazi	EVALUATING THE EFFECT OF CULTIVATION PRACTICES ON FRUIT QUALITY AND SUCKER DEVELOPMENT OF SIX NEW QUEEN PINEAPPLE VARIETIES - Mbatha	SCREENING OF TWELVE SWEET POTATO CULTIVARS USED IN BIOFORTIFICATIONPROGRAMME AGAINST MELOIDOGYNE SPECIES – Legong
12:50 – 13:35	LUNCH – KLEIN KARIBA RESTAURANT			

SESSION 9 – Thursday 26 January 2017

Subject	Crop modeling	Horticulture food quality and post-harvest	Horticulture breeding and propagation	Horticulture post-harvest
Chairperson	Dr Nebo Jovanovic	Dr Cecilia Bester	Dr ElliashaHajari	Dr Esmé Louw
Venue	Kariba Hall	Bosveld	Bosbok	Dassie
13:35 – 13:55	MODELLING THE IMPACT OF EXTREME WEATHER EVENTS UNDER FUTURE CLIMATE CHANGE ON MAIZE YIELD: AN INTERCOMPARISON BETWEEN EXISTING AND MODIFIED MODELLING SOLUTIONS – Mangani	PREDICTING MACADAMIA KERNEL SHELF-LIFE - Penter	PHENOLOGY OF HONEYBUSH (CYCLOPIAGENISTOIDES AND C. SUBTERNATA) GENOTYPES – Motsa	COMPLEXITIES OF 'HASS' AVOCADO FRUIT COLOUR CHANGE DURING RIPENING - Mathaba
13:55 – 14:15	POTENTIAL ON AND OFF-SITE IMPACTS OF LARGE AGRICULTURAL INVESTMENTS AND SMALL-SCALE FARMERS IN KENYA AND MOZAMBIQUE - Da Silva	BROADENING THE FOOD BASE: NUTRITIONAL EVALUATION OF SWEET PEPPER LEAVES FOR FOOD AND NUTRITIONAL SECURITY – Amoo	CHLOROPLAST PHYLOGENOMICS IN CACTUS PEAR (OPUNTIAFICUS-INDICA) – Peni	IS CITRUS PEEL THICKNESS AN EFFECT OF THE ROOTSTOCK, SCION OR ENVIRONMENT? – Bijzet
14:15 – 14:35	CALIBRATION AND TESTING OF AQUACROP FOR SELECTED SORGHUM GENOTYPES - Hadebe	AN EVALUATION OF THE NUTRITIONAL AND HEALTH PROMOTING PROPERTIES OF TWO RUMEX SPECIES CONSUMED AS WILD LEAFY VEGETABLES - Seepe	PROPAGATING AFRICAN POTATO BY INDUCING CORM BUDS - Mofokeng	POSTHARVEST 'FORELLE' MEALINESS INFLUENCED BY CANOPY POSITION, RIPENING RATES AND POLLINATION – Cronje

ANNUAL GENERAL MEETING

14:35 – 14:45	SAPSSC – all SASC, SSSSA, SASHS and SASWS members – Kariba Hall			
14:45 – 16:00	SASCP – Kariba Hall	SSSSA – Dassie	SASHS – Bosbok	SASWS – Bosveld
16:00 - 16:20	TEA – Kariba Hall			
16:20 – 17:00	WORK SHOP – SOUTH AFRICAN JOURNAL OF PLANT AND SOIL (Bosveld) Guidelines for students – How to get published Genreal discussion on SAJPS / Questions from potential authors			
19:00 – Late	GALA DINNER – KLEIN KARIBA RESTAURANT			

PLENARY SESSION SPEAKER ABSTRACTS

“FACTS AND MYTHS OF GLYPHOSATE”

IVO BRANTS – MONSANTO SOUTH AFRICA (PTY) LTD

Abstract:

The success of the herbicide glyphosate, a crop protection product commercially used for over 40 years, has been translated into continued worldwide adoptions for weed control in very diverse situations. Glyphosate containing products can be used as foliar sprays to manage weeds in a wide range of arable crops, perennial crops, on grasslands and in gardening but also in non-crop situations including railway tracks, amenity, forestry, aquatic environments and as a tool for management of invasive weeds. The combination of over the top in crop glyphosate applications as selective herbicide with glyphosate tolerant varieties, also referred to as Roundup Ready™ cropping systems, are retained as preferred crop management system by many farmers and farming communities around the world. The same tools are challenged by others. The environmental fate, safety and benefits of glyphosate belong to the most studied topics in the agricultural history and are well understood and documented but still underestimated by many and some of these will be highlighted. Success stories often lead to justified critics but also to non justified myths. Some of these critics and myths related to glyphosate will be addressed during the talk.

