



Plant Sciences

Conference contributions 2015

Acevedo, M., Zurn, J.D., Rouse, M.N., Jin, Y., Chao, S., Aoun, M., Wanyera, R., Macharia, G., Njau, P., Pretorius, Z.A., Bonman, J.M. & Brueggeman, R. 2015. *Characterization of stem rust resistance in two spring wheat landraces.* Poster presented at the 9th International Wheat Conference (IWC 2015), Four Seasons Hotel, Sydney, Australia. 21-26 September.

Adendorff, J., Mohase, L., Louw, S.vdM. & Jankielsohn, A. 2015. *Screening for three different categories of host plant resistance to Russian wheat aphid (*Diuraphis noxia*) in alexin® treated wheat varieties.* Paper delivered at the 19th Congress of the Entomological Society of Southern Africa (ESSA) and the 37th Congress of the Zoological Society of Southern Africa (ZSSA), (ESSA/ZSSA 2015), Rhodes University, Grahamstown, South Africa. 12-17 July.

Adendorff, J., Mohase, L., Louw, S.vdM. & Jankielsohn, A. 2015. *AlexinTM treatment boosts defence responses in wheat against Russian wheat aphid (*Diuraphis noxia*) infestation.* Poster presented at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.



Allemann, I., Cawood, M.E. & Allemann, J. 2015. *Effect of Amaranthus cruentus L. residues and extracts on lettuce (Lactuca sativa L.) seed germination and seedling growth.* Paper delivered at the Combined Congress of the Soil Science Society of South Africa (SSSSA), the South African Society of Crop Production (SASCP), the South African Society of Horticulture Sciences (SASHS), and the Southern African Weed Science Society (SAWSS), George, South Africa. 19-22 January.

Baloyi, T.A., Labuschagne, M.T., Van Biljon, A. & Tsilo T. 2015. *Should breeding efforts also focus on breeding for nutritional quality in South African bread wheat cultivars?* Paper delivered at the Combined Congress of the Soil Science Society of South Africa (SSSSA), the South African Society of Crop Production (SASCP), the South African Society of Horticulture Sciences (SASHS), and the Southern African Weed Science Society (SAWSS), George, South Africa. 19-22 January.

Botha, G.A. & Du Preez P.J. 2015. *A description of the wetland and riparian vegetation of the Nxamasere palaeo-river's backflooded section, Okavango Delta, Botswana.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.

Castelyn, H.D., Visser, B. & Pretorius, Z.A. 2015. *Adult plant resistance in wheat: microscopic observation of stem rust colonization.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.



Castelyn, H.D., Visser, B. & Pretorius, Z.A. 2015. *An integrated approach to understanding adult plant resistance: histology and molecular features of stem rust on wheat.* Paper delivered at the 14th International Cereal Rusts and Powdery Mildew Conference (ICRPMC), Helsingør, Denmark. 8 July.

Castelyn, H.D., Visser, B. & Pretorius, Z.A. 2015. *The timing and molecular features of adult plant resistance in wheat against stem rust.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.

Cloete, I., Louw, S.vdM. & Gryzenhout, M. 2015. *Possible causal agents of falls induction on native Acacia species in the Northern Cape Province South Africa.* Poster presented at the 19th Congress of the Entomological Society of Southern Africa (ESSA) and the 37th Congress of the Zoological Society of Southern Africa (ZSSA), (ESSA/ZSSA 2015), Rhodes University, Grahamstown, South Africa. 12-17 July.

Cloete, I., Louw, S.vdM. & Gryzenhout, M. 2015. *The discovery of a new malformation disease of native Acacia trees in South Africa.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Da Costa, A.G. & Swart, W.J. 2015. *Trichoderma strains as biocontrol agents of soil-borne pathogenic fungi of carrot seedlings.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.



Du Preez, P.J. 2015. *Korannaberg – Viervoetberg mountain range (Ladybrand, Eastern Free State) – A floristic hub of the north-western Drakensberg.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.

Du Preez, P.J. & Brown, L.R. 2015. *The peatlands of the Highlands of Lesotho - a unique aquatic system under threat.* Paper delivered at the 27th International Congress for Conservation Biology (ICCB), Montpellier, France. 2-6 August.

Du Preez, P.J., Le Roux P.A.L. & Theron, E. 2015. *The impact of hill-slope water on the distribution of plant species along a granite catena ecosystem.* Paper delivered at the 2nd African Water Symposium in conjunction with the 6th Orange River Basin Symposium, University of the Free State, Bloemfontein, South Africa. 7-8 October.

