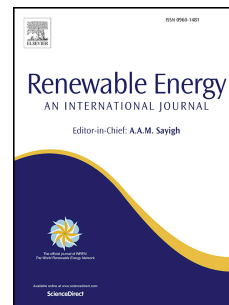


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Correlation between hydrolysis rate constant and chemical composition of energy crops

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1 **Correlation between hydrolysis rate constant and chemical**
2 **composition of energy crops**

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13

14 **Abstract**

15 Besides biogas yield, the kinetic of biogas production in a biomethane potential (BMP)
16 test also provides important information for feedstock characterization. In this study,
17 fodder analysis and BMP tests with high temporal resolution were performed in order to
18 identify statistical correlations between the hydrolysis rate constant (k_h) and the
19 chemical composition of various energy crops. Different species and cultivars of energy
20 crops were analyzed in order to develop a broadly applicable regression model for the
21 prediction of k_h . Two independent datasets (222 samples in total) were used, one for the
22 calibration of the model and one for its validation. The results indicated that the
23 analytical parameters non-fiber carbohydrates and crude protein were statistically

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