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ANALYSIS OF TEMPERATURE REGIME IN GRAY FOREST SOILS UNDER GRASS AND ON BARE PLOTS IN FIELD EXPERIMENT OF DROUGHT IMITATION

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The effect of moisture regime and vegetation on the temperature regime of gray forest soil (Haplic Luvisol) was studied in a field experiment of soil drought simulation. Temperature and moisture content in the soil of grassland and bare plots were measured during the summer-autumn season of 2015. The soil temperature (0–20 cm layer) and moisture content (0–5 cm layer) were measured under three contrasting moisture regimes: (1) regular watering (no precipitation deficit), (2) two short-term and (3) one long dry period, during which the soil was not watered. It was shown that the lack of precipitation during the imitation of soil droughts led to a significant increase in the daily amplitude of soil temperature in the 0–20 cm layer. The average daily soil temperature values were also increased both in the bare and grassland plots. The soil surface temperature during the clear hot days was much lower under grass vegetation than on the bare plots and the maximum differences reached 6.3–9.2°C depending on the watering regime.

Keywords: extreme climate, hydrothermal regime of soil, field imitation experiment, *Haplic Luvisol*, Moscow region.