Greyling, S.M., McLaren, N.W., Schoeman, A., Janse van Rensburg, B. & Flett, B. 2015. *Detection of Fusarium graminearum species complex (FGSC) and F. verticillioides in maize roots, crowns, stems and ears in South Africa.* Poster presented at the 1st African Symposium on Mycotoxicology (ASM2015), Livingstone, Zambia. 26-28 May.

Greyling, S.M., Schoeman, A., Flett, B., McLaren, N.W. & Janse van Rensburg, B. 2015. *Distribution of Fusarium graminearum species complex (FGSC) in maize roots, crowns, stems and grain in South Africa.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.



Gryzenhout, M., Khoosa, B.D. & Landman, L. 2015. *First report of Fusarium boothii from pecan (Carya illinoensis) and camel thorn (Acacia erioloba) trees in South Africa.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Herselman, L., Marè, A., Van Biljon, A. & Wentzel, B.S. 2015. *Biochemical and molecular evaluation of rust resistant bread wheat lines.* Poster presented at the 14th International Cereal Rusts and Powdery Mildew Conference (ICRPMC), Helsingør, Denmark. 8 July.

Hodson, D.P., Park, R.F., Grønbech-Hansen, J., Lassen, P., Nazari, K., Jin, Y., Hovmøller, M., Szabo, L., Pretorius, Z.A., Fetch, T., Meyer, M., Cox, J.A., Gilligan, C.A., Burgin, L. & Hort, M. 2015. *A decade of stem rust surveillance: How far have we come and where are we going?* Paper delivered at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Keet, J.-H., Jackson, M., Cindi, D., Du Preez, P.J. & Visser, B. 2015. *Identification of naturalized and cultivated Berberis species in South Africa.* Paper delivered at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Labuschagne, M.T. 2015. *Managing the peer review process: Challenges and opportunities.* Invited paper delivered at 3rd Annual Peer Review and Research Publishing Summit: Improving the Quality and Accessibility of African Research, Johannesburg, South Africa. 19-21 August.



Labuschagne, M.T., Lindeque, R.C. & Van Biljon, A. 2015. *The relationship between Mixsmart characteristics and loaf volume in three production areas in South Africa.* Paper delivered at the 65th Australasian Grain Science Association (AGSA) Conference, Sydney, Australia. 16-18 September.

Labuschagne, M.T., Moloi, M.J. & Van Biljon, A. 2015. *The influence of heat, cold and drought stress on protein quality and quantity in two hard red bread wheat cultivars.* Paper delivered at the 12th International Gluten Biotechnology (IGB 2015) Workshop, Perth, Australia. 13-15 September.

Le Roux, P.A.L., Jacobs-Venter, A. & Gryzenhout, M. 2015. *Selected Fusarium species isolated from grazing lawn soils in the Kruger National Park.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Lindeque, R., Labuschagne, M., Van Biljon, A., Wentzel, B., Miles, C. & Booyse, M. 2015. *Protein fractions in South African wheat: relationships with baking quality and yield.* Poster presented at the 9th International Wheat Conference (IWC 2015), Four Seasons Hotel, Sydney, Australia. 21-26 September.

Lindeque, R., Labuschagne, M., Van Biljon, A., Wentzel, B.S., Miles, C. & Booyse, M. 2015. *Relating the quality and quantity of protein in wheat developed for the summer rainfall regions of South Africa.* Paper delivered at the Combined Congress of the Soil Science Society of South Africa (SSSSA), the South African Society of Crop Production (SASCP), the South African Society of Horticulture Sciences (SASHS), and the Southern African Weed Science Society (SAWSS), George, South Africa. 19-22 January.



Mabunda, B.D.X., Louw, S.vdM. & Gryzenhout, M. 2015. *Wood-boring insects and possible fungal associates from Acacia karroo (sweet thorn) in the Bloemfontein area.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Malan, A., Booyse, M., Labuschagne, M., Miles, C., Barnard, A., De Villiers, C., Terefe, T. & Von Well, E. 2015. *Progress in breeding spring irrigation bread wheat (*Triticum aestivum* L) for South Africa for the last 20 years (1995-2014).* Poster presented at the 9th International Wheat Conference (IWC 2015), Four Seasons Hotel, Sydney, Australia. 21-26 September.

Marè, A. & Herselman, L. 2015. *Development of wheat lines with complex resistance to rusts and Fusarium head blight.* Poster presented at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Maré, A., Herselman, L. & Pretorius, Z. 2015. *Evaluation of wheat lines containing different combinations of stem, leaf or stripe rust resistance genes.* Poster presented at the 9th International Wheat Conference (IWC 2015), Four Seasons Hotel, Sydney, Australia. 21-26 September.

