Productive moisture stock assessment in the apple orchards soils of forest steppe north

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Problem statement

The purpose of our research was the assessment of productive moisture stock in the different types of the soils occupied by fruit-bearing apple orchards in conditions of Russian forest steppe north.

The objectives of the research:
• to determine the least moisture capacity
• to determine water adsorption
• to determine the density of the soils
• to calculate soil moisture stock (general, inaccessible and productive)
Solution methods

The methods for solving:

✓ thermostat weight method;
✓ method of calculations
Conclusions

1. The Productive moisture stock in spring in the ploughing layer of the soil occupied by apple trees of forest steppe north is characterized as good and amounted 406-720 m³/ha (41-72 mm).

2. Productive moisture stock in 1 meter layer of apple orchards soils is assessed as very good and vary from 2933 to 4822 m³/ha (293-482 mm).

3. According to productive moisture stock increasing in a meter layer apple orchards soils of forest steppe north can be placed in the following order: podzolic chernozem < chernozem moist meadow < grey forest < chernozem meadow < typical chernozem < leached chernozem < meadow chernozem < meadowish chernozem.
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