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ABSTRACT

Soybean [*Glycine max* (L.) Merr.] production in South Africa is relatively low and there are many factors that limit production, for example, adaptability to South African conditions. The aim of this breeding project was to evaluate advanced breeding lines that were developed in the previous programme for potential release as cultivars with better adaptation and higher yield. Twenty-five advanced breeding lines and five local check cultivars were evaluated at Bethlehem, Brits, Potchefstroom and Vaalharts in 2008/09 summer season. At Bethlehem only GP20-2-15-5 yielded significantly ($P<0.05$) higher than two of the five checks (LS678 and PAN535R). At Potchefstroom, line TXS99-1-1-1 yielded significantly ($P<0.05$) higher than two checks, PAN660 and PAN535R, and line TXS99-6-62-1 yielded significantly ($P<0.05$) higher than PAN660. At Vaalharts only one line TXS99-7-12-1 significantly ($P<0.05$) out-yielded one of the checks (Egret). At each of the three sites, none of the advanced breeding lines out-yielded all the five checks. Only one line TXS99-6-62-1 yielded significantly ($P<0.05$) higher than one of the five checks (PAN535R) when data from Bethlehem, Potchefstroom and Vaalharts were combined. The most stable varieties had low yield potential. Thus none of the advanced breeding lines should be considered for release and registration.