

## Personal information

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## Research

### ORCID number

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### NRF rating

2023-2028

I submitted my rating application at the end of 2022 and expect the outcome at the end of 2023.

2017-2022

I obtained a C2 rating at the end of the 2016 reviewing cycle.

### Funding grants

2023-2024

South African Wheat Cereal Industry Trust (SAWCIT). Screening South African stem and stripe rust race isolates for fungicide insensitivity using MARPLE diagnostics (project SAWCIT 22/23 2(a)). PI - Prof B Visser. R365 000 over 2 years.

2021-2025

NRF SARChI chair. Disease resistance and quality in field crops. PI - Prof M Labuschagne (Plant Breeding). Prof WHP Boshoff and myself are responsible for the Disease resistance in field crops.

2016-2020

NRF SARChI chair. Disease resistance and quality in field crops. PI - Prof M Labuschagne (Plant Breeding). Prof WHP Boshoff and myself are responsible for the Disease resistance in field crops.

## Publications

### Scientific publications (46 publications)

Mafa MS, Lebusa N, Gumani TF, Kemp G, **Visser B**, Boshoff WHP and Castelyn HD, 2023. Accumulation of complex oligosaccharides and CAZymes activity under acid conditions constitute the Thatcher+*Lr9* defence responses to *Puccinia triticina*. *Biologia* 78: 1929-1941. **IF** 1.653. doi.org/10.1007/s11756-023-01405-7

Mafa MS, **Visser B**, Boshoff WHP, Kemp G, Alexander O and Castelyn HD, 2023. Flagging defensive roles of carbohydrate-active enzymes (CAZymes) and carbohydrates during *Puccinia triticina*-wheat interactions. *Physiological and Molecular Plant Pathology* 124: 101947. **IF** 2.741. doi.org/10.1016/j.pmpp.2023.101947

Terefe TG, **Visser B**, Pretorius ZA and Boshoff WHP, 2023. Physiologic races of *Puccinia triticina* detected on wheat in South Africa from 2017 to 2020. *European Journal of Plant Pathology* 165: 1-15. **IF** 2.1. doi.org/10.1007/s10658-022-02583-x

- Szabo LJ, Olivera PD, Wanyera R, **Visser B** and Yue Jin, 2022. Development of a diagnostic assay for differentiation between genetic groups in clades I, II, III and IV of *Puccinia graminis* f. sp. *tritici*. *Plant Disease* 106: 2211-2220. **IF** 4.614. doi.org/10.1094/PDIS-10-21-2161-RE
- Spelman Z, **Visser B**, Terefe T, Pretorius ZA and Boshoff WHP, 2022. Pathogenicity and microsatellite characterization of *Puccinia hordei* in South Africa. *Crop Protection* 158: 106014. **IF** 3.036. doi.org/10.1016/j.cropro.2022.106014
- Boshoff WHP, **Visser B**, Bender CM, Wood AR, Rothmann L, Wilson K, Hamilton-Attwell VL and Pretorius ZA, 2022. Fig rust caused by *Phakopsora nishidana* in South Africa. *Phytopathologia Mediterranea* 61: 283-298. **IF** 1.788. doi.org/10.36253/phyto-13034
- Boshoff WHP, Wood AR, **Visser B**, Bender CM, Joubert L, Richter J, Aime MC and Pretorius ZA, 2022. The life cycle of *Puccinia digitariae* on *Digitaria eriantha* and *Solanum* species in South Africa. *Mycologia* 114: 319-336. **IF** 2.696. doi.org/10.1080/00275514.2022.2031493
- Combrink HM, Oosthuizen J, **Visser B**, Chabilal N, Buccimazza I, Foulkes WD and van der Merwe NC, 2021. Mutations in BRCA-related breast and ovarian cancer in the South African Indian population: A descriptive study. *Cancer Genetics* 15: 258-259. **IF** 2.523. doi.org/10.1016/j.cancergen.2021.06.002
- Labuschagne R, Venter E, Boshoff WHP, Pretorius ZA, Terefe T and **Visser B**, 2021. Historical development of the *Puccinia triticina* population in South Africa. *Plant Disease* 105: 2445. **IF** 4.438. doi.org/10.1094/PDIS-10-20-2301-RE.
- Terefe TG, **Visser B**, Botha W, Kozana A, Roberts R, Thompson GD, Prinsloo G and Read DA, 2021. Detection and molecular characterization of Wheat stripe mosaic virus on wheat in South Africa. *Crop Protection* 143: 105464. **IF** 2.49. doi.org/10.1016/j.cropro.2020.105464
- Meyer WB, Boshoff WHP, Minnaar-Ontong A, Young A, Kong G, Thompson S, Pretorius ZA and **Visser B**, 2021. Phenotypic and genotypic variation of *Puccinia helianthi* in South Africa. *Plant Disease* 105: 1482-1489. **IF** 4.438. doi.org/10.1094/PDIS-09-20-1903-RE
- Pretorius ZA, Prins R, Wessels W, Bender CM, **Visser B** and Boshoff WHP, 2020. Accomplishments in wheat rust research in South Africa. *South African Journal of Science* 116: 11-12. **IF** 1.191. doi.org/10.17159/sajs.2020/7688
- Mafa MS, Castelyn HD, Kemp G and **Visser B**, 2020. Delineating induced defense responses in wheat seedlings exposed to volatiles emitted by *Puccinia triticina* infected wheat. *Physiological and Molecular Plant Pathology* 112: 101538. **IF** 1.646. doi.org/10.1016/j.pmpp.2020.101538
- Boshoff WHP, Pretorius ZA, Terefe T and **Visser B**, 2020. Occurrence and pathogenicity of *Puccinia coronata* var *avenae* f. sp. *avenae* on oat in South Africa. *Crop Protection* 133: 105144. **IF** 2.381. doi.org/10.1016/j.cropro.2020.105144

