

NEPH PRODUCTS UTILIZED IN ANAEROBIC DIGESTION

The process of anaerobic digestion is made of two phases in series, where the product of a reaction is the starting point for the next one.

In this are involved bacteria that hydrolyze, metabolize and produce biogas.

This latter function is done by methane creating bacteria, which utilize as substrata the acetic acid. This is produced by hydrolysis of complex organic substance contained in the biomass of digester, by anaerobic bacterial called acido-genic.

Without this first hydrolytic phase, methane-creating bacteria cannot start the production of biogas, due to the lack of a carbon-based substrate.

Adding specific bacteria mixtures accelerates all the normal metabolic processes, reducing in a significant way the startup phase, with savings on the operations.

NEPH product contain in fact aerobic and anaerobic lyophilized bacteria, besides to hydrolytic enzymes: inoculating such substances during the anaerobic digestion would enrich the biomass with microorganisms with hydrolytic functions capable of producing organic acids with short molecules and of neutralizing acid molecules or inorganic nature keeping a constant pH.

Furthermore adding specific enzyme and bacteria mixtures induces the degradation of organic components that could not be degraded in normal conditions.

From an application point of view, being NEPH products of biological origin, it is necessary to keep chemical and physical conditions of temperature, pH and redox within the classical ranges of the anaerobic process.