THERE HAS NEVER BEEN A MORE IMPORTANT ERA TO WORK IN HORTICULTURE

ROD DREW - GRIFFITH UNIVERSITY, AUSTRALIA

Abstract:

We live in a world where poverty and malnutrition are major problems which are being exacerbated by an increasing population that is expected to reach 9 billion by 2050. The Global Horticulture Institute (GHI) estimates that two billion people are micro-nutrient deficient, one billion people are overweight or obese and 805 million are chronically undernourished and suffer from energy-protein deficiency. When investigating children's nutritional imbalance, United Nations Children's fund (UNICEF), World Health Organisation and the World Bank stated that worldwide, 159 million children are stunted, 50 million children are wasted and 41 million children are overweight. They estimated that 5.9 million children (more than 16,000 a day) under the age of 5, died in 2015. UNICEF in 2016 reported that nearly half of all deaths in children under the age of five are caused by undernutrition. Much of the funding that goes to international aid agencies is committed to work on dietary staple crops and recently there has been a trend to fund research on biofortification of staple crops. There is tendency to disregard horticultural crops that can provide a wide range of micro-nutrients, vitamins, anti-oxidants, diversity, medicines and income. There is an urgent need to increase production of food, increase consumption of foods with a high nutritional value, and provide access to balanced diets. Horticulture will be essential if we are going to address these needs in the next few decades. Horticultural research has identified fruit and vegetables that have high levels of vitamins and nutrients. New technologies being applied to protected cultivation will lead to production of high yields of these crops in a wide range of environments. Novel approaches to greening cities and production of crops in and close to cities will revolutionise our supply chains. There has never been a more important era to work in horticulture.

WATCH THIS SPACE: EXPANDING OUR IMAGINATIONS AND OUR WORLD

ADRIANA MARAIS – UNIVERSITY OF KWAZULU NATAL

Abstract:

A presentation on how we are living in a new era of innovation in space exploration, and how the possibility of contributing to the discovery of evidence of extra-terrestrial life is what I find most fascinating about the prospect of being amongst the first Earthlings to move to Mars.

During the talk I will discuss my motivations as a researcher in quantum biology for volunteering to move to Mars, background on the Mars One Project, the technologies required to get to Mars, to survive there and to develop a sustainable settlement decreasingly dependent on Earth. A vital aspect of achieving this goal depends on our ability to produce food on Mars, and I will discuss the latest developments towards achieving this goal.

POSTER TITLES

Use the number before the Poster title to guide you to it's position on the poster boards

