Validation criteria for biochemical methane potential (BMP)

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1 BMP-methods

File version 0.1. This file is from the GitHub repository BMP-methods. For more information, visit BMP-methods at `https://github.com/sashahafner/BMP-methods`.

2 Overview

This document describes validation criteria that should always be applied to results from biochemical methane potential (BMP) tests. For details on the development of these criteria, see [1] and [2].

3 Criteria

BMP results that meet *all* the following criteria should be considered "validated" by the standards of [2]. Otherwise, results are not validated, and tests should be repeated if possible, and otherwise, the lack of validation should be made clear in any reporting of the results.

1. All required components of the BMP measurement protocol [3] are met, including replication, test duration, incolulum quality, and ISR.
2. Mean cellulose BMP is between 340 and 395 NmL g^{-1} (standardized CH_4 volume (dry, 0°C, 101.325 kPa) per g substrate VS).
3. Cellulose relative standard deviation (including two sources of variability) is below 6%.

References

[1] Holliger, C., Alves, M., Andrade, D., Angelidaki, I., Astals, S., Baier, U., Bougrier, C., Buffière, P., Carballa, M., de Wilde, V., Ebertseder, F., Fernández, B., Ficara, E., Fotidis, I., Frigon, J.-C., Fruteau de Laclos, H., S.

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[2] Hafner, S.D., Fruteau de Laclos, H., Koch, K., Holliger, C. 2020, Improving inter-laboratory reproducibility in measurement of biochemical methane potential (BMP) Water

[3] Holliger, C., . . . 2020, General protocol for measurement of biochemical methane potential (BMP), `https://github.com/sashahafner/BMP-methods`