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Dynamics of Soil Organic Carbon Stocks on Arable Land under Varied Soil Management and Climate Scenarios: Insights from Long-term Experiments in Eastern Slovak Lowland

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- Long-term experiments (LTE) – modelling of soil organic carbon (SOC) stock by RothC model
- Validation of the RothC model according data of LTE – good fit between modelled and measured data
- Tracking changes of SOC stock in long time period
- 2 Climate scenarios:
 - RCP 2.6 – prediction of lower temperature (T),
 - RCP 8.5 – prediction of higher temperature
- 4 Management scenarios – BAU, application of manure, changes in crop rotation, no post-harvested residues
- RothC model predicts:
 - Higher T - lower SOC stock
 - Crop rotation without leave of post-harvested residues – decrease of SOC stock
 - Application of manure and mainly incorporation of clover grass to crop rotation – increase of SOC stock