Maree, G.J., Bender, C.M., Prins, R., Negussie, T.G. & Pretorius, Z.A. 2015. *Microphenotype of stripe rust infection in wheat lines containing different resistance loci.* Poster presented at the 14th International Cereal Rusts and Powdery Mildew Conference (ICRPMC), Helsingør, Denmark. 8 July.



Maree, G.J., Bender, C.M., Prins, R., Tadesse, N. & Pretorius, Z.A. 2015. *Stripe rust development in wheat lines with different resistance loci*. Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

McLaren, N.W., Chung, H., Coetzee, L.A. & Van Rooyen, D. 2015. *Root rot, grain molds and mycotoxins of sorghum in a crop rotation system in Limpopo*. Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Mtshali, L., Zhou, M., Albertyn, J. & Labuschagne, M.T. 2015. *Optimising flow cytometry for the characterisation of sugarcane introgression crosses*. Paper delivered at the 11th Germplasm and Breeding and 8th Molecular Biology Workshop (ISSCT), Saint-Gilles, Reunion Island. 1-5 June.

Mwenye, O.J., Van Biljon, A., Van Rensburg, L.D. & Van der Merwe, R. 2015. *Proline accumulation as a biochemical marker for drought stress tolerance of South African soybean genotypes*. Poster presented at the Eucarpia International Symposium on Protein Crops, Pontevedra, Spain. 4-7 May.

Ngobesi, I., Labuschagne, M. & Ramburan, S. 2015. *Determining genetic coefficients for crop model refinement: tiller and leaf phenology*. Poster presented at the Combined Congress of the Soil Science Society of South Africa (SSSSA), the South African Society of Crop Production (SASCP), the South African Society of Horticulture Sciences (SASHS), and the Southern African Weed Science Society (SAWSS), George, South Africa. 19-22 January.



Potgieter, G.P., Van der Merwe, M. & Bouwer, R. 2015. *Evaluation of a Trichoderma isolate's bio-catalytic potential on growth and yield of hydroponically grown tomato and spinach plants.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.

Pretorius, Z.A., Maree, G., Bender, C.M. & Visser, B. 2015. *Phenotypic and genotypic characterization of South African Pgt race 2SA55.* Poster presented at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Pretorius, Z.A., Wessels, E., Smit, C., Bender, C.M., Boshoff, W.H.P. & Prins, R. 2015. *Expanding the QTL toolbox for adult plant stripe rust resistance in wheat.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Prins, R., Dreisigacker, S., Pretorius, Z., Wessels, E., Van Schalkwyk, H.J., Smit, C., Bender, C., Singh, D. & Boyd, L. 2015. *Stem rust resistance QTL validation of marker-trait associations detected by GWAS.* Poster presented at the 9th International Wheat Conference (IWC 2015), Four Seasons Hotel, Sydney, Australia. 21-26 September.

Prins, R., Martin, A., Agenbag, G.M., Potgieter, F.G., Smit, F. & Pretorius, Z.A. 2015. *Stem rust resistance in South African barley.* Poster presented at the 17th Australian Barley Technical Symposium, Manly, Australia. 13-16 September.



Santchurn, D., Badaloo, M., Zhou, M. & Labuschagne, M.T. 2015. *Contribution of sugarcane wild relatives in the Mauritian sugarcane breeding programme.* Paper delivered at the 11th Germplasm and Breeding and 8th Molecular Biology Workshop (ISSCT), Saint-Gilles, Reunion Island. 1-5 June.

Seling, T.I., Terefe, T.G., Herselman, L., Pretorius, Z.A. & Visser, B. 2015. *Monitoring the South African leaf rust population through a combined phenotyping and SSR genotyping approach.* Poster presented at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Smit, A., Smit, M., Labuschagne, M.T. & Van der Merwe, R. 2015. *Seed yield potential of vegetable type soybean genotypes in South Africa.* Paper delivered at the Eucarpia International Symposium on Protein Crops, Pontevedra, Spain. 4-7 May.

Smit, G.N., Smit, Z.M. & Du Preez, P.J. 2015. *The importance of stocking rate, habitat and feeding preferences of game species for effective veld management in a semi-arid environment.* Paper delivered at the Southern African Wildlife Management Association (SAWMA) Conference, Kimberley, South Africa. 6-10 September. **Smith,**

K., Craven, M., McLaren, N.W. & Berner, J. 2015. *Fungicide effects on yield, plant mass and leaf blight severity of sorghum in South Africa.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Soko, T., Prins, R. & Pretorius, Z.A. 2015. *Are Zimbabwean wheat cultivars protected against Pgt race Ug99?* Poster presented at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.



