

我国北方农村沼气池冬季主要发酵条件及其保温增温技术的研究

A STUDY ON MAIN FERMENTING CONDITIONS DURING WINTER FOR RURAL BIOGAS PITS IN NORTH CHINA AND TECHNIQUES FOR MAINTAINING AND INCREASING THEIR TEMPERATURE

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中文摘要:

五年来的试验和研究表明:冬季我国北方沼气产量低的关键因素是低温。池温不得低于13℃;适宜的发酵液浓度是12—16%;适当的发酵原料配比是50%玉米秸秆+20%人粪+20%猪粪+9.7%骡马粪+0.3%氮素。保温增温措施有挖防寒沟、建保温室和池上进行高温堆肥。在池内外采用综合保温措施后,池温可以提高7℃,日平均产气量可达0.165m³/m³·d,这样就切实地解决了我国北方冬季不能产沼气的技术问题。

英文摘要:

Five years' experiment and study has shown that low temperature is the key factor restricting the production of biogas during winter in North China. The lowest biogas pit temperature should not be under 13℃; the adequate fermenting concentration is between 12%—16%; and the proper proportions of raw materials are 50% corn stalk, 20% pig manure, 20% night soil, 10% horse shit, and 0.3% nitrogen fertilizer. Measures for keeping and increasing temperature consist of digging cold protection ditches, building indigenous hot houses, piling up high temperature compost on the biogas pit, erecting wind preventing walls, etc. with these comprehensive measures, inside and outside the pit, the pit temperature can be raised more than 7℃ and the daily average rate of gas production can reach 0.165m³/m³ liquid material per dag, this practically solving the technical problem of failing to produce biogas during winter in North China.

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