**EFFECT OF SOWING METHODS ON THE PERFORMANCE OF LENTIL CULTIVARS GROWN UNDER IRRIGATED AND UNIRRIGATED CONDITIONS**

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December, 2016

**ABSTRACT**

A field experiment entitled “Effect of sowing methods on the performance of Lentil cultivars grown under Irrigated and unirrigated conditions” was conducted at Agronomy Farm, The University of Agriculture Peshawar, during the rabi season of 2015-16. The experiment was laid out in randomize complete block design having four replications with a plot size of 3 m × 1.80 m having six rows with row to row distance of 30 cm. Lentil variety NIFA 2005 with a seed rate of 60 kg ha-1 was sown. Different crops extract (sesame, sorghum, mungbean) with application timings (pre-emergence, pre-emergence + 15days after emergence, pre-emergence + 30 days after emergence) and mulch (0, 10 t ha-1) significantly affected the performance of chickpea. All the parameter i.e days to emergence, emergence m-2, weeds biomass, days to flowering, plant height, days to maturity, thousand seed weight, biological yield and harvest index were significantly affected by crops extracts whereas days to emergence, emergence m-2, days to flowering and days to maturity were found non-significant for the application timings while mulching showed non-significant effect on these parameter except biomass of weeds. Treated plots took less days (26) to emergence, more (35) plants m-2, less biomass g m-2 (79) of weeds, less thousand seed weight (223.7 g), more biological yield (5795 kg ha-1) and low harvest index (35%) as compared to control plots. In case of crops extract, sorghum extract took less days to emergence, less number of plants m-2, less biomass of weeds, early flowering, taller plants, heavier thousand seed weight, more biological yield, and more harvest index. Among the three application timings, pre emergence + 30 days after emergence showed significantly maximum results on weed biomass (82 g m-2), plant height (69 cm) , thousand seed weight (230 g), and biological yield (5918 kg ha-1). Application of sorghum extract, after 30 days of emergence with 10 t ha-1 of mulch performed better as compared to other treatments applied, thus recommended to enhance the growth and yield of chickpea.