**Dogan R,** Bilgili U (2010) effects of previous crop and n-fertilization on seed yield of winter wheat (*Triticum aestivum* L.) under rain-fed mediterranean conditions. Bulgarian Journal of Agricultural Science 16(6): 733-739.

Abstract

This research investigated the effects of previous crop covers and nitrogen (N) fertilization level on yield and yield components of wheat (Triticum aestivum L.) cultivars during two growing seasons (2001-2002 and 20022003) in Turkey under rain-fed Mediterranean conditions. We assessed the effects on seed yield and yield component of: (i) the previous crops, (ii) wheat cultivars, and (iii) nitrogen fertilizer levels. A split-split plot design with three replications was used in this study. Previous crops, alfalfa (Medicago saliva L.) and sunflower (Helianthus annuus L.), were the main the plots; wheat cultivars (Golia and Pchlivan) were the sub-plots; and five different levels of nitrogen fertilization (0, 50, 100, 150 and 200 kg ha(-1)) were the sub-sub-plots. Even with different N fertilization levels, the seed yield of wheat after sunflower was less than the yield of wheat after alfalfa both in individual years and averaged across years. Seed yields and all yield components for Pehlivan tended to be greater than those of Golia in individual years and over both years. The optimum N application rate for wheat yields in our study was 150 kg N ha(-1) In the dry year of 2002-2003, the reduction in wheat seed yield following all previous crops was accompanied by seed per plant, seed weight per plant and number of plant per square meter.