31	ALLELOPATHY: PROTOCOL TO TEST <i>Amaranthus cruentus</i> L. ON LETTUCE SEEDLINGS - Allemann
108	SUITABILITY OF KRWAKRWA VILLAGE FOR IN-FIELD RAINWATER HARVESTING - Anderson
5	GENOTYPIC PROFILE OF SELECTED SOUTH AFRICAN WHEAT GENOTYPES FOR TRAITS INFLUENCING YIELD - Baloyi
56	AGRONOMIC PERFORMANCE OF MAIZE INTERCROPPED WITH VARIOUS GRAIN LEGUMES - Bambalele
57	THE EFFECT OF SEASONAL DISTRIBUTION OF NITROGEN ON CANOLA PRODUCTION - Becker
86	EFFECT OF COMPOST, MULCH AND FERTILIZER ON <i>Aloe ferox</i> L. PLANT VIGOUR AND THE ALOESIN, ALOIN A AND ALOIN B CONTENT OF LEAVES - Blomerus
109	RAINWATER HARVESTING THROUGH IN-FIELD RUNOFF - Botha
110	NEAR INFRARED REFLECTANCE SPECTROSCOPIC QUANTIFICATION OF BIOCHARS IN COMPOST AND SOIL - Botha
6	SOYBEAN (<i>Glycine max</i> L.) THE IMPORTANCE OF MAKING AN INFORMED CULTIVAR CHOICE - Bronkhorst
15	BREAKING SEED DORMANCY, IMPROVING GERMINATION AND SEEDLING GROWTH IN PECAN [<i>Carya illinoensis</i> (<i>Wangenh.</i>) <i>K. Koch</i>] - Casales
58	WATER USE EFFICIENCY OF MAIZE INTERCROP SYSTEMS - Chimonyo
47	SCREENING OF YELLOW QUALITY PROTEIN MAIZE INBRED LINES FOR ACQUIRED AND BASAL THERMOTOLERANCE - Chiuta
48	RESPONSE OF YELLOW QPM INBRED LINES TO DROUGHT STRESS TOLERANCE AT SEEDLING STAGE - Chiuta
59	RATE AND TIMING OF NITROGEN FERTILISATION FOR CANOLA PRODUCTION IN THE WESTERN CAPE OF SOUTH AFRICA - Coetzee
85	EVALUATION OF FIVE VALENCIA CULTIVARS AT ARC-TSC ADDO - Combrink
94	GROWTH, PHYSIOLOGY AND YIELD RESPONSES OF SELECTED SWEET POTATO CULTIVARS UNDER DIFFERENT WATERING REGIMES - Diadla
80	<i>Busseola fusca</i> MOTH FLIGHT PATTERNS - Du Toit
16	SENSITIVITY OF MELOIDOGYNE INCOGNITA JUVENILE MOBILITY TO PURE CUCURBITACINS AND PHYTONEMATICIDES - Dube
81	EVALUATION OF MORPHO-AGRONOMIC VARIABILITY OF CORCHORUS SPECIES - Dube
1	POTENTIAL IMPACT OF CLIMATE CHANGE ON EXTREME RAINFALL AND AGRICULTURE OVER WEST AFRICA - Egbebiyi
52	GROWTH AND YIELD RESPONSE OF TWO GINGER SPECIES TO DIFFERENT IRRIGATION REGIMES - Gatabazi
17	DIVERSITY ANALYSIS USING PHENOMIC MARKERS IN AMADUMBE (<i>Colocasia esculenta</i> (L.) <i>Schott</i>) GENOTYPES IN SOUTH AFRICA - Gerrano
60	EFFECT OF DIFFERENT CALCIUM APPLICATION LEVELS ON THE QUALITY, GROWTH, DEVELOPMENT AND YIELD OF POTATO TUBERS - Gumede
103	SHORT-TERM EFFECTS OF CROP ROTATION AND CROP RESIDUE MANAGEMENT ON SELECTED SOIL CARBON FRACTIONS IN TWO EASTERN CAPE ECOTOPES - Gura
61	AGRICULTURAL SYSTEMS AND SOIL MICROBIAL COMMUNITIES - Habig
18	CHARACTERISATION OF HYBRID YEAST STRAINS USED FOR AROMATIC SAUVIGNON BLANC WINE PRODUCTION - Hart
7	PHYSIOLOGICAL, MORPHOLOGICAL VARIATION AND GENETIC DIVERSITY OF COWPEA (<i>Vigna unguiculata</i> L. <i>Walp</i>) LANDRACES FROM NORTHERN GHANA, REVEALED BY RAPD AND SSR MARKERS - Haruna
49	DETERMINING THE QUALITY OF FIRST GENERATION DRY BEAN SEED LOT IN RESPONSE TO PLANT DENSITY AND WATER REGIME DURING FIELD PRODUCTION - Hlanga

