



## Plant Sciences

### Conference contributions 2017

**Adendorff, J., Jankielsohn, A., Louw, S. vd M. & Mohase, L.** 2017. Antioxidant enzymes in wheat play a role in Alexin™ mediated resistance to Russian wheat aphid. Paper delivered at the Entomological Society of Southern Africa and the Zoological Society of Southern Africa (ESSA & ZSSA) Combined Biennial Congress, CSIR ICC, Pretoria, South Africa, 3-7 July.

**Allemann, I., Cawood, M.E. & Allemann, J.** 2017. *Amaranthus cruentus* L.: phytochemical characterisation and phytotoxic activity. Paper delivered at the 43rd Annual conference of the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January.

**Allemann, I., Cawood, M.E. & Allemann, J.** 2017. Allelopathy: Protocol to test *Amaranthus Cruentus* L. on lettuce seedlings. Poster presented at the Combined Crops, Soils, Horticulture and Weeds Conference, ATKV Klein Kariba, Limpopo, South Africa. 23-26 January.

**Allemann, I., Cawood, M.E. & Allemann, J.** 2017. Effect of temperature stressed *Amaranthus cruentus* L. residues and extracts on pepper seed germination and seedling growth. Paper delivered at the Combined Crops, Soils, Horticulture and Weeds Conference, ATKV Klein Kariba, Limpopo, South Africa, 23-26 January.



**Ashafa, A.O.T. & Sabiu, S.** 2017. *Morella serrata* (Lam.) Killick stabilizes biomembrane and rejuvenates sexual competence in male Wistar rats. Paper delivered at the 5<sup>th</sup> Lagos State University Conference, Lagos State University, Nigeria, 10-14 October.

**Balogun, F.O. & Ashafa A.O.T.** 2017. Acute and subchronic oral toxicity evaluation of aqueous root extract of *Dicoma anomala* (Sond.) in Wistar rats. Paper delivered at the South African Annual Pharmacology Conference, University of the Free State, Bloemfontein, 1-4 October.

**Balogun, F.O. & Ashafa, A.O.T.** 2017. Aqueous root extracts of *Dicoma anomala* (Sond.) extenuates postprandial hyperglycaemia *in vitro* and normalizes the activity of carbohydrate-metabolizing enzymes in streptozotocin-induced diabetic Wistar rats. Paper delivered at the South African Annual Pharmacology Conference, University of the Free State, Bloemfontein, 1-4 October.

**Castelyn, H.D., Ereful, N.C., Visser, B., Boyd, L.A. & Pretorius, Z.A.** 2017. Changes in gene expression within the adult plant resistant wheat-stem rust interaction. Paper delivered at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, Drakensberg, 15-19 January.

**Craven, M., Smith, K., Berner, J., Morey, L. & McLaren, N.W.** 2017. Multiple season evaluation of growth regulating properties of two fungicides on selected sorghum cultivars. Paper delivered at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, 18-21 January.



**De Gouveia, A., Jackson, M. & Joubert, L.** 2017. Systematics of *Crabbea* Harv. (Acanthaceae) in southern Africa. Paper delivered at the 43<sup>rd</sup> Annual conference of the South African Association of Botanists (SAAB) abstract published in the South African Journal of Botany 109: 331

**Goche, T., Chivasa, S. & Ngara, R.** 2017. Proteome and gene expression analysis of osmotic stress responsive genes in sorghum and *Arabidopsis*. Paper delivered at the Federation of African Societies of Biochemistry and Molecular Biology & Biochemistry and Molecular Biology Society of Zimbabwe International Symposium, Holiday Inn Hotel, Harare, Zimbabwe.

**Goche, T., Chivasa, S. & Ngara, R.** 2017. Physiological and biochemical responses of sorghum to drought stress. Paper delivered at the Joint Conference for the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January. *South African Journal of Botany*, 109:336.

**Greyling-Joubert, S.-M., Schoeman, A., Janse van Rensburg, B., Flett, B.C. & McLaren, N.W.** 2017. Evaluating the fungal target DNA concentrations of three *Fusarium* species associated with maize disease in South Africa under different farming management practices using qPCR. Poster presented at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, 1821 January.

