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Predicting methane yield by linear regression models: A validation study for grassland biomass

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Abstract

The objectives of this study were to assess and validate previously published prediction models with an independent dataset and to expose the power and limitations of linear regression models for predicting biomethane potential. Two datasets were used for the validation, one with all individual samples and one with the average values of each cultivar. The results revealed similar performances of all four models for the individual samples. For the methane yield prediction of the cultivars, all models performed better than with the individual samples. The grassland specific model predicted the variation in the dataset with an R^2 of 0.84 and the slope of the regression line was equal to 1.0. Linear regression models are suitable in order to depict the differentiation of biogas

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