Dewatering and remediation of dredged sediments using phytoremediation. (A05-schwab050902-Oral)

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Abstract:

Dredging operations remove large quantities of sediments from waterways to keep them navigable. Some of the sediments are contaminated and must be stored in confined placement facilities, but these facilities are nearing their capacity and new sites are difficult to obtain. A need exists to remediate these sediments to make them suitable for beneficial use such. Greenhouse studies are screening candidate plant species for suitability for water removal from sediments and remediation of contaminants. Emphasis also is being placed on the formation of potentially toxic degradation products. Phytoremediation is being tested in the field on dredged material currently stored in Milwaukee, Wisconsin. In the dewatering phase, an array of plants was established in the confined placement facility, and changes in water content with time are being monitored. At the conclusion of this phase, some plants suited exclusively for dewatering may have to be removed, and promising contaminant-degrading plants will be planted in their place. The success of the project will be gauged by the final concentrations of the contaminants and residual toxicity as determined by bioassay.

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