The aim of this study is to determine the effects of different tillage and seeding method on some soil physical properties and some plant growth parameters in safflower (Carthamus tinctorius L.). In the study, conventional tillage (CT), reduced tillage (RT) and direct seeding (DS) method were used. According to results, the highest bulk density at 0-20 cm soil depth was found in CT method, followed by RT and DS method respectively. The highest porosity at 0-20 cm soil depth was determined in the DS method followed by RT and CT methods respectively. Soil penetration resistances for 0-25 soil depth were found to be 1.50, 1.96 and 2.37 MPa for CT, RT and DS methods, respectively. Weed growth for CT, RT and DS methods were found to be 26.3%, 31.3% and 42.5% respectively. Grain yields for CT, RT and DS treatments were 1340, 1160 and 1070 kg ha⁻¹ were found, respectively. The highest seedling emergence rate was obtained at CT treatment and the lowest at DS treatment. The least seedling emergence time was obtained at the DS treatment and the longest at the CT treatment.