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. With this aim, automated CFX-2 soil carbon dioxide flux system (PP Systems, Hitchin, UK) was used to record during 24 hours at 15 minutes intervals. Also 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 respectively. Also, soil CO₂ emission as min, max and average were recorded as 0.014, 0.22, 0.07 g CO₂ m⁻² h⁻¹ respectively. Results showed that the soil temperature did not affected soil CO₂ emission ($R^2=0.05$). But air temperature affected soil CO₂ emission so much ($R^2=0.58$).