

coarse mortar sand, received sewage at, the rate of thirty thousand, sixty thousand and one hundred and twenty thousand gallons per day. Until nitrification commenced—after periods of forty-one, thirty-one, and twenty-seven days, respectfully—97, 94 and 80 per cent. of the impurities of the sewage were removed. When nitrification reached its height, the ammonias were reduced to 1 and $1\frac{1}{2}$ per cent. of those of the sewage.

Fine sand was found to make the best filter, and could purify the sewage to a higher degree at a rate of twelve thousand gallons per acre per day, so that the number of bacteria in the cubic centimeter was reduced from five hundred and ninety-one thousand to two, and ammonias to one fourth per cent. of that of the sewage.

Garden soil was found to make a very poor filter or purifier. After applying only ten thousand gallons per acre per day for eight months, the effluent was "more impure than the applied sewage."

A mixture of coarse and fine sand and gravel filtered sewage very satisfactorily at the rate of twenty-five thousand gallons per day in the winter, and forty-two thousand gallons per day in the summer. The bacteria of the effluent numbered fourteen, while those of the sewage numbered three hundred and fifty thousand.

Peat was found to be entirely inefficient as a purifier, the ammonias in the effluent being equal to those in the sewage.

The filter containing loam and sand gave an effluent very nearly as pure as that from the sand and gravel alone, but the quantity of sewage which could be filtered was only one-third as great.

A report giving a very full description of the details of the investigation and further conclusions will soon be issued, and will form a most valuable contribution to the knowledge of the world upon the subject of sewage disposal. Much of the information too applies to a climate which for several months is both damp and cold, much like that of a large part of Canada.

The land disposal of sewage is a question of special interest. Besides accomplishing a sanitary benefit, it may also be made remunerative from a financial point. However, to make sewage farms pay a profit should always be a secondary consideration, the sanitary question being held uppermost.

Regarding the often expressed fear that sewage farms create a nuisance and injure the value of neighboring property, we quote the following paragraphs from a report upon the disposal of the sewage of Los Angeles City, made in December, 1889: "Sewage farms need not cause any nuisance. Some smell may be noticeable at the ditches towards evening when the air is damp, and on muggy days. It may particularly be the case when the sewage is not delivered fresh. There is no well authenticated case where sewage farms have caused sickness. In England people reside on lands adjoining them. In Paris and Berlin new villages have sprung into existence since the sewage has been used for irrigation, and the death rate is recorded as being little over one-half of that of the respective cities. In order to have a minimum amount of odor, it is necessary to convey the sewage in open, artificial, and smooth channels or carriers, and allow it to run in earth ditches only for temporary purposes; and where it immediately filters away, these ditches should be frequently raked over to be kept clean and pure. Those who have inspected the successful sewage farms in Europe and America can bear testimony to their freedom from nuisance, when proper care is taken with the distribution of sewage and the ditches. This care simply consists of faithful attention. It is neither irksome nor expensive, and is capable of being secured by appropriate legislation.

THE London Vegetarian Society reports a membership of 541, and the movement is said to have spread throughout England, Europe, and the colonies.