B-06: Evaluation of pigeonpea and maize varieties for intercropping systems

S N Jayawardena, R M C Ratnayake
(Field Crop Research and Development Institute, Maha Illuppallama)

Success of any intercropping system primarily depends on the selection of proper crop combinations. Maize (*Zea maize*) and pigeonpea (*Cajanus cajan*) can be intercropped for higher productivity and better monetary return. Although several varieties of maize and pigeonpea are available for sole cropping, information on the possibility of intercropping those is lacking.

An intercropping experiment was conducted at FCRDI/Maha Illuppallama during 92/93 Maha under rainfed conditions with 2 varieties of maize (Bhadra-1 and Aruna) and 6 varieties of pigeonpea (ICPL-2, ICPL-87, MPG-537, ICPL-84045, ICPL-85045, ICPL-3130) with the objective of selecting suitable crop combinations for intercrop conditions. Maize was planted in rows on 120 cm at 55,555 plants/ha. The pigeonpea was planted in 2 rows at 40 cm between the maize (166,66 plants/ha) giving maize 1 : pigeonpea 2 row arangement.

Results showed that there was a significant effect of maize varieties on intercropped pigeonpea yield. Intercropped pigeonpea produced yields ranging from 35-60% of sole crop when intercropped with the maize variety Aruna while pigeonpea yield ranged from 23-40% with the maize variety Bhadra-1. Total Land Equivalent Ratio (LER) values ranged from 1.01- 1.39 when pigeonpea was intercropped with Aruna while it ranged from, 0.96 - 1.28 when intercropped with the Bhadra-1. Results indicate that the magnitude of the yield advantage was mainly due to the maize variety. Aruna seems to be better for intercropping.