Defining the biomethane potential (BMP) of solid organic wastes and energy crops: a proposed protocol for batch assays

The application of anaerobic digestion technology is growing worldwide because of its economic and environmental benefits. As a consequence, a number of studies and research activities dealing with the determination of the biogas potential of solid organic substrates have been carrying out in the recent years. Therefore, it is of particular importance to define a protocol for the determination of the ultimate methane potential for a given solid substrates. In fact, this parameter determines, to a certain extent, both design and economic details of a biogas plant. Furthermore, the definition of common units to be used in anaerobic assays is increasingly requested from the scientific and engineering community. This paper presents some guidelines for biomethane potential assays prepared by the Task Group for the Anaerobic Biodegradation, Activity and Inhibition Assays of the Anaerobic Digestion Specialist Group of the International Water Association. This is the first step for the definition of a standard protocol.