Effect of graded levels of phosphorus on grain filling of rice (*Oryza sativa*. L) varieties differing in phosphorus use efficiency

Veronica N1, G Tulasi1, V Padma2 and D Subrahmanyam1

1Directorate of Rice Research, India
2Acharya N. G. Ranga Agricultural University, India

A pot culture experiment was conducted at DRR Rajendranagar in kharif 2012 to study the effect of graded phosphorus levels on yield and yield attributing factors in rice varieties. The experiment comprised of four treatment levels of P (25%, 50%, 75%, 100% of recommended P dose) and four rice varieties (Akhanphou, MTU 1010, RP Bio 226 and Swarna). All the yield attributes of rice varieties differed significantly with graded levels of P application. Highest (22.6) mean panicle number hill-1 was recorded in 100% RD of P while lowest (8.1) in 25% RD of P. Among the varieties, highest (14.4) panicle number hill-1 was observed in MTU1010 and lowest (9.4) in RP Bio 226. There was 65% reduction in number of filled grains per panicle at low P (25% RD) over control. Among the rice varieties studied, mean maximum (98.52) number of filled grains panicle-1 was recorded in Swarna and minimum (69.84) in RP Bio 226. Akhanphou recorded least number of unfilled grains panicle-1 at all levels of P indicating its better grain filling characteristic. Compared to control, nearly two folds increase in spikelet sterility was noted at low P level.