

Reaction of South African soybean cultivars to rust caused by *Phakopsora pachyrhizi*

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Soybean rust was recorded in South Africa in February 2001 in the Vryheid area of KwaZulu-Natal, from where it spread throughout production areas east of the escarpment. Management of the disease is presently, based on fungicide spray programs. Commercial soybean cultivars were evaluated for rust resistance at Cedara during 2003/04 and 2004/05. Field trials consisted of 26 entries in fungicide sprayed and unsprayed plots, replicated three times. Weekly (2003/04) or two weekly (2004/05) disease assessments were expressed as affected leaf area based on visual assessments of rust severity and the degree of defoliation. Physiological stage at first detection of disease differed significantly between cultivars with the greatest delay in LS678 during both seasons. There were significant differences in Area Under the Disease Progress Curve (AUDPC) between cultivars and AUDPC was significantly, negatively related to growth stage at first detection. Yield loss was poorly related to AUDPC values but was significantly related to days to maturity, with lower losses in shorter season varieties than in longer season varieties. This, in turn, was related to premature defoliation which was 16 to 21 days earlier in the longer maturity group, in unsprayed plots. Reductions in yield losses were, however, not sufficient to be of economic value and none of the cultivars showed significant rust tolerance.

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