

Nitrogen effect on the incidence of *Striga hermonthica* (Del.) Benth in upland rice

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Abstract

Field trials were conducted in the dry (Experiment I) and wet (Experiment II) seasons of 1997 at Samaru (11°11' N, 7°38' E, 686 m above sea level) in the northern Guinea Savanna ecological zone of Nigeria to study the effects of nitrogen rates on the reaction of upland rice (*Oryza sativa* L.) varieties to *Striga hermonthica* (Del.) Benth. The results indicate that FARO 48, a variety normally susceptible to *Striga hermonthica*, exhibited resistance. FARO 11 exhibited tolerance, while FARO 38, FARO 46 and FARO 45 exhibited susceptibility. The application of 90 and 120 kg N/ha delayed and reduced *Striga* emergence on the crop, induced a low crop reaction score and produced grain yields that were the maximum or significantly higher than the least. No significant differences in *Striga* infestation were observed between nitrogen rates of 30-120 kg N/ha. The significant interaction between upland rice varieties and nitrogen rates indicates that the susceptible varieties require higher rates of nitrogen to ameliorate the effect of *Striga* compared with the resistant varieties.

Keywords

susceptibility, susceptibility, susceptibility, susceptibility, upland rice, *Striga hermonthica*, incidence, northern Guinea savanna, resistance, tolerance