19	INFLUENCE OF TEMPERATURE AND PHOTOPERIOD ON THE GERMINATION OF TWO ENDEMIC ALOE SPECIES - Hlatshwayo
8	A 2DS CHROMOSOME CARRIES A COMPLEX OF LEAF RUST RESISTANCE ALLELES IN WHEAT - Hlongoane
62	EFFECT OF GLYPHOSATE APPLICATION IN COMBINATION WITH FOLIAR PLANT NUTRITIONAL PRODUCTS ON THE LEVELS OF MACRO- AND MICRO ELEMENTS IN MAIZE - Hugo
20	EFFECT OF GAMMA IRRADIATION ON YIELD AND FRUIT CHARACTERISTICS OF NAVEL ORANGES - Husselman
87	YIELD AND GROWTH OF NON-HEADING CHINESE CABBAGE (<i>Brassica Rapa L. Subsp. Chinensis</i>) AS AFFECTED BY DIFFERENT IRRIGATION WATER APPLICATION REGIMES - Ibraimo
114	DETERMINING PLANTING DATE OF SHORT DAY ONION CULTIVARS FOR THE PRODUCTION OF OUT OF SEASON ONIONS AT ADELAIDE (EASTERN CAPE, SOUTH AFRICA), USING DIFFERENT PLANTING DATES - Jordaan
9	HETEROSIS STUDIES FOR YIELD IN SOUTH AFRICAN EXPERIMENTAL POPCORN HYBRIDS UNDER FUNGICIDE SPRAY AND NON-SPRAY CONDITIONS – Jele (see oral abstracts)
106	SOIL QUALITY INDICATORS AND THEIR SPATIAL VARIABILITY ON A CONTINUOUSLY CULTIVATED FIELD AT THE RESEARCH SITE OF THE UNIVERSITY OF LIMPOPO EXPERIMENTAL FARM – Kganyago (see oral abstracts)
10	IMPACT OF GROWTH HABIT AND ARCHITECTURE GENES ON ADAPTATION AND PERFORMANCE OF BREAD WHEAT - Khumalo
111	ASSESSING THE EFFECT OF CONTOUR BUNDS ON SELECTED SOIL PHYSICO-CHEMICAL PROPERTIES AND CROP YIELDS IN COMPARISON WITH TRADITIONAL FARMING PRACTICES - Khuzwayo
21	PRELIMINARY INVESTIGATION OF IN VIVO VEGETATIVE PROPAGATION METHODS FOR ORNITHOGALUM BULBS - Kleynhans
82	RESPONSES OF NEMARIOC-AL AND NEMAFRIC-BL PHYTONEMATICIDES ON BRADYRHIZOBIUM SPECIES NODULATION IN COWPEA - Kola
63	THE EFFECT OF SOIL DISTURBANCE, CROP ROTATION AND MAXIMUM STUBBLE RETENTION ON RESIDUE COVER IN THE SWARTLAND AND RÛENS SUB-REGIONS OF THE WESTERN CAPE - Labuschagne
64	EFFECT OF NITROGEN FERTILISER APPLICATION RATE ON SOIL MINERAL N CONTENT IN THE SWARTLAND AND RÛENS SUB-REGIONS OF THE WESTERN CAPE - Labuschagne
65	PERFORMANCE OF AN EXCHANGEABLE TINE AND DISC PLANTER THROUGH RESIDUE FOR CANOLA PRODUCTION - Le Roux
88	TOMATO YIELD AND EARLY BLIGHT INCIDENCE IN RESPONSE TO CULTIVAR AND IRRIGATION MANAGEMENT PRACTICES IN THE GIYANI MUNICIPALITY - Lebea
66	YIELD POTENTIAL OF CASSAVA IN AN INTERCROP WITH LEGUMES - Legodi
67	CANOLA YIELD PROGRESS IN THE WESTERN CAPE - Lombard
22	NUTRITIONAL WATER PRODUCTIVITY OF SELECTED SWEET POTATO CULTIVARS (<i>Ipomoea batatas L.</i>) - Mabhaudhi
53	INFLUENCE OF PLANTING DENSITY AND IRRIGATION INTERVAL ON NUTRITIONAL WATER PRODUCTIVITY OF NIGHTSHADE (<i>Solanum retroflexum</i>) - Mabotja
89	RESPONSES OF ACCUMULATION OF ESSENTIAL NUTRIENT ELEMENTS IN BUTTERNUT SQUASH TO FOLIAR SPRAYS OF POTASSIUM PHOSPHATE - Madaure
23	MORPHO-AGRONOMIC EVALUATION OF SWEETPOTATO [<i>Ipomoea batatas (L.) LAM</i>] LANDRACES FOR CULTIVATION IN LIMPOPO PROVINCE - Malebana
43	ASSESSMENT OF DRY MATTER ACCUMULATION IN LEAVES AND PODS OF BIO-FORTIFIED COMMON BEAN GENOTYPES GROWN IN SWAZILAND - Maleka
90	GROWTH AND YIELD OF OKRA (<i>Abelmoschus esculentus L.Moench</i>); COMPARISON OF WINTER-AND SUMMER-SOWN CROP IN THE HIGH TUNNEL AND THE FIELD, RESPECTIVELY - Maluleke
24	EFFECT OF 6-BENZYLAMINOPURINE (BAP) ON IN VITRO SHOOT MULTIPLICATION OF EUPHORBIA GROENEWALDII - Mapheto
95	THE EFFECT OF SPECIES AND RIPENING STAGE ON TOTAL SOLUBLE SOLIDS (TSS), TITRABLE ACIDS (TA) AND PH OF THREE VARIETIES OF TOMATO (<i>Lycopersicon esculentum</i>) - Marima

