

THEORETICAL METHANE YIELDS OF FEEDSTOCK

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Biogas is produced in anaerobic digestion, a bioprocess that contributes to addressing the climate change impacts. It converts various biodegradable organic materials to methane; a combustible gas, which is used as fuel. Methane yield of any digestible organic material is of prime importance during projects development, and feasibility and economic analysis. A question faces any biogas developer is how much methane will be produced upon digesting a specific substrate. The purpose of this poster is to create a data-bank list of the methane yields of various organic feedstock based on their predicted theoretical methane yield (TheoMY) by Buswell and Mueller's equation (BM Eq.) using their empirical molecular formulae, and their experimentally determined methane yield (ExpMY) as it has been published in the literature. Differences exist between the TheoMY and ExpMY because of the assumptions of the Buswell and Mueller's equation and variation of the experimental conditions. Correlation of TheoMY and the adjusted TheoMY (i.e., the TheoMY after its correction to ash and lignin fractions) was strong ($R^2=0.769$)

Biography

Dr. Saady is an assistant professor at Memorial University of Newfoundland. He is specialized in bioprocesses and biotechnologies converting organic waste into biofuel and bioenergy using wet and dry anaerobic digestion. He received B.Sc. in Civil Engineering and M.Sc. in Environmental Engineering from the University of Technology, Iraq, and Ph.D. from University of Windsor, ON. He worked at the Dairy and Swine Research and Development Centre, Agriculture and Agri-food Canada, where he investigated livestock and agricultural waste management. He received prestigious scholarships including three NSERC scholarships. He published 30 research articles, two book's chapters, and presented in 10 international conferences. He served as an Editor-in-Chief for *Advances in Recycling & Waste Management Journal* published by OMICS and as editor for *IJEWM* and *IJEE* published by Inderscience. He served on organizing, program or scientific committees for more than 18 international conferences:

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