ABSTRACT
Greenhouse are the framed or inflated structures covered with transparent or translucent material large enough to grow crops under partial or fully controlled environmental conditions to get optimum growth and productivity. Greenhouse crops yield several times more than the yields obtained from outdoor cultivation depending upon the cropping system and the degree of environmental control. Because of environmental control, any crop can be grown at any time of the year and even one type of crop can be raised round the year if needed. An experiment was conducted on leafy vegetables (Spinach, amaranths, fenugreek and coriander) at Horticultural Research Farm, Indira Gandhi Agricultural University, Raipur (C.G.), to see the performance of leafy vegetables under protected environment and in open field condition. As greenhouse cultivation is capital intensive, heavy financial investments are necessary especially in the initial years to construct and equip with adequate environmental control devices. The initial heavy financial investment must be compensated by additional crop yield and export oriented crops. The germination percentage was found 10-20% more under greenhouse condition as compared to open field. Greenhouse culture leads to 2-3 times more yield than that of outdoor cultivation. The yield was found higher under protected environment (6.94, 6.62, 8.63 and 2.34 kg spinach, amaranthus, fenugreek and coriander respectively) as compare to open field condition (3.15, 3.00, 4.95 and 1.68 kg, spinach, amaranthus, fenugreek and coriander respectively). Similarly the observations on height of plant, number of leaves, number of branches, length of leaves, width of leaves and weight of leaves per plot were taken in order to know the effect of greenhouse environment on the growth of the plants. The study revealed that the greenhouse cultivation showed superior yield and yield attributing characters as compared to open field condition.