**Herselman, L., Mare, A. & Pretorius, Z.A.** 2017. Development of wheat lines with complex resistance to rusts and *Fusarium* head blight. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria 23-28 April.



**Joubert, L., De Jager, J.C.L. & Glover, B.J.** 2017. Diversity, development and ecological importance of the corolline corona in Apocynaceae. Poster presented at the XIX International Botanical Congress, Shenzhen, China, 23-29 July.

**Labuschagne, M.T.** 2017. Traditional and novel food products of the “forgotten” pulses of Africa, bambara ground nut (*Vigna subteranea*) and cowpea (*Vigna unguiculata*), and of wheat and maize. Paper delivered at the 1<sup>st</sup> International Association for Cereal Science and Technology Asia-Pacific Grains Conference. Xiamen, China, 21-24 May (Keynote speaker).

**Labuschagne, M.T., Manjeru, P. & van Biljon, A.** 2017. Do stress conditions influence the nutritional value of provitamin A biofortified maize in Southern Africa? Paper delivered at the 3<sup>rd</sup> International Conference on Global Food Security, Cape Town, 3-6 December.

**Labuschagne, M.T., Masci, S., van Biljon, A., Moloi, J., Tundo, S. & Foti, S.** 2017. Proteomic analysis of proteins responsive to heat, drought and low temperature stress in a hard red spring wheat cultivar. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.

**Laubser, M.R., Marais, G.J. & Jacobs, K.** 2017. The occurrence of *Fusarium* species and their mycotoxins in South African abalone feed. Paper delivered at the World Agriculture Society Conference, Cape Town, 26-30 June.



**Lebaka, N.G., Labuschagne, M.T, Siwale, J., Gerrano, A., Osthoff, G. and A. Hugo.** 2017. Morphological and nutritional diversity of Bambara groundnuts germplasm collection at Agricultural Research Council, South Africa. Poster presented at the 3<sup>rd</sup> International Conference on Global Food Security, Cape Town, South Africa, 3-6 December.

**Lehasa, S.G., Pieters, R., Thekiso, M.M.O. & Komoreng, L.V.** 2017. Biological activity of traditional medicinal plants used against lymphatic filariasis in the eastern Free State. Poster delivered at the Joint Conference for the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January. *South African Journal of Botany* 109:344.

**Maree, G.J., Castelyn, H.D. & Pretorius, Z.A.** 2017. Histopathology of stem rust infection in barley. Paper delivered at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, Drakensberg, 15-19 January.

**Mashamba, N.T., van Biljon, A., Wentzel, B.S. & Labuschagne, M.T.** 2017. The influence of high molecular weight-glutenin subunits on SDS sedimentation volume and Mixsmart characteristics in elite wheat lines grown at three locations. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.



**Masupha, P., Jankielsohn, A. & Mohase, L.** 2017. Variation in Russian wheat aphid (*Diuraphis noxia*) resistance between South African wheat (*Triticum aestivum*) cultivars and cultivars grown in the mountains of Lesotho. Paper delivered at the Entomological Society of Southern Africa and the Zoological Society of Southern Africa (ESSA & ZSSA) Combined Biennial Congress, CSIR ICC, Pretoria, South Africa, 3-7 July.

**Mbuma, N.W., Zhou, M.M. & Van der Merwe, R.** 2017. Identifying elite families for the Midlands sugarcane breeding programmes in South Africa. Paper delivered at the 90<sup>th</sup> Annual Congress of SASTA (South African Sugar Technologist's Association), ICC (International Convention Centre), Durban, 15-17 August. Published: Proceedings of the South African Sugar Technologist's Association (2017) 90:147150.

**Mohase, L., Masupha, P. & Jankielsohn A.** 2017. South African Russian wheat aphid biotypes induce differential responses in farmers' wheat varieties grown in the highlands of Lesotho. Paper delivered at the Entomological Society of Southern Africa and the Zoological Society of Southern Africa (ESSA & ZSSA) Combined Biennial Congress, CSIR ICC, Pretoria, South Africa, 3-7 July.

