

Influence of population density and season on seed yield and its components in Nigerian sesame genotypes

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Abstract

A field experiment was conducted to assess the impact of three population densities and two seasons on seed yield of 14 genetically diverse Nigerian sesame genotypes. Cultivars 530-6-1, Type A and Pbt11 No 1 generally outperformed others. Population density of 166,667 plants ha⁻¹ gave 40% more yield than that at 266,667 plants ha⁻¹ and was the best for maximizing yield under rain-fed conditions. Regarding seasonal influences, yield was about 11% higher in the 2002 season than in 2001. Heritability results revealed that seed weight is highly heritable in sesame with a possibility for high selection gains, while the other yield components were greatly influenced by population densities and seasons signifying moderate-to-high gains. Significant positive relationship was found between seed yield and capsule weight, capsule number and seed production efficiency implying that yield is a function of these parameters and selection based on these could further improve the yield potential.