Swanepoel, J., Westcott, M. & Gryzenhout, M. 2015. *Fusarium spp. associated with decayed and healthy tissue of Amaranthus cruentus and three weevil species in South Africa.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Swart, W.J. 2015. *A holistic perspective of strategies for managing cactus pear diseases.* Paper delivered at the International Cactus Pear Workshop: Development of a cactus pear agro-industry for the sub-Sahara Africa region, University of the Free State, Bloemfontein, South Africa. 27-28 January.

Swart, W.J. 2015. *The Rhizosphere microbiome as a driver of multi-trophic interactions that influence plant health.* Invited paper delivered at the 25th Annual Interdisciplinary Symposium hosted by the Agricultural Research Council – Plant Protection Research Institute, Vredenburg Research Centre, Stellenbosch, South Africa. 16-18 September.

Terefe, T., Visser, B. & Pretorius, Z.A. 2015. *Variation among Puccinia graminis f. sp. tritici and Puccinia triticina isolates from wheat in South Africa during 2007-2013.* Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Van Aardt, A.C., Scott, L. & Du Preez, P.J. 2015. *Combining palaeo-ecology and modern vegetation science: a western Free State perspective.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.



Van Aardt, A.C., Scott, L. & Du Preez, P.J. 2015. *Towards addressing the disjunction between palaeo- and modern ecology in the western Free State*. Paper delivered at the Inaugural African Quaternary (AFQUA) Conference and Workshop, University of Cape Town, Cape Town, South Africa. 30 January – 8 February.

Van Rooyen, D, & McLaren, N.W. 2015. *Sorghum grain characteristics, severity of grain molds and associated mycotoxins*. Poster presented at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Van Schalkwyk, H.J., Prins, R., Pretorius, Z.A., Boyd, L.A., Uauy, C. & Saunders, D.G.O. 2015. *Placement of South African stripe rust in a global context and development of diagnostic tools for genotyping field samples*. Invited paper delivered at the 7th Borlaug Global Rust Initiative Technical Workshop, Sydney, Australia. 17-20 September.

Van Schalkwyk, H.J., Prins, R., Pretorius, Z.A., Boyd, L.A., Uauy, C., & Saunders, D.G.O. 2015. *South African stripe rust: The trace, the race and the chase!* Poster presented at the Sainsbury Laboratory – Wheat diseases day, Norwich, United Kingdom. 22 May.

Van Schalkwyk, H.J., Prins, R., Pretorius, Z.A., Boyd, L.A., Uauy, C., & Saunders, D.G.O. 2015. *Plant Wars Episode I: The Fungal Menace*. Paper delivered at the Crop Genetics Departmental Seminar Series, John Innes Centre, Norwich, United Kingdom. 17 December.



Vermeulen, M., Swart, W.J. & Gryzenhout, M. 2015. *Fusarium species associated with decayed and healthy tissue of Amaranthus cruentus and three weevil species in South Africa.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

Viljoen, R., Mokheseng, K.E., Kemp, G., Pretorius, J. & Visser, B. 2015. *A Lupinus albus seed suspension affects photosynthesis in wheat seedlings.* Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.

Viljoen, R., Mokheseng, K.E., Kemp, G., Pretorius, J. & Visser, B. 2015. *The molecular and photosynthetic response of wheat treated with a biostimulant derived from a South African legume.* Paper delivered at the 2nd World Congress on the use of Biostimulants in Agriculture, Florence, Italy. 17-19 November.

Visser, B., Herselman, L. & Pretorius, Z.A. 2015. *Microsatellite characterization of South African Puccinia striiformis races.* Poster presented at the 14th International Cereal Rusts and Powdery Mildew Conference (ICRPMC), Helsingør, Denmark. 8 July.

Visser, B., Seling, T.I., Terefe, T., Herselman, L. & Pretorius, Z.A. 2015. *Genetic analysis of the Puccinia graminis f. sp. tritici population in South Africa.* Paper delivered at the 49th Congress of the Southern African Society for Plant Pathology (SASPP), Bain's Game Lodge, Bloemfontein, South Africa. 18-21 January.

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Visser, B., Seling, T.I., Terefe, T., Herselman, L. & Pretorius, Z.A. 2015. *Genetic diversity in Puccinia triticina causing wheat leaf rust in South Africa*. Paper delivered at the 41st Annual Conference of the South African Association of Botanists (SAAB), Tshipise Forever Resort, Limpopo, South Africa. 11-15 January.