# Modeling of Anaerobic Digestion for Agricultural Waste

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**Abstract.** In the paper, extension of Anaerobic Digestion Model No. 1 (ADM1), to simulate the anaerobic digestion process for agricultural waste is explained. A physically-based methodology is incorporated to the ADM1 to account for the decrease in the operating volume and the increase in retention time due to biomass recycling in the reactor caused by the accumulation of particulate matter and operational variations. The Extended Model and Original Model outputs are compared to assess the suitability of the extension for simulation of the anaerobic digestion, and further improvements are recommended in the modeling structure and components.

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