

THE COMPARISON OF MESOPHILIC AND THERMOPHILIC ANAEROBIC DIGESTION

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Abstract: *The aim of this paper is to compare mesophilic and thermophilic anaerobic digestion of three maize varieties. Biogas production and composition in mesophilic (35 degrees C) and thermophilic (55 degrees C) conditions were measured and compared. The measurements were performed with mini digester according to DIN 38414 part 8. Three different maize varieties were used: NK PAKO, PR34N43 and RAXXIA. Biogas yields ranged between 315 - 409 Nl kg VS⁻¹ in mesophilic conditions and 494 – 611 Nl kg VS⁻¹ in thermophilic conditions. Thermophilic digestion is 4 times more intense, has higher VSS removal efficiency and yields more biogas. Biogas quality produced in thermophilic temperature range is better than biogas quality produced in mesophilic temperature range.*

Key words: *mini digester, anaerobic digestion, temperature range, energy crops*



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