

How Milorganite is Made

Process Begins

Production of the fertilizer begins in the coarse screen house at the purification plant, where the sewage passes through one inch screens, removing rags, sticks and similar debris. Seven to ten tons of such material is removed daily.

The sewage then moves through grit chambers to get rid of sand and gravel and flows into the fine screen house, where eight revolving steel drums equipped with fine mesh screens and nylon brushes remove 20 to 30 tons of fruit peelings, garbage grinder debris and the like.

Next comes the activated sludge process, where tiny Milwaukee organisms go to work. They are called aerobic bacteria, protozoa and actinomycetes.

"Actinomycetes—these are the rascals that cause the delightful smell you get from new plowed earth," Charlie Wilson said fondly.

Air Bubbles Up

The screened sewage is then mixed with return sludge which inoculates the screened sewage with the microscopic organisms that begin the process. This is called mixed liquor. From this point on air bubbles up through the flowing mixed liquor constantly. The mixed liquor flows into aeration tanks that are 15 feet deep, 22 feet wide and 445, 472 or 770 feet long for a retention time of about 4½ hours. Here the aerobic (air loving) bacteria feed on the solids and multiply to keep the process going. From the aeration tanks the flow goes into sedimentation tanks which are 98 feet in diameter and 15 feet deep. The air is taken away from the liquid, the bacteria die and settle to the bottom of the tanks.

Part of the treated sludge is eventually sent back to keep the bacterial process going. The rest is heated to 1,400 degrees to remove the water and the Milorganite is left. It takes 625 gallons of the original raw material to produce a single pound of fertilizer.

The effluent discharge flows over weirs into Lake Michigan. It is almost as clear as drinking water and 99.9 percent free of bacteria.

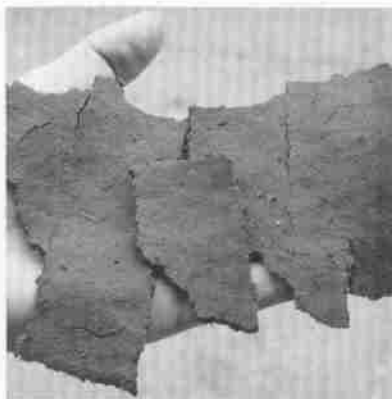
Purer Than Sugar

Milorganite itself is biologically purer than sugar, cereals or numerous other foodstuffs, Wilson said. Like surgeons' and dentists' instruments, it has been sterilized by steam. This kills weed and vegetable seeds as well as bacteria.

There are those, Wilson admitted, who object to Milorganite's slight aroma.

"We call it new mown hay odor," he said. "We could change it, but if we did the bacteria wouldn't like it."

*Interview with Charlie Wilson from the Milwaukee Journal Sunday, April 20, 1969.



Milorganite before drying.



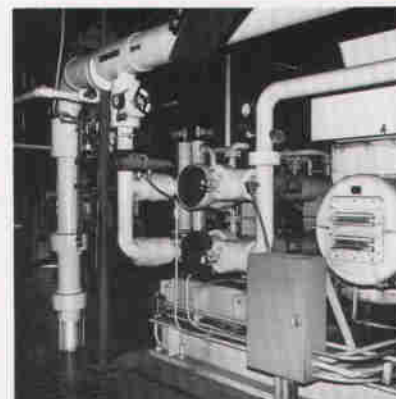
Vacuum filters.



Milorganite going to dryers from filters.



The dryers.



Jones Island Dryers.



Jones Island Dryers.



Jones Island Dryers 1981.



Jl Nov. 82 Dryer house.