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### Temperature of the liquid effluent in sewage treatment lagoons

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In very extensive geographies and/or with low population densities, the lagoons for the treatment of sewage effluents are of great application and one of the most applied solutions. Its cost of implementation, operation and maintenance makes this alternative one of the most sustainable in relation to the management of sewage drains for localities with these characteristics. Many years designing and evaluating sewage treatment lagoons, makes me reflect on one of the most important design parameters, which is usually estimated slightly and without many considerations: the temperature of the liquid effluent in the lagoon. Most of the time, it is calculated with foreign correlations that are not adapted to our reality and are linked to the average air temperature of the coldest month of the year. Uncertainty that we have when defining this important design parameter makes us to commit one of the most common errors that are observed in its design. Uncertainty is synonymous with oversizing and, in practice, designing larger lagoons than necessary, being as bad as the design of small lagoons. Some of the problems that large lagoons produce: lagoons that do not fill up, erosion and vandalism of their slopes, higher costs for their implementation, etc. In order to limit this uncertainty, this work proposes a rational method that takes into account the flow of energy in the process and the time that the liquid effluent is in the lagoon.

#### Biography

Ulises Damian Pepe has completed his Magister in Sanitary and Environmental Engineering at the Institute of Sanitary and Environmental Engineering of University of Buenos Aires. Previously he was a Chemical Engineer at UTN and then he was a Specialist in Sanitary and Environmental Engineering of the Institute of Sanitary and Environmental Engineering of UBA, Buenos Aires.

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