50	DEGREE OF NEMATODE RESISTANCE IN BIOFORTIFICATED SWEET POTATO CULTIVAR 'BOPHELO' TO MELOIDOGYNE JAVANICA - Maseko
11	PHENOTYPIC CHARACTERIZATION OF MYCOTOXINS RESISTANT MAIZE INBRED FAMILIES UNDER <i>Aspergillus flavus</i> AND <i>Fusarium verticillioides</i> infestation - Masemola
25	ASSESSMENT OF DROUGHT TOLERANCE IN SELECTED BOTTLE GOURD [<i>Lagenaria siceraria</i> (Molina) Standl.] LANDRACE COLLECTION OF SOUTH AFRICA - Mashilo
68	EFFECT OF NITROGEN FERTILIZER RATES AND ETHEPHON APPLICATION ON SPAD VALUES, EAR TRAITS AND NUTRITIONAL COMPOSITION OF SUMMER MAIZE IN NORTH CHINA PLAIN - Matelele
44	THE EFFECTS OF DROUGHT STRESS ON THE PHYSIOLOGY OF DRY BEAN (<i>Phaseolus vulgaris</i> L.) PLANTS - Mathobo
32	DOES GERMINATION PRE-TREATMENTS OF WILD OATS INFLUENCE THE SUSCEPTIBILITY TO GLYPHOSATE? - Matshidze
26	EFFECT OF PLANTING DEPTH AND ORIENTATION ON THE GROWTH AND YIELD PERFORMANCE OF SWEET POTATO (<i>Ipomoea batatas</i> L.) CULTIVAR BOPHELO UNDER RAIN-FED CONDITIONS AT VERULAM - Mavengahama
115	EFFECT OF SOIL AND FOLIAR APPLIED NITROGEN ON YIELDS AND YIELD PARAMETERS OF SPRING WHEAT (TRITICUM AESTIVUM L.) UNDER CONTROLLED GLASSHOUSE CONDITIONS - Mbangcolo
33	EFFECTS OF LONG-TERM TREATMENT WITH SEWAGE SLUDGE ON CONCENTRATIONS OF HEAVY METALS IN SOIL AND TISSUE OF SELECTED PLANTS, POTENTIAL RISKS AND IMPLICATIONS FOR PHYTO-REMEDICATION - Mbangi
98	ALTERATIONS IN OIL CONTENT, DRY MATTER AND FRUIT SIZE DURING DEVELOPMENT OF LATE HANG ('HASS') AVOCADO FRUIT - Mbele
34	EFFECTS OF TILLAGE, CROP ROTATION, AND RESIDUE MANAGEMENT ON EARTHWORM DIVERSITY AND ABUNDANCE IN THE ALICE JOZINI ECOTOPE IN THE EASTERN CAPE, SOUTH AFRICA - Mcinga
12	CHARACTERISATION OF DROUGHT TOLERANCE IN SELECTED BREAD WHEAT GENOTYPES USING STOMATAL CONDUCTANCE, CANOPY TEMPERATURE AND SHOOT-ROOT RATIO - Mdluli
35	A SOIL ALTERATION INDEX RESPONSIVE TO DIFFERENT APPLE ORCHARD FLOOR MANAGEMENT PRACTICES - Meyer
54	DEVELOPING A RATING CHART FOR PELARGONIUM SIDOIDES ROOT DAMAGE BY <i>Meloidogyne spp.</i> - Mofokeng
96	PHYSIOLOGICAL RESPONSE OF MORINGA OLEIFERA TO NITROGEN APPLICATION: PRELIMINARY RESULTS - Mohlabi
27	EXPLORING DNA METHYLATION IN THE CACTUS PEAR (<i>Opuntia ficus-indica</i>) GENOME - Mokgakala
28	IMPACT OF GRAFTING ON SELECTED GROWTH AND QUALITY PARAMETERS OF TOMATO (<i>Lycopersicon esculentum</i> Mill) - Mothapo
116	SYNTHESIS AND CHARACTERIZATION OF CU(II) BASED METAL-ORGANIC FRAMEWORKS (MOFS) USING THE LIGAND 1,2,4-BENZENTRICARBOXYLIC ACID (H3BAC) - Msengana
104	NITROGEN AND PHOSPHORUS FERTILISER VALUE OF COMPOST FROM THULAMELA - Mthimkulu
69	EVALUATION OF AGRONOMIC PERFORMANCE OF WATER EFFICIENT MAIZE IN LIBODE SUB-DISTRICT, EASTERN CAPE PROVINCE - Mtyobile
2	EFFECT OF CLIMATE CHANGE ON CHICKPEA (<i>Cicer arietinum</i>) PLANTING DATE IN NORTH EASTERN PART OF SOUTH AFRICA - Mubvuma
70	EVALUATION OF AGROFORESTRY SYSTEMS FOR MAIZE (<i>Zea mays</i> L.) PRODUCTIVITY IN SOUTH AFRICA - Musokwa
71	EFFECT OF VARYING PHOSPHORUS FERTILIZER RATES IN NODULATION ON THREE DESI CHICKPEA GENOTYPES (<i>Cifer arietinum</i>) - Muthabi
72	THE EFFECTS OF RESIDUE MANAGEMENT STRATEGIES ON THE POPULATION DYNAMICS OF NITROGEN AND PHOSPHOROUS RELATED MICROBES IN A MAIZE-BASED CONSERVATION AGRICULTURE SYSTEM IN THE EASTERN CAPE REGION - Muzeza
117	ADOPTION OF BIODIGESTER AND BIOSLURRY SYSTEMS BY RESOURCE POOR FARMERS TO ENHANCE SOIL FERTILITY - Mzayiya

