

**MICROBIAL BIOMASS IN SUBMERGED SOIL:
EFFECT OF SOME EXPERIMENTAL VARIABLES
ON BIOMASS DETERMINATION**

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The techniques of the fumigation-incubation method cannot be readily applied to submerged soil for determination of microbial biomass. Simple modifications of this method have been introduced.

This experiment was conducted to determine the mineralization pattern of fumigated and unfumigated soil and to determine the effect of moisture content during fumigation and reinoculation to fumigated soil on mineralization pattern. Soil samples with two different moisture contents were fumigated and then incubated for different periods with and without addition of fresh soil. Another set of soil samples was kept for incubation without fumigation. After appropriate periods, the soil solution was analyzed for CO_2 and CH_4 and the soil was analyzed for exchangeable NH_4^+ -N.

The soil solution did not contain CH_4 . The amount of CO_2 in the fumigated soil reached a maximum value after about 20 days and the NH_4^+ -N in it reached a constant value after about 16–20 days. The CO_2 in the unfumigated soil increased continuously but slowly, until the end of the incubation period. The NH_4^+ -N in the unfumigated soil also reached a constant value after about 16 days. Inoculation to fumigated soil did not affect the mineralization rates. The change in the moisture content did not affect the bactericidal action of chloroform fumigation.