AG030

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CH_4 and N_2O emissions from rice field in black earth and mitigative measures

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CH_4 and N_2O emissions from rice field in black earth were determined.The results show that their emission amount from rice growing season are much lower than any other region in China.There is a trade-off relationship between CH_4 and N_2O emissions($r=-0.513, p<0.05$). Under the same fertilization compared with continual irrigation, intermittent irrigation can reduce significantly CH_4 emission and increase N_2O emission ,but the overall warming potential of greenhouse effect is reduced greatly while rice yield is not affected. So intermittent irrigation is a effective irrigative measures to reduce greenhouse gas emissions from rice paddy field. In addition the investigation on CH_4 and N_2O emissions and their related microbial process shows positive relation between methanogens number and CH_4 emission($R^2=0.82, p<0.05$)and shows the important relationship between the numbers of nitrifiers and denitrifiers and N_2O emissions.