

System Cleans Sewage, Irrigates, Fertilizes, Renews Barren Land and Groundwater

'The Living Filter' Recycling Study at Penn State Draws Wide Interest

Mounting public pressure to keep the world's cities from dumping sewage into rivers and lakes is finding its way to the Pennsylvania State University, where scientists have developed a waste water recycling technique called The Living Filter.

Watershed association officials, regional planners and consulting engineers have flocked to University Park to see The Living Filter in action. Visitors by the thousands have toured the 75-acre facility, thousands more have viewed a film documentary on the project and hundreds have sent written inquiries.

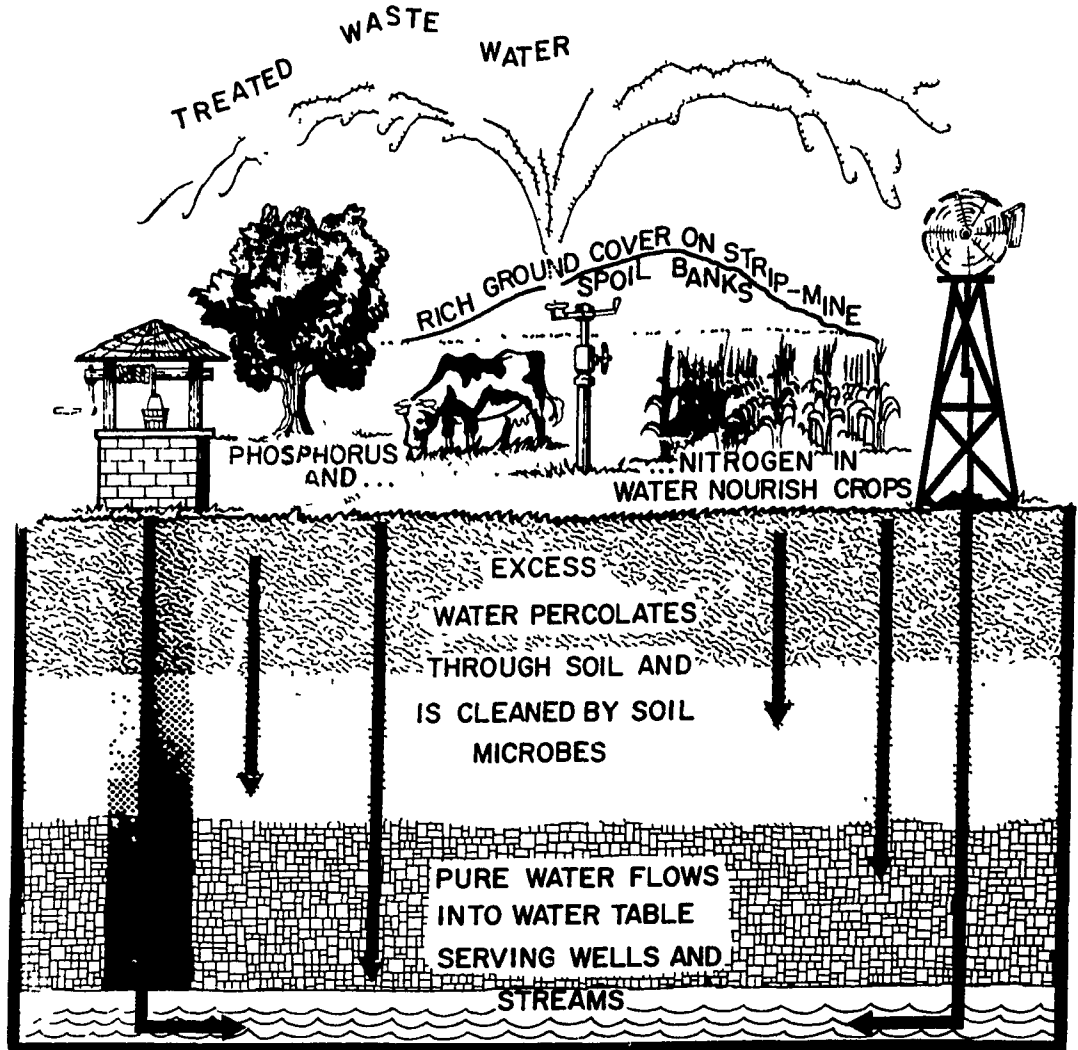
The Living Filter is an experiment, now in its ninth year, designed to determine if impurities in waste water can be completely "filtered out" by the

soil and at the same time used to nourish crops and develop green cover on barren lands.

