

Determination of Poly- β -hydroxyalkanoate in peat

ABSTRACT

Poly- β -hydroxyalkanoate (PHA) is a prokaryotic energy reserve material that has been used as an indicator of environmental stress in aquatic bacteria. The following technique has been used to quantify PHA in peatland microorganisms. Peat samples were dried, digested in sulphuric acid to convert PHA into crotonic acid, and the resulting acid determined using organic acid high performance liquid chromatography (HPLC) and ultraviolet (UV) detection at 214 nm. This technique is suggested to have potential value as an indicator of environmental stress on peatland microorganisms, such as that caused by summer drought, or changes in soil nutrient availability, which are predicted consequences of climatic change.

Keyword: High performance liquid chromatography; Microbes; Peatland; Poly- β -hydroxyalkanoate