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Testing the Effect of Cropping Practices on Soil Erosion Rates – Application of Field Rainfall Simulator

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C factor, the protection effect of the vegetation cover, is a key parameter which is introduced in the basic empirical soil erosion relationships (e.g. USLE). The C factor values for various crops in various grow stages are usually estimated based on the catalogue values. As these values often do not fit to the observed data from the plot experiments or do not represent actually grown crops, we decided to validate and extend the database. We present a methodology and primary results of tens of the field rainfall simulation experiments conducted on several agricultural crops with different BBCH. The rainfall simulations were done with the mobile field rainfall simulator of the Czech Technical University. The tested plots of the size 2 x 8,7 m were repeatedly exposed to the artificial rainfalls with intensity of 60 mm/h and duration of 30 to 60 minutes. The experiments were always performed twice on a bare soil and twice on the vegetated plots (to mimic dry and wet initial soil conditions). The tests were done on several slopes in the Czech Republic, the soils were mostly Cambisols with various organic matter content and stoniness. Based on the results we will be able to correct and validate the C factor values for the currently most widely grown crops in the conditions of the Central Europe. The presentation is funded by Ministry of Agriculture of the Czech Republic (research project QJ1530181) and an internal student CTU grant.