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Full Length Research Paper

Influence of genotypes, planting methods and weed management on competitiveness of wheat (*Tritcum aestivum* L.) and *Phalaris minor* Retz

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Abstract

Field experiments were conducted at the research farm of Punjab Agricultural University, Ludhiana during 2003-04 and 2004-05. The soil of the experimental site was loamy sand in texture and neutral in reaction rating low in organic carbon and nitrogen, and medium in phosphorus and potassium. Bread wheat genotype PBW 343 tended to reduce the values for dry matter accumulation and density of *Phalaris minor* indicating comparatively more smothering effect on *Phalaris minor* as compared to *durum* wheat genotype PDW 274. PBW 343 recorded 8.52 per cent higher grain yield than PDW 274.Significant reduction in population and dry matter production of *Phalaris minor* and higher grain yield of wheat was observed under bed planting method as compared to flat planting during both the years of experimentation. Application of clodinafop 0.06 kg ha^{-1} and integrated weed control with clodinafop 0.045 kg ha^{-1} + hand / mechanical weeding effectively controlled the *Phalaris minor* and provided a weed control efficiency of 87.7 and 85.1 per cent, respectively. Integrated weed management practice resulted in 29.12 and 8.46 per cent more grain yield against the unweeded check and two hand/mechanical weedings, respectively.

Key words: Bread wheat, Durum Wheat, *Phalaris minor*, Bed planting, Weed management