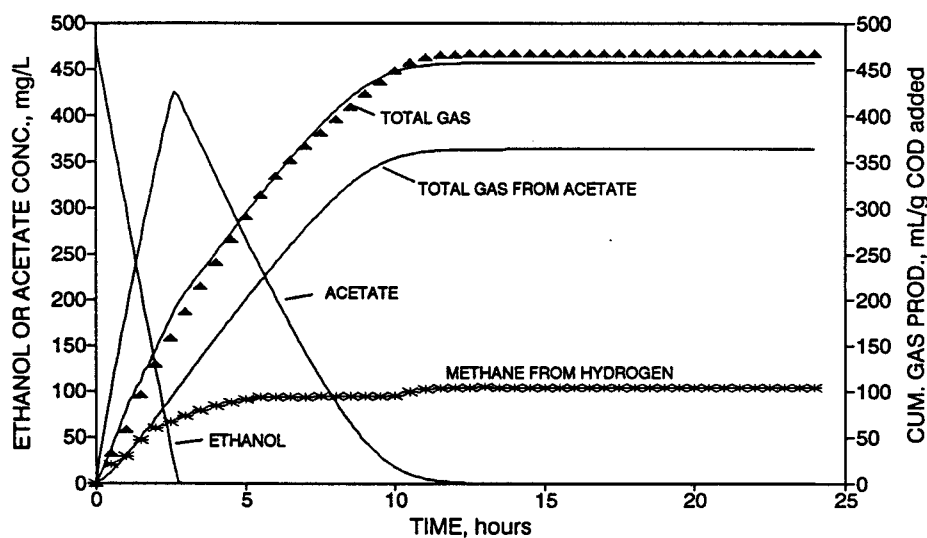
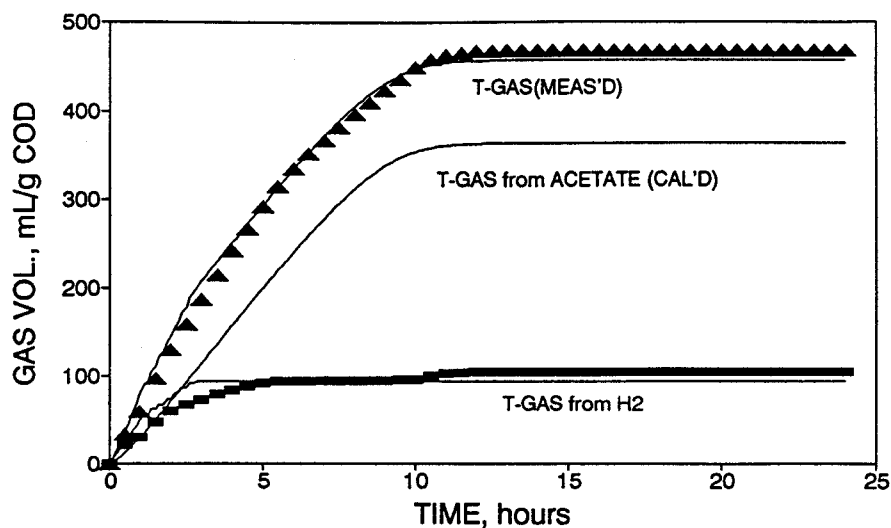


**APPLICATION: MODELING OF METHANE AND HYDROGEN PRODUCTION**



**Waste Type:** Synthetic (Ethanol)

**Objective:** To model the methane produced from acetate and from hydrogen in cultures receiving ethanol as an input substrate. The objective was to verify the accuracy of models developed on the basis of substrate conversion.

**Test Setup:** Serum bottles containing cultures transferred from master culture reactors were dosed with a know amount of ethanol followed by measurement of gas production and residual organic constituents. Gas production was measured at 30-min. intervals for 24 hours using a CHALLENGE ANR-100 respirometer.

**Analysis:** The amount of methane produced from acetate and hydrogen agreed closely with the amount estimated using biological growth and substrate conversion relationships.