**Moloi, S.J., Shargie, N. & Ngara, R.** 2017. A comparative physiological analysis of two *Sorghum bicolor* varieties under salt stress. Poster delivered at Joint Conference for the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January. *South African Journal of Botany*, 109:353.



**Ngara, R., Ramulifho, E., Lekekela, M., Moloji, S. & Goche, T.** 2017. Exploring sorghum's adaptive responses towards drought and salinity stresses. Paper delivered at the Joint Conference for the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January. *South African Journal of Botany*, 109:360.

**Pienaar, R.C., Jansen van Rensburg, W.S., van der Merwe, R. & van Biljon, A.** 2017. Genetic diversity of *Cleome gynandra*. Poster presented at the Indigenous Plant Use Forum 20<sup>th</sup> Annual Conference, Batter Boys Village, Montana, Pretoria, 9-12 July.

**Ramulifho, E., Tsilo, T. & Ngara, R.** 2017. Establishing cell suspension cultures of two *Sorghum bicolor* varieties. Paper delivered at the Joint Conference for the South African Association of Botanists (SAAB) – Protecting biodiversity through sustainability, Lagoon Beach Hotel, Western Cape, South Africa, 8-11 January. *South African Journal of Botany*, 109:366.

**Prins, R., Smit, C., Pretorius, Z.A., Boshoff, W.H.P., Dolezel, J., Simkova, H., Horn, M. & Krattinger, S.** 2017. Characterisation of the *Qyr.sgi-4A.1* region conferring partial stripe rust resistance in Kariega. Poster presentation at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.

**Rothmann, L.A., Bester, M.C. & McLaren, N.W.** 2017. *Sclerotinia sclerotiorum* disease epidemiology: A South African approach. Invited paper delivered at the Soilborne Diseases Interest Group 21-23, Stellenbosch, 20-21 September.

**Rothmann, L.A., Steyn, C. & McLaren, N.W.** 2017. Epidemiology of *Sclerotinia* stem rot of soybean: A South African perspective. Poster presented at the 15<sup>th</sup> National Sclerotinia Initiative, Minneapolis, Minnesota, USA, 18-20 January.



**Ruiz-Hernández, V., Joubert, L., Rodríguez-Gómez, A., Weiss, J., Mühlemann, J.K., Hermans, B., Dudareva, N., Bielza, P., Glover, B.J. & Egea-Cortines, M.** 2017. The effect of modified scent profiles on pest and pollinator choices. Poster presented at the New Phytologist Next Generation Scientists, John Innes Centre, Norwich, UK, 24–26 July.

**Sabiu, S., O'Neill, F.H. & Ashafa, A.O.T.** 2017. Kinetics of  $\alpha$ -amylase and  $\alpha$ -glucosidase inhibitory potential of *Zea mays* Linnaeus (Poaceae), *Stigma maydis* aqueous extract: An *in vitro* assessment. Paper delivered at the Society for Medicinal Plants and Economic Development, Birchwood Hotel and OR Tambo Conference Centre, Johannesburg, South Africa, 27-30 August.

**Sabiu, S., O'Neill, F.H. & Ashafa A.O.T.** 2017. Kinetics of  $\alpha$ -amylase and  $\alpha$ -glucosidase inhibitory potential of *Zea mays* Linnaeus (Poaceae), *Stigma maydis* aqueous extract: An *in vitro* assessment. Poster delivered at the 65<sup>th</sup> Annual Conference of the Society for Medicinal Plant and Natural Product Research (GA), Basel, Switzerland, 3-7 September.

**Scott, L., Gil-Romera, G., Brook, G.A., & Marais, E.** 2017. Holocene vegetation change recorded in Late Quaternary faecal deposits of the Namib Desert and boundary region. Poster presented at the Past Global Changes Open Science Meeting (PAGES OSM), Zaragoza, Spain, 9-13 May.





