ABSTRACT

A field experiment was carried out in the Rabi season of 2009-10 and 2010-11 at Crop Research Farm, Department of Agronomy, Sam Higginbottom Institute of Agriculture, Technology and Sciences, Deemed to be University, Allahabad to develop a suitable row ratio and fertility levels for wheat. The experiment was laid out in factorial randomized block design (2×3×4 factorial), with three row ratio 4:1, 8:2 and 12:3 and fertility levels on 100% + 100% ,100% + 75% ,100% + 50% and 100% + 25% .comprising of fourteen treatment combinations each replicated three times. The soil of experimental field was sandy loam in texture deficient in nitrogen and phosphorus and medium in potassium and almost neutral in soil reaction. The wheat varieties HD-2733 and mustard varieties of varuna recorded significant indices of the growth and development parameters viz. plant height, plant dry weight per plant, crop growth rate, days to 50% flowering , RGR and LAI at 30, 60,90 and 120 DAS. The higher plant height, plant dry weight per plant, crop growth rate , relative growth rate, leaf area index and days to 50% flowering of wheat was observed with row ratio of 12:3 with fertility level of 100% + 50% with intercrop (mustard) observed on plant height in row ratio of 8:2 with fertility level of 100% + 100% .

The highest values of benefit cost ratio and net return were recorded under T7 (RDF 100%+50% with row ratio of 8:2) above experimental findings it may be concluded that highest yield of wheat along with mustard intercropping produce benefit cost ratio (3.29) and batter net returns (Rs = 78666.50).

Key word: Row ratio, Fertility levels, Intercropping system, Wheat, Mustard