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Experimental assessment of soil protection by vegetation for current crops and for up-coming EU glyphosate ban

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There is still uncertainty in determining vegetation cover and management factor (C factor) for Universal Soil Loss Equation (USLE). Data we use today are often outdated, not specific and not representing local conditions. Current technologies in agriculture and recent crop varieties substantially vary from processes known during USLE (RUSLE) development.

Use of a rainfall simulator on a defined field crop is one way to obtain data for vegetation protection effect. Simulated rainfall is applied on experimental field with crop and bare soil as a reference. Plot size is 8x2 m and runoff and sediment transport is measured. Soil loss ratios are measured for three crop-development stages. Pre-sowing and post-harvest phases are measured as well. All measured data give information about soil protection for the whole season. In the span of 5 years, we have conducted over 340 field experiments on 15 typical, but also newly used crops and various management practices. The results are used in soil erosion and sediment transport analyses or models' calibration. Metadata of experiments and results are added into a complex and public available database.

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