ASSET Series A (2001) 1 (1): 7-13

ASSET
An International Journal

ON-FARM EVALUATION OF SOME IMPROVED SOYBEAN VARIETIES (GLYCINE MAX (L) MERR) IN SOUTH WESTERN NIGERIA AGROECOLOGIES

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ABSTRACT

On-farm trial evaluation were carried out in four locations of Oyo State Agricultural Development Programme of Nigeria, using ten improved soybean (*Glycine max (L) Merr)* varieties and forty farmers' fields. The objectives was to test their yield potential and days to maturity across locations. The results showed that the varieties and location effects were significantly different for grain yield and maturity days. Variety x location interaction also differed significantly for grain yield and maturity days indicating differences in the performance of the soybean varieties across locations. Saki was the most suitable environment for soybean production with mean yield of 662.37 kg/ha compared to Ibadan/Ibarapa having a mean yield of 317.48kg/ha. TGx 1485-1D and TGx 1799-8F were the highest yielding varieties with mean yields of between 578.88, 552.49 and 585.87 kg/ha respectively. Although, yield and maturity days in the soybean genotypes were significantly different. High level of variability exist in the soybean varieties with respect to these traits. Maturity days, which varied between 100 and 113 had little or no direct effect of grain yield. Rainfall of about 533 mm was observed as being sufficient for optimum soybean production in the tested ecologies. High rainfall (752.7 mm) in Ibadan/IIbarapa among other factors significantly reduced grain yield between 34.7 and 96.03% compared to other locations with mean precipitation of 533.0 mm. Genotype TGx 1485-1D and TGx 849-313 appeared to be location-specific , while TGx 849-313 recorded yield increase of 332 and 460% in Ogbomoso and Oyo over its performance in Saki, TGx 1485-1D had a yield of 558.25 kg/ha in Ibadan/Ibarapa as compared to 921.20 kg/ha in Saki.

Keywords: Improved soybean, location-specificity