Influence of energy characteristics of biogas obtained by anaerobic fermentation of animal proteins on combustion performance

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***Abstract*—In the worlds need for renewable energies environmental friendly solution, biogas production and usage has become one major interest topic which needs adjustments and research for every application domain. The tests carried out in a digester with anaerobic fermentation of animal protein revealed a gas which mainly contains CH_4 and CO_2. After an initial research of the biogas combustion using a burner with automatic drawing in air, which yielded good results, a burner using diffusion technology was also tested. Due to the fact that this is a feature of medium and large flows, switching to this technology also lead to a theoretical study of the combustion, in order to bring out the constructive solutions for burners and improve their settings. This paper highlights the strong connection between the biogas obtained by anaerobic digestion of the animal protein coming from leather industry and the main characteristics of the combustion process behavior.**

***Keywords*—anaerobic digestion, animal protein, biogas, burner, combustion, leather industry**

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