- Kolmer JA, Herman A, Ordoñez ME, German S, Morgounov A, Pretorius ZA, **Visser B**, Anikster Y and Acevedo M, 2020. Endemic and panglobal genetic groups, and divergence of host-associated forms in worldwide collections of the wheat leaf rust fungus *Puccinia triticina* as determined by genotyping by sequencing. *Heredity* 124: 397-409. **IF** 3.179. doi.org/10.1038/s41437-019-0288-x
- Boshoff WHP, **Visser B**, Lewis CM, Adams TM, Saunders DGO, Terefe T, Soko T, Chiuraise N and Pretorius ZA, 2020. First report of *Puccinia striiformis* f. sp. *tritici*, causing stripe rust of wheat, in Zimbabwe. *Plant Disease* 104: 290. **IF** 2.94. doi.org/10.1094/PDIS-07-19-1395-PDN
- Li F, Upadhyaya NM, Sperschneider J, Matny O, Nguyen-Phuc H, Mago R, Raley C, Miller ME, Silverstein KAT, Henningsen E, Hirsch CD, **Visser B**, Pretorius ZA, Steffenson BJ, Schwessinger B, Dodds PN and Figueroa M, 2019. Emergence of the Ug99 lineage of the wheat stem rust pathogen through somatic hybridisation. *Nature Communications* 10: 5068. **IF** 11.88. doi.org/10.1038/s41467-019-12927-7
- Boshoff WHP, **Visser B**, Terefe T and Pretorius ZA, 2019. Diversity in *Puccinia graminis* f. sp. *avenae* and its impact on oat cultivar response in South Africa. *European Journal of Plant Pathology* 155: 1165-1177. **IF** 1.74. doi.org/10.1007/s10658-019-01845-5
- Kolmer JA, Ordoñez ME, German S, Morgounov A, Pretorius Z, **Visser B**, Goyeau H, Anikster Y and Acevedo M, 2019. Multilocus genotypes of the wheat leaf rust fungus *Puccinia triticina* in worldwide regions indicate past and current long-distance migration. *Phytopathology* 109: 1453-1463. **IF** 2.896. doi.org/10.1094/PHYTO-10-18-0411-R
- Terefe T, Pretorius ZA, **Visser B** and Boshoff WHP, 2019. First report of *Puccinia graminis* f. sp. *tritici* race PTKSK, a variant of wheat stem rust race Ug99 in South Africa. *Plant Disease* 103: 1421. **IF** 2.94. doi.org/10.1094/PDIS-11-18-1911-PDN
- Visser B**, Meyer M, Park RF, Gilligan CA, Burgin LE, Hort MC, Hodson DP and Pretorius ZA, 2019. Microsatellite analysis and urediniospore dispersal simulations support the movement of *Puccinia graminis* f. sp. *tritici* from southern Africa to Australia. *Phytopathology* 109: 133-144. **IF** 2.896. doi.org/10.1094/PHYTO-04-18-0110-R
- Boshoff WHP, Pretorius ZA, Terefe TG, Bender CM, Herselman L, Maree GJ and **Visser B**, 2018. Phenotypic and genotypic description of *Puccinia graminis* f. sp. *tritici* race 2SA55 in South Africa. *European Journal of Plant Pathology* 152: 783-789. **IF** 1.478. doi.org/10.1007/s10658-018-1527-3
- Boshoff WHP, Labuschagne R, Terefe T, Pretorius ZA and **Visser B**, 2018. New *Puccinia triticina* races on wheat in South Africa. *Australasian Plant Pathology* 47: 325-334. **IF** 1.026. doi.org/10.1007/s13313-018-0560-1
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- Hanzalová A, Hodson DP, Hovmøller MS, Huerta-Espino J, Imtiaz M, Iqbal Mirza J, Justesen AF, Niks RE, Omrani A, Patpour M, Pretorius ZA, Roohparvar R, Sela H, Singh RP, Steffenson B, **Visser B**, Fenwick PM, Thomas J, Wulff BH and Saunders DGO, 2018. Potential for re-emergence of wheat stem rust in the UK. *Communications Biology* (online) 1: 13. **IF** 6.548. doi.org/10.1038/s42003-018-0013-y
- Terefe TG, **Visser B** and Pretorius ZA, 2016. Variation in *Puccinia graminis* f. sp. *tritici* detected on wheat and triticale in South Africa from 2009 to 2013. *Crop Protection* 86: 9-16. **IF** 1.493. doi.org/10.1016/j.cropro.2016.04.006
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- Figlan S, le Roux C, Terefe T, Botes W, **Visser B**, Shimelis H and Tsilo TJ, 2014. Wheat stem rust in South Africa: current status and future research directions. *African Journal of Biotechnology* 13: 4188-4199. **IF** 0.57. doi.org/10.5897/AJB2014.14100
- Terefe TG, **Visser B**, Herselman L, Seling T and Pretorius ZA, 2014. First report of *Puccinia triticina* (leaf rust) race FBPT on wheat in South Africa. *Plant Disease* 98: 1001. **IF** 2.46. doi.org/10.1094/PDIS-12-13-1195-PDN
- Terefe TG, **Visser B**, Herselman L, Prins R, Negussie T, Kolmer JA and Pretorius ZA, 2014. Diversity in *Puccinia triticina* detected on wheat from 2008 to 2010 and the impact of new races on South African wheat germplasm. *European Journal of Plant Pathology* 139: 95-105. **IF** 1.933. doi.org/10.1007/s10658-013-0368-3
- Cawood ME, Pretorius JC, **Visser B** and van der Westhuizen, 2013. Induced gene expression in wheat seedlings treated with a crude extract of *Agapanthus africanus* L. prior to leaf rust infection. *African Journal of Biotechnology* 12: 2876-2883. **IF** 0.57. doi.org/10.5897/AJB12.1738
- Scholtz JJ and **Visser B**, 2013. Reference gene selection for qPCR gene expression of rust-infected wheat. *Physiological and Molecular Plant Pathology* 81: 22-25. **IF** 2.043. doi.org/10.1016/j.pmpp.2012.10.006

