

Dogan R, Goksoy AT, Yagdi K, Turan ZM (2008) Comparison of the effects of different crop rotation systems on winter wheat and sunflower under rain-fed conditions. African Journal of Biotechnology 7(22):4076-4082.

Abstract

The study was made to detect the most suitable crop rotation system(s) under rain-fed conditions of Southern Marmara Region, Turkey. In this study (1995-2001), two different crop rotation systems were carried out: winter wheat and sunflower as main crops experiments. Results were evaluated in terms of crop yielding ability, soil fertility and economic aspects. The sunflower-rapeseed-wheat, rapeseed-fodder pea + sunflower-wheat and rapeseed-common vetch + sunflower-wheat were found the most suitable rotation systems because of their various advantages in the first experiment in which wheat was used as main the crop. The highest sunflower seed yields were obtained from a fodder pea + sunflower-wheat-fodder pea + sunflower crop rotation system both in the first and second three year periods in which sunflower was used as main crop under rain-fed conditions. Economic analysis based on the second three-year results of the research showed that the highest mean net returns were obtained from the rapeseed-common vetch + sunflower-wheat and a fodder pea + sunflower-wheat-fodder pea + sunflower crop rotation systems under rain-fed conditions. These crop rotation systems were found the best crop rotation systems under rain-fed conditions of Southern Marmara region of Turkey. As a result, the rotation systems including common vetch and fodder peas as forage plants under rain-fed conditions gave economically the highest net profit.