

Development of evaluation method on soil pollution by luminous bacteria -Effects of elution components of soil-

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Recently, a lot of soil pollutions with heavy metals or volatile organic compounds have been found in many parts of the world. The soil pollution survey and the countermeasure are required socially. The bioassay with luminous bacteria is becoming the center of attention as a simplified detection technique or an acute toxicity evaluation method on pollutants.

However, the constituents of the soils other than the pollutants shall be dissolved in the extracts. Therefore the evaluating the influence of elution components of soil is essential for applying adequately the bioassay method.

In this study, it focuses attention on alkali metal, alkali earth metal, general anions and Al, Si, Fe dissolved components as main components which will elute from soils. We report the effects of the above components on the luminescence intensity of luminous bacteria.

Keywords: bioassay, luminous bacteria, soil pollution evaluation method, soil elution components