Abstract
This research was carried to determine the effects of sewage sludge applications on the yield and yield components of plants under crop rotation system. The field experiments were conducted in the Bafra Plain, located in the north region of Turkey. In this research, the “wheat-white head cabbage-tomato” crop rotation system have been examined and the same crop rotation has been repeated in two separate years and field trials have been established. Seven treatments were compared: a control without application of sludge nor nitrogen fertilization, a treatment without sludge, but nitrogen and phosphorus fertilization, applied at before sowing of wheat and five treatments where, respectively 10, 20, 30, 40 and 50 tons sludge ha^{-1}. The experimental design was a randomized complete block with three replications. The results showed that all the yield components of wheat and yield of white head cabbage and tomato increased significantly with increasing rates of sewage sludge as compared to control. As a results, 20 t ha^{-1} of sewage sludge application could be recommended the suitable dose for the rotation of wheat-white head cabbage-tomato in soil and climatic conditions of Bafra Plain.

Key words: sewage sludge, tomato, wheat, white head cabbage