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Methodology of determination of revised C-factor values using field rainfall simulator

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USLE (Wischmeier and Smith, 1978) has been official method for soil conservation in the Czech Republic since ca 1980. Recently it is also official method for evaluation of fulfilling of requirements of Cross Compliance within CR. However, individual input parameters of USLE has partly been adopted from US original methodologies, partly has been modified for Czech conditions during last decades. C factor values have never been experimentally validated within Central Europe region. Original values have been accepted and during the years it only was modified by “expert estimation”.
National project, focussed on revision of C factor values based on field rainfall simulations started in the Czech Republic in 2015 and in the end of 2018 catalogue of revised values shall be delivered. More than 300 field simulations on various crops during different growing stages should be performed within the project duration.
However rainfall simulation experiments to determine crop′s effect on surface runoff and soil loss is relatively well known task, number of essential questions raised when methodology of experiments was prepared. Main of them concerned of rainfall intensity, number of simulations a year, duration of single experiment, fallow pre-treatment, number of replications had to be solved. Even more questions were formulated related to data processing to determine C factor values – how to combine individual experiments into one representative value, which time moment shall be used to determine SLR between crop and fallow plot, how to incorporate seasonal development of crop (BBCH), how to process large variability of the replications etc..
As three years of the project are already over, partial results of C factor determination will be presented and their comparison to recently used values of C factor, published in official Guidebook of soil conservation for Czech Republic (Janecek et al., 2012).
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