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- Pretorius ZA, Szabo LJ, Boshoff WHP, Herselman L and **Visser B**, 2012. First report of a new TTKSF race of wheat stem rust (*Puccinia graminis* f. sp. *tritici*) in South Africa and Zimbabwe. *Plant Disease* 96: 590. **IF** 2.46. doi.org/10.1094/PDIS-12-11-1027-PDN
- Visser B**, Herselman L, Bender CM and Pretorius ZA, 2012. Microsatellite analysis of selected *Puccinia triticina* races in South Africa. *Australasian Plant Pathology* 41: 165-171. **IF** 1.041. doi.org/10.1007/s13313-011-0104-4
- Mukoyi F, Soko T, Mulima E, Mutari B, Hodson D, Herselman L, **Visser B** and Pretorius ZA, 2011. Detection of variants of wheat stem rust race Ug99 (*Puccinia graminis* f. sp. *tritici*) in Zimbabwe and Mozambique. *Plant Disease* 95: 1188. **IF** 2.46. doi.org/10.1094/PDIS-04-11-0300
- Terefe T, Pretorius ZA, Bender CM, **Visser B** and Herselman L, 2011. First report of a new wheat leaf rust (*Puccinia triticina*) race with virulence for *Lr12*, *13*, and *37* in South Africa. *Plant Disease* 95: 611. **IF** 2.46. doi.org/10.1094/PDIS-07-10-0545
- Visser B**, Herselman L, Park RF, Karaoglu H, Bender CM and Pretorius ZA, 2011. Characterization of two new *Puccinia graminis* f. sp. *tritici* races within the Ug99 lineage in South Africa. *Euphytica* 179: 119-127. **IF** 1.692. doi.org/10.1007/s10681-010-0269-x
- Pretorius ZA, Bender CM, **Visser B** and Terefe T, 2010. First report of a *Puccinia graminis* f. sp. *tritici* race virulent to the *Sr24* and *Sr31* wheat stem rust resistance genes in South Africa. *Plant Disease* 94: 784. **IF** 2.46. doi.org/10.1094/PDIS-94-6-0784C
- Visser B**, L Herselman and ZA Pretorius, 2009. Genetic comparison of Ug99 with selected South African races of *Puccinia graminis* f. sp. *tritici*. *Molecular Plant Pathology* 10: 213-222. **IF** 4.485. doi.org/10.1111/j.1364-3703.2008.00525.x
- Pretorius ZA, **Visser B** and du Preez PJ, 2007. First report of Asian Soybean Rust (*Phakopsora pachyrhizi*) on kudzu in South Africa. *Plant Disease* 91: 1364. **IF** 2.46. doi.org/10.1094/PDIS-91-10-1364C
- Czérnic P, **Visser B**, Sun W, Savouré A, Deslandes L, Marco Y, Van Montagu M and Verbruggen N, 1999. Characterization of an *Arabidopsis thaliana* receptor-like kinase gene activated by oxidative stress and pathogen attack. *Plant Journal* 18: 321-328. **IF** 6.582. doi.org/10.1046/j.1365-313x.1999.00447.x
- Spies JJ, Klopper KC and **Visser B**, 1999. Apomixis in the genus *Pentaschistis* (Arundinoideae). *Bothalia* 29: 203-209. **IF** 1.267. doi.org/10.4102/abc.v28i2.643
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### **Popular publications (11 publications)**

