The aim of this study is to determine the effect of soil and air temperature on soil carbon dioxide emission. The air temperature in Isparta province of Turkey was measured about 20°C during the day and 10°C at night in the last week of September 2014. Temperature difference measured for soil and air during day and night will be given in the paper. An automated CFX-2 soil carbon dioxide flux system (PP Systems, Hitchin, UK) was used to record soil CO₂ emission during 24 hours at 15 minutes intervals. Additionally, concomitantly soil/air temperature and soil evaporation was recorded. The soil and air temperature as min, max, and average were recorded during the trials as 13.6, 16.3, 14.9 and 2.1, 28.9, 14.1°C for aforementioned period, respectively. Besides, soil CO₂ emission as min, max and average were recorded as 0.014, 0.22, 0.07 g CO₂ m⁻²h⁻¹ respectively. Results showed that the soil temperature did not affect soil CO₂ emission (R=0.05). However, air temperature affected soil CO₂ emission (R=0.58).