**Scott, L., Manzano Rodriguez, S., Carr, A.S., Bateman, M., Cordova, C. & Carrión, J.S.** 2017. A 13 ka pollen and isotope record from alluvial deposits in a Fynbos–Succulent Karoo ecotone near Uniondale, Western Cape, South Africa. Poster presentation published in the Proceedings of the 21<sup>st</sup> Biennial Conference of the South African Society of Quaternary Research, Johannesburg, *Palaeontologia Africana* 52: 35-37.

**Steenhuisen, S-L.** 2017. When flowers smell cheesy: An investigation into functional floral traits of African and Australian mammal-pollinated proteas (Proteaceae). Paper delivered at a symposium on Pollination by Non-flying Mammals at the XIX International Botanical Congress (IBC 2017), Shenzhen, China, 23-29 July.

**Terefe, T.G., Visser, B. & Pretorius, Z.A.** 2017 Diversity within the population of *Puccinia graminis* f. sp. *tritici* detected on wheat and triticale in South Africa. Poster presented at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, Drakensberg, 15-19 January.

**Tiwani, T., Pieters, R., Mabena, J.M., Mayekiso, B., Thekiso, M.M.O. & Komoreng, L.V.** 2017. Antimicrobial, anthelmintic activity and cytotoxicity of medicinal plants used in the treatment of lymphatic filariasis in the Eastern Cape, South Africa. Paper delivered at the Indigenous Plant Use Forum, University of Pretoria, Pretoria, South Africa, 9-12 July.

**van Aardt, A.C., Scott, L. & du Preez, P.J.** 2017. Western Free State vegetation ecology: From past to present. Paper presentation at the 43<sup>rd</sup> Annual Conference of the South African Association of Botanists, University of Cape Town, Cape Town, South Africa. *South African Journal of Botany* 109: 372.



**van Biljon, A., Wentzel, B., Onsando, J., Moloi, J. & Labuschagne, M.T.** 2017. Quantification of the high molecular weight glutenin subunits in South African hard red wheat cultivars using reversed phase - high performance liquid chromatography. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.

**Venter, S.L., Fouche, H.J., de Wit, M., Mavengahama, S., Coetzer, G., Swart, W.J. & Amonsou, E.O.** 2017. Fostering partnerships on broadening the food base: Cactus Pear, and Underutilised crop with unlimited potential; The South African Perspective. Paper presented at the IX International Congress on Cactus Pear and Cochineal. Coquimbo, Chile, 26-30 March.

**Visser, B., Park, R.F. & Pretorius, Z.A.** 2017. Microsatellite analysis confirms a historical intercontinental movement of *Puccinia graminis* f. sp. *tritici* from southern Africa to Australia. Paper delivered at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, Drakensberg, 15-19 January.

**Wentzel, B., Labuschagne, M.T., van Biljon, A., Booyse, M. & Miles, C.** 2017. The contribution of non-prolamins (albumin and globulin) to dough properties in South African hard red wheat cultivars. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.

**Wessels, E., Prins, R., Boshoff, W.H.P. & Pretorius, Z.A.** 2017. Mapping the stem rust resistance gene that failed to “Ug99” in wheat cv. Matlabas. Paper presented at the 50<sup>th</sup> Congress of the Southern African Society for Plant Pathology, Champagne Sports Resort, Drakensberg, 15-19 January.

UNIVERSITY OF THE  
FREE STATE  
UNIVERSITEIT VAN DIE  
VRYSTAAT  
YUNIVESITHI YA  
FREISTATA



UFS  
NATURAL AND  
AGRICULTURAL SCIENCES

**Zhang, J., Hewitt, T., Zhang, P., Pretorius, Z.A., Park, R., Upadhyaya, N., Schippenkoetter, W., Dundas, I., McIntosh, R., Mago, R., Periyannan, S., Wulff, B., Steuernagel, B., Kong, X., Hoxha, S. & Lagudah, E.** 2017. Molecular organization of wheat stem rust resistance locus *Sr26* introgressed from *Thinopyrum ponticum*. Poster presented at the 13<sup>th</sup> International Wheat Genetics Symposium, Tulln, Austria, 23-28 April.