At New Hampshire's Lake Sunapee the Living Filter concept is in action now in a new sewage disposal system. Communities adjacent to other resort lakes are getting ready to follow suit.

Muskegon County, Mich., is expected to have a waste water irrigation system in operation next year. Chicago, not long after. A Corps of Engineers study for Cleveland-Akron, Detroit, and Boston-Providence has sent consulting engineers to Penn State to observe The Living Filter.

Chicago's "Prairie Plan" is the most ambitious. Liquid sludge from the world's largest sewage disposal system will be



This drawing shows how "The Living Filter" cleans waste water, while providing essential food elements for plants and livestock and replenishing underground water. The Penn State experiment, now in its ninth year, proves that treated waste water can be

thoroughly degraded and its impurities used to nourish crops and put green cover on barren lands. Water not absorbed by crops and trees filters through the soil and enters the water table "fit to drink."

barged 130 miles to rural Illinois and spread over farm and strip-mined lands to create a 10,000 acre park and recreation facility.

Interest in the Penn State project is world-wide: in the past year alone, inquiries have been received from the Bahamas, Barbados, Czechoslovakia, England, France, Germany, India, Israel, Italy, Malta, Poland, Singapore, South Africa, Thailand, Turkey, and West Pakistan. All 50 states, Puerto Rico, and all the provinces of Canada have been heard from.

What Penn State offers sewage-weary communities is the world's most intensive research program on waste water purification.

But the Penn State system does more than purify waste water. Sprayed on crops and trees, treated sewage makes them flourish. In this way, the plants themselves clean some of the water; they drain off its impurities by using them to grow. The rest of the effluent percolates through the soil, is cleaned by microbes it contains, and goes on to replenish water tables below.

For eight years, winter and summer, a team of scientists from eight departments in four colleges at Penn State has been gathering data on farm and

forest land. Operating under the University's Institute for Research on Land and Water Resources, they have collected water samples, kept records of weather conditions, monitored the growth of trees and crops, and checked neighboring streams and groundwater sources.

Two years ago, project scientists had an exciting idea. Since The Living Filter rejuvenates soil as it purifies water, maybe it could be used on the worst soil of all — strip-mine spoil banks. There are three million acres of strip-mined spoil in the

U.S., most of it as barren and acidic as the day it was backfilled. A few dwarflike trees, planted to meet state requirements, are all that some spoil banks contain.

In the unsprayed planters absolutely nothing has grown, not even weeds.

But in the irrigated planters a thick jungle of grasses and legumes has sprung up, and eight-inch tree seedlings are now over five feet tall, and still growing.

If a dense cover of grasses can be made to take hold on spoil banks, it would provide (Continued on Page 17)

John Deere 38 Forage Harvester is unmatched . . . any way you size it up

Add up the facts that corn attachments have exclusive rubber gathering belts for plug-free feeding; that changing crop attachments is the fastest and easiest around; that the cylinder cutterhead boasts 6 spiraled knives; that there's a built-in knife sharpener; that re-cutter screens are available, and you'll see why it's unmatched. See us soon. Credit's available.

a cut above the rest

Landis Bros. Inc.
Lancaster 393-3906

Wenger Implement, Inc.
The Buck 284-4141

Shotzberger's
Elm 665-2141

M. S. Yearsley & Sons
West Chester 696-2990

A. B. C. Groff, Inc.
New Holland 354-4191

What do you care what FRED TRACY knows about Barn Equipment?

Before you answer, Fred is Sales Manager for Standard Equipment. He and his sales force have had the opportunity to serve today's dairymen with many applications of Standard's complete line of equipment including silo unloaders, bunk feeders, stalls and the new "MASTER-BUILT" barn cleaner. Maybe he can help you? Before your next purchase write Fred to see what he thinks. He has a lot of good ideas.

STANDARD EQUIPMENT
Incorporated
BEL AIR, MARYLAND

Business Man MR. DAIRYMAN

BUILD YOUR MANAGEMENT-FOR-PROFIT PROGRAM AROUND PIONEER FEEDS...

Today's cows are capable of high level production — often as much as 2,000 lbs. more milk per cow per year than they are producing. PIONEER feeds and feeding programs can help you get those extra tons of milk from your cows. Challenge your herd. Feed the PIONEER way . . . find out how good your herd really is.

Stop in and see us. WE'LL help you develop an all around management for profit program that will put profit dollars in your pocket.

ELMER M. SHREINER
Trading as Good's Feed Mill
Specializing in DAIRY & HOG FEEDS
New Providence, Pa.
Phone 786-2500

RED COMB PIONEER
SINCE 1870