



# Glossary of Terms

## A

**AEROBIC BACTERIA** - Bacteria that require free oxygen for growth.

**AMYLASE** - An enzyme produced by certain bacteria that breaks down starch molecules often found in vegetables like peas and corn, legumes like beans and lentils, as well as grains like oats, barley, and rice.

**ANAEROBIC BACTERIA** - Bacteria that live and reproduce in the absence of dissolved oxygen, instead deriving oxygen from the breakdown of complex substances.

## B

**BACTERIA** - Living organisms, microscopic in size, which usually consist of a single cell. Most bacteria use organic matter for their food and produce waste products as a result of their life processes.

**BIOFILM** - Appropriate conditions that allow a consortium of microbial populations to work in harmony to thrive. An example of a biofilm is created in a drain when probiotic bacterial treatment is routinely added to the drain. Creates a "fortress" where microbial growth can thrive.

**BIOTIC POTENTIAL** - All the factors that contribute to a species increasing its number: reproduction, migration, adaptation, etc.

**BOD (BIOCHEMICAL OXYGEN DEMAND)** - The rate at which microorganisms use the oxygen in water or wastewater while stabilizing decomposable organic matter under aerobic conditions. In decomposition, organic matter serves as food for the bacteria, and energy results from this oxidation.

**BIOAUGMENTATION** - Biodegradable organic matter that can be broken down by bacteria to more stable forms that will not create a nuisance or give off foul odors.

**BIOMASS** - A mass or clump of living organisms feeding on the wastes in wastewater, dead organisms and other debris.

**BIOREMEDIATION** - The use of biological agents, such as bacteria or plants, to remove or neutralize contaminants, as in polluted soil or water. Bioremediation is the use of organisms to break down and thereby detoxify dangerous chemicals in the environment.

## C

**CELLULASE** - An enzyme produced by specific bacteria that specifically breaks down cellulosic material such as paper.

**CFU (COLONY FORMING UNIT)** - Units in which bacterial counts are measured. Viable bacteria capable of growth under the prescribed conditions (medium, atmosphere, time and temperature) develop into visible colonies (colony forming units) which are counted. The term colony forming unit (CFU) is used because a colony may result from a single micro-organism or from a clump / cluster of micro-organisms.

**COMPETITIVE EXCLUSION** - The inevitable elimination from a habitat of one of two different species with identical needs for resources. One species out-competes the other. Some studies have shown this to be the case with certain bacteria.

**CONVERSION** - Changing from one substance to another, as food matter is changed to cell growth or to carbon dioxide.

## D

**DISINFECTANT** - A product used to kill most microorganisms including pathogenic (disease causing) bacteria. Disinfectants in the U.S. are regulated by the EPA (Environmental Protection Agency).

**DISINFECTION** - Process designed to kill most microorganisms, including essentially all pathogenic (disease-causing) bacteria. There are several different active ingredients used to disinfect.

## E

**ECOLOGY** - The study of all aspects of how organisms interact with each other and/or their environment.

**ECOSYSTEM** - Groupings of various organisms interacting with each other and their environment.

**ENZYME** - Organic substance (proteins) that act as catalysts to speed up chemical changes.

## F

**FERMENTATION OF BACTERIA** - The process of growing selected bacteria in optimized nutrient broths for high yield production.

**FOG** - Fats, oils and greases. Food sources for probiotic bacteria.

## G

**GARBAGE DISPOSAL** - A device which shreds or grinds up waste materials into small portions for discharge into the city's wastewater collection system.

**GENERATION TIME** - The time required for a given population (bacteria) to double in size. This time can be as short as 20 minutes or as long as a week.

**GREASE DISCHARGE PERMIT** - A permit issued authorizing the discharge of wastewater to the wastewater collection system from a food service facility.

**GREASE TRAP (GREASE INTERCEPTOR)** - A device designed to collect, contain or remove food wastes and grease from the waste stream while allowing the balance of a liquid waste to discharge to the wastewater collection system by gravity. Grease traps shall have a removable lid on the top surface to facilitate inspection, cleaning and maintenance.



## H

**HETEROTROPH** - A microorganism which uses organic matter for energy and growth. Probiotic bacteria are considered heterotrophs.

