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Effect of tillage systems and axle load on undisturbed soil hydraulic properties.

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Abstract: The effects of tillage treatment and axle load resulting from wheeled traffic on tilled soil (0 to 20 cm) were evaluated by measuring the changes in soil physical properties (bulk density and infiltration rate) and by measuring the impact on water retention in comparison with controlled plots. Data obtained from the experimental plots showed that infiltration rate was strongly affected by tillage treatments in 0? to 20?cm depths. Dry bulk density was affected in 0? to 20?cm depths by tillage treatments and axle load. Tillage system changed the ability of the soils to hold moisture and decreased the plant?available water capacity.