73	PHOSPHORUS FERTILIZER SOURCE AND ITS EFFECT ON POTATO PRODUCTION - Ndou
45	INFLUENCE OF NITROGEN FERTILISER APPLICATION RATE ON FLAG LEAF CHLOROPHYLL AND -NITROGEN CONTENT OF WHEAT DURING ANTHESIS - Neethling
74	GROWTH AND YIELD RESPONSE OF KENAF (<i>Hibiscuss cannabinus L</i>) CULTIVARS TO NITROGEN REGIMES UNDER IRRIGATED CONDITIONS - Ngobeni
112	LITERATURE REVIEW: EVALUATING SUITABILITY, EFFECTIVENESS AND APPLICATION METHOD OF BIO-SLURRY AS AN ORGANIC FERTILIZER IN COMMUNAL AREAS OF THE EASTERN CAPE, SOUTH AFRICA - Ngqeleni
105	NITROGEN FERTILISER VALUE OF ANIMAL MANURE IN THULAMELA - Ngwenya
13	PRELIMINARY EVALUATION OF DIVERSE COWPEA (<i>Vigna unguiculata</i>) GERMPLASM FOR AGRONOMIC PERFORMANCE - Nkoana
113	YIELD RESPONSES TO RAINWATER HARVESTING AND CONSERVATION - Ntombela
75	EFFECT OF BIOCHAR AND POULTRY MANURE ON MAIZE PRODUCTIVITY OF DIFFERENT SOIL TYPES - Ntsoane
91	EFFECTS OF DEFICIT IRRIGATION ON THE AGRONOMIC TRAITS OF CHINESE CABBAGE - Ntulo
107	IMPROVING FIELD TRIAL LAYOUTS USING PRECISION AGRICULTURE TECHNIQUES - Osborne
29	OVERVIEW OF RAPID MULTIPLICATION OF CASSAVA - Owoeye
36	LITTER QUALITY INFLUENCE ON SOIL SPLASH RATES AND ORGANIC CARBON DYNAMICS IN DIFFERENT SOIL HORIZONS - Parwada
101	EFFICACY OF GLYPHOSATE AND GLUFOSINATE-AMMONIUM ON LOLIUM MULTIFLORUM AS AFFECTED BY TEMPERATURE - Pieterse
102	INFLUENCE OF GREEN MANURE COVER CROPS ON WEED DYNAMICS AND THE GROWTH OF ZEA MAYS UNDER CONSERVATION AGRICULTURE - Pieterse
99	CAN ALTERNATIVE VEGETABLES BREAK THE MONOPOLY OF CONTEMPORARY ONES TO ENHANCE FOOD AND NUTRITION SECURITY? - Poswal
51	DIAGNOSTIC SERVICES – A TOOL TO IDENTIFY PROBLEM AREAS AND IMPROVE PRODUCTION IN QUEEN PINEAPPLE CULTIVATION - Rabie
55	IMPROVING GROWTH OF THE SLOW-GROWING INDIGENOUS <i>Mimusops zeyheri</i> SEEDLINGS USING AUXINS - Radzuma
83	BIOACTIVITIES OF <i>Meloidogyne incognita</i> AND <i>Meloidogyne javanica</i> IN <i>Cucumis myriocarpus</i> AND <i>Cucumis africanus</i> SEEDLINGS - Ramatsitsi
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