ABSTRACT

Present research work was carried out to investigate the distribution and biology of Ghenopodium album and Fumaria indica weeds in some wheat fields of non-saline & partially saline irrigated and riverian (non irrigated) areas of Lahore District, Pakistan. All the areas were visited weekly to collect phenological data of these weeds. Quadrat method was used to determine the frequency, constancy, density as well as the biomass of these weeds with the passage of time. Comparative reproductive potential was determined by uprooting 25 plants of each weed species along with wheat plants from each site. The results reveal that the climate of Lahore which is sub-humid, sub-tropical continental, and variation in climatic factors particularly in rainfall supported the seed germination, seedling establishment, growth, flowering and survival of Chenopodium album and Fumaria indica in riverian wheat fields whereas in other sites the distribution of these weeds is not rainfall dependent because of irrigation. In cold and moist conditions, Fumaria indica showed a high degree of density, but with the rise in temperature it disappeared from the wheat fields.

The soil salinity contributed a major role in the growth and distribution of weeds. Chenopodium album was found to be more salt tolerant than that of Fumaria indica, which gradually decreased as the salinity increased in wheat fields.

Vegetative growth and flowering span of Fumaria indica was very short and completed by the end of March, while Ghenopodium album showed an opposite trend and continued to compete with wheat till crop maturity, The results also indicate that Ghenopodium album was wide spread in all fields, whereas Fumaria indica showed scattered and sparse distribution especially in partially saline irrigated fields due to its sensitivity to salinity. Chenopodium album was found the most common and predominant weed species with a high degree of constancy, density, biomass, and seed production while Fumaria indica showed a decline in these parameters. The weed-wheat ratio also showed a marked reduction in all wheat fields during the course of study.