**HYDROLYSIS** - The process in which carbohydrates and starches are simplified into organic soluble organics, usually by anaerobic bacteria.

## I

**INTERFACE** - The common boundary layer between two substances such as between water and a solid (metal), between water and a gas (air) or between a liquid (water) and another liquid (oil).

## L

**LAG PHASE** - The time in which it takes the bacteria to prepare for exponential growth (log phase).

**LEACHING FIELD (SEPTIC DRAIN FIELD)** - An underground array of perforated pipes adjacent to the septic tank. The leach field is responsible for removing contaminants and impurities from liquid after it leaves the septic tank.

**LIPASE** - An enzyme produced by certain bacteria that breaks down fat molecules.

**LOG PHASE** - A growth phase in which cell production is maximum.

## M

**MASKING AGENT** - Substance used to cover up or disguise unpleasant odors.

**METABOLISM** - The chemical processes that occur within a living organism in order to maintain life.

**MICROBE** - A very small living organism that can only be seen with a microscope.

**MICROBIOME** - Community of microorganisms that can usually be found living together in any given habitat.

**MOLECULE** - The smallest division of a compound that still retains or exhibits all the properties of the substance.

## N

**NPDES PERMIT (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT** - The regulatory agency document issued by either a federal or state agency which is designated to control all discharges of pollutants from point sources into U.S. waterways. NPDES permits regulate discharges into navigable waters from all point sources of pollution, including industries, municipal wastewater treatment plants, sanitary landfills, large agricultural feed lots and return irrigation flows.

**NUTRIENTS** - Substances which are required to support living plants and organisms.

## O

**ORGANIC MATTER** - All of the degradable organics. Living material containing carbon compounds. Used as food by microorganisms.

**ORGANIC WASTE** - Waste material which comes mainly from animal or plant sources. Organic waste generally can be consumed by bacteria and other small organisms.

**ORGANISM** - Any form of animal or plant life.

## P

**PARTICULATE** - Free suspended solids.

**PATHOGENIC BACTERIA** - Bacteria which cause disease in a host (such as a person). There are many types of bacteria (non-pathogenic) which do NOT cause disease. Betco's probiotic bacteria do not cause disease and have many benefits including digesting organic wastes.

**PERISTALTIC PUMP** - A type of positive displacement pump.

**pH** - An expression of the intensity of the basic or acidic condition of a liquid. The pH may range from 0 to 14, where 0 is most acidic, 14 most basic, and 7 is neutral.

**POTABLE WATER** - Water that does not contain objectionable pollution, contamination, minerals, or infective agents and is considered satisfactory for drinking. Has a pH between 6.5 and 8.5.

**PROBIOTIC** - A commercial product containing selected strains of natural commensal species of bacteria, known to thrive in the acid pH of the digestive system, while producing valuable food-digesting enzymes, without causing any harm to the host organism. Such products often contain "Probiotic" nutrients, compounds which selectively encourage growth of the included beneficial bacteria, enhancing their ability to "out-compete" undesirable organisms, including pathogenic (disease-causing) species.

**PROTEASE** - An enzyme produced by specific bacteria that degrades protein soils like beef and chicken.

## S

**SEPTIC TANK** - A tank, typically underground, in which sewage is collected and allowed to decompose through bacterial activity before draining by means of a leaching field.

**SPORE STATE** - Resting, or dormant stage in the bacterial life cycle, helping to preserve the bacterium through periods of unfavorable conditions.

**STABILIZE** - To convert to a form that resists change. Organic material is stabilized by bacteria, which convert the material to gases and other relatively inert substances. Stabilized organic material generally will not give off obnoxious odors.

**SURFACTANT (SURFACE-ACTIVE AGENT)** - The active agent in detergents that possess a high cleaning ability. Used in a spray solution to improve its sticking and wetting properties when applied to plants, algae, or petroleum.

## T

**TOXIC** - A substance which is poisonous to a living organism.

**TOXICITY** - The relative degree of being poisonous or toxic.

## V

**VEGETATIVE** - Actual growing state.

**VOC (VOLATILE ORGANIC COMPOUND)** - A substance that is capable of being evaporated or changed to a vapor at a relatively low temperature.

## W

**WASTEWATER** - Used water that has been affected by domestic, industrial and commercial use.



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