AMBITIOUS PROGRAM

NEW BIOREMEDIATION PLAN FOR U.S. EPA

WASHINGTON, D.C.—The U.S. Environmental Protection Agency (EPA) is embarking on an ambitious program to accelerate bioremediation's development. Last year, EPA officials convened university scientists and industry representatives—in all, some 140 individuals from 80 organizations—to formulate a plan of action for bioremediation. This summer the group met in Washington to review their key findings.

One major EPA goal is to develop and adapt bioremediation for cleaning up land-bound hazardous waste sites. According to EPA official Walter Kovalick Jr., 27 Superfund waste sites are using some form of bioremediation, and other sites soon will be added to this list. Industrial solvents, petrochemicals, and PCBs are among the target pollutants. "Even recalcitrant substances are proving susceptible to biodegradation," says Kovalick.

Another major goal is to develop a national bioremediation-response procedure to deal with environmental

oil spills. With some performance data already in, particularly in the aftermath of the recent Alaskan oil spill, efforts are underway to determine when and how bioremediation can be best used. In settings such as those encountered along rocky Alaskan beaches, researchers are convinced that the use of special fertilizers enhances the efficiency of indigenous microbes as they degrade spilled oil. However, the effectiveness of this and similar schemes remains in doubt in other environments, such as sandy beaches, marshes, estuaries, and open ocean waters (*Bio/Technology* 9:14, Jan. '91).

Another new thrust, which could be called "biopremediation," emphasizes preventive measures. "Biotechnology adds a completely new dimension to pollution prevention," says William Reilly, the head of EPA. "It needs to become an integral part of our efforts." Among preventive projects being developed are metal recovery, degradation of toxic organic wastes into metabolites such as carbon diox-

ide and water, and fermentation of carbohydrate waste into commercially useful products. For his part, Thomas Lewis of Celgene (Warren, NJ) recommends the use of microbes or enzymes "on line" as substitutes for metal catalysts. Celgene is one of several companies trying to work with manufacturers to develop such technologies.

Some industry representatives are concerned that current federal regulatory barriers appear inconsistent with EPA's enthusiasm for bioremediation. They contend that certain transport restrictions against interstate shipments of microbes and toxic materials, for instance, could discourage commercial clean-up efforts.

Yet Reilly and other EPA officials play down such worries. They point, instead, to "substantial resources" that will be plowed into a bioremediation research initiative. "We'll keep the heat on and the priority high," says Reilly. "The opportunities may be larger than even the enthusiasts believe."

—Jeffrey L. Fox

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