

## **Plant density influence on yield and nutritional quality of soyabean seed.**

### **ABSTRACT**

Plant density is an important factor affecting soybean seed yield and but information regarding plant density effects on seed quality is highly scarce. The present study examines the relationship of seed yield and quality of two soybean varieties viz., PB-1 and G-2 with plant densities. The experiments were conducted in three consecutive seasons viz., Rabi 2004-05, Kharif 2005 and Rabi 2005-06 at the Agronomy Field Laboratory of Bangladesh Agricultural University, Mymensingh, Bangladesh. Six plant densities viz., 20, 40, 60, 80, 100 and 120 plants m<sup>-2</sup> were established using an equidistant planting pattern having spacings of 22.4×22.4 cm, 15.8×15.8 cm, 12.9×12.9 cm, 10.0×10.0 cm and 9.1×9.1 cm, respectively. A split-plot design was used having variety as main plot and density as sub-plot with three replicates. The results revealed that soybean seed yield increased with increase of plant density and the highest yield was obtained at 80 to 100 plants m<sup>-2</sup> depending on variety and season. The further increase in plant density reduced the seed yield. The seed yield, seed protein and mineral contents such as phosphorus, calcium, potassium, sulphur and zinc showed a quadratic relation with plant density. Seed protein content decreased with increase in plant density up to 80 or 100 plants m<sup>-2</sup> and then increased with further increase in plant density while reverse occurred for seed yield and different minerals. The results also showed that seed protein content was inversely related with seed yield and mineral contents in seed.

**Keyword:** Equisidant planting pattern; Glycine max; Mineral csontents; Protein content; Variety.