The activity of $^{137}$Cs and $^{40}$K in forest soils and wastelands in the vicinity of Siedlce (eastern Poland) were measured. The soil samples were collected on depths of 0–4 cm, 4–8 cm and 8–12 cm. The average specific radioactivity of $^{137}$Cs in forest soils and wastelands were 57 Bq/kg and 15 Bq/kg, respectively. The highest specific radioactivity of $^{137}$Cs was observed in superficial layers of forest soils with an arithmetic mean of 126 Bq/kg. The average specific radioactivity of $^{40}$K in the soil samples was 200 Bq/kg independently of sampling depths. Positive correlations were found between $^{137}$Cs and C$_{org}$ concentrations. Both $^{137}$Cs and $^{40}$K were negatively correlated with the sand fraction and positively with silt and clay fractions.