Polyacrylamide Quantification Methods in Soil Conservation Study. (S06-wu113957-Oral)

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Abstract:

With the rapid acceptance of polyacrylamide (PAM) conservation technology in recent years, related researches manifested a great need for analytical techniques that can quantify PAM concentration in soil waters (such as runoff water, irrigation tail water, and soil solution) and PAM content in soil matrices. These methods should be sensitive and reliable at low concentration (0.1 - 10 mg/L) and invulnerable to interferences from dissolved salts and organic matter. The principles, lower detection limits, and major interferences of eleven groups of available PAM analytical methods were reviewed and their advantages and limitations for quantifying PAM in soil waters were discussed. After some modifications, the N-bromination method (NBM, a spectrophotometric PAM analytical technique) was used for determination of PAM in soil waters and PAM content in substrate (sand, clay minerals, and soils with organic matter removed) and had satisfactory recovery and precision.

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Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 9:00 am

Keywords:

polyacrylamide, quantification method, soil conservation