

GRAM-LENTIL INTERCROPPING RELATIONSHIP UNDER DIFFERENT GEOMETRICAL PATTERNS

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ABSTRACT

Gram-lentil intercropping (gram alone in 40 cm apart single rows lentils alone in 40 cm apart single rows, 40 cm apart single rows of gram + 1 row of lentils, 60 cm apart double row strips (20/60 cm) of gram + 2 rows of lentils, 80 cm apart triple row strips (20/80 cm) of gram + 3 rows of lentils, 100 cm apart 4 row strips (20/100 cm) of gram + 4 rows of lentils) relationships were studied during 1998-99 and 1999-2000. Plant population, plant height, number of seeds per pod, 1000-seed weight of both crops and harvest index of lentils were not affected significantly by intercropping patterns, while number of primary and secondary branches per plant, number of pods per plant, biological and economic yield of both crops and harvest index of gram only were influenced significantly. Intercropping of lentils in the patterns of one, two, three and four rows in between 40 cm apart single rows, 60 cm double row strips, 80 cm apart triple row strips and 100 cm apart four row strips of gram reduced the gram yield by 42, 25, 30 and 38 %, respectively, over gram sown alone. However, at the cost of this much reduction, an additional harvest of 8.86, 9.65, 8.96 and 8.91 quintals of lentil seed ha⁻¹ were obtained in the respective pattern, which compensated much more than the losses in gram production. In terms of total economic yield per intercropping pattern, the highest seed yield of 20.94 q ha⁻¹ was recorded in the pattern double row strips, followed by triple row strips (19.51 q ha⁻¹), four row strips (18.25 q ha⁻¹) and single row planting system (17.55 q ha⁻¹).

Key Words: Intercropping, gram, lentil, planting system.