**Visser B**, Boshoff WHP en Pretorius ZA, 2022. Lesse uit die verlede: die gebruik van herbarium-eksemplare om die ontwikkeling van twee koringroespatogene in Suid-Afrika te ondersoek. KoringFokus November/Desember, p 22-23.

Boshoff WHP, **Visser B** en Pretorius ZA, 2022. Blaarroes van gars – roesswam onder vergrootglas in navorsing. KoringFokus Julie/Augustus, p 10-11.

Pretorius ZA, Prins R, Bender CM, **Visser B** en Boshoff WHP, 2021. Koringstreeproes: 25 jaar later. KoringFokus September/Okttober, p 22-24.

Meyer WB, Boshoff WHP, Minnaar-Ontong A en **Visser B**, 2020. Sonneblomroes – die nuutste inligting rakende die voorkoms van aggressiewer rasse in Suid-Afrika. SA Graan 22: 44-45.

**Visser B**, Boshoff WHP en Pretorius, ZA, 2020. Internasionale navorsing werp nuwe lig op die langafstandverspreiding van koringstamroes urediniospore. KoringFokus November/Desember, p 26-27.

Boshoff WHP, **Visser B** en Pretorius, ZA, 2020. Hawerkroonroes – swam bedreig vatbare kultivars vroeg in die seisoen. KoringFokus Julie/Augustus, p 16-18.

**Visser B**, Boshoff WHP en Pretorius ZA, 2020. Berberis – ‘n onbekende faktor in die stryd teen stam- en geelroes van koring in Suid-Afrika. KoringFokus Maart/April, p 8-10.

Boshoff WHP, **Visser B** en Pretorius, ZA, 2020. Hawerstamroes - neem ingeligte besluite oor vatbaarheid van kultivars. KoringFokus Januarie/Februarie, p 20-21.

Terefe TG, Prinsloo G, Roberts R, Botha W, Read D, Thompson G, Khozana A and **Visser B**, 2019. First report of wheat stripe mosaic virus in South Africa. KoringFokus September/Okttober, p 9-11.

Terefe TG, Prinsloo G, Roberts R, Botha W and **Visser B**, 2017. Detection of *Polymyxa graminis*, a vector of important soil borne viruses in South Africa. KoringFokus, November/Desember, p 10-12.

Keet J-H, **Visser B**, du Preez PJ and Cindi D, 2014. Barberry Pirates. Two species of Berberis could become problem invaders in South Africa. Veld and Flora, Desember, p 174-175.

### **Book chapter contribution (1 contribution)**

Van As JG, du Preez PJ, Brown LR and Smit N, 2012. The story of life and the environment.

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