

# **Coffee Cherry Husk, a Feed Stock for Methane Generation**

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## **SUMMARY**

Cherry husk is a major agro-waste generated by coffee industry. Due to its phytotoxic nature its use is restricted in agriculture but used widely as a low cost fuel. The combustibility of this waste is very low and large quantities of carbon dioxide and monoxides are generated, which are pollutants per-se.

Efforts to utilize the cherry husk as feedstock for the generation of methane. Earlier when cherry husk was used alone gas generation was highly restricted due to its low pH and high acid value. Hence different combinations were tried, such as coffee husk with cow dung and vegetable waste. Fermentation was carried out as solid phase biogas generation system. Results indicated that gas generation started by 20-30 days and continued for 100 days from a single feed.

Gas production was maximum and was at the rate of 19.72 ml/kg/day in control and the least was 9.47 ml/kg/day in coffee husk: cow dung (70:30). Change in total solids, volatile fatty acids, pH, and total anaerobic count were followed at regular intervals. PH changed from 3.5 to 7.15 in 15 days in mixture containing market waste. Maximum amount (19.3 g/l) of volatile fatty acids were produced in 70:30 mixture of coffee husk and cow dung.