

Effect of *Fimbristylis miliacea* Competition with MR220 Rice in Relation to Different Nitrogen Levels and Weed Density

ABSTRACT

The study was conducted to investigate the severity of competition between rice and *Fimbristylis miliacea* with application of different levels of nitrogen and different density of *F. miliacea*. Sixty 25 cm diameter by 30 cm deep clay pots were filled with 6 kg of Bakau series with clay texture ricifields soil. Treatments consisted of a factorial combination of three nitrogen (N) levels and five weed densities and laid out in a RCBD with four replications. The interaction between weed density and nitrogen fertilization had a pronounced influence on rice yield contributing characters and rice yield. At low weed densities (500 plants m⁻²), rice yields increased with higher N fertilization. On the other hand, at the higher weed density (1000 plants m⁻²), increasing N fertilization to 170 kg ha⁻¹ had no significant effect on yield. However, rice yield at this level of N fertilization with the lowest weed density of 250 plants m⁻², was similar to the weed-free treatment. With an efficient weed control program it is possible to increase the fertilizer use efficiency of the crop. When less fertilizer is applied, the productivity per unit of applied fertilizer can be maximized by good weeding practice.

Keyword: Competition, Nitrogen levels, Weed density, *Fimbristylis miliacea*, Rice yield