

## CHEMICAL COMPOSITION AND FORMATION OF HUMAN FECES – PROBLEMS AND SOLUTIONS OF LARGE MERGERS DEMOGRAPHICS IN DEVELOPING COUNTRIES

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**Abstract:** The physical and chemical determination of the composition of human excrements has great importance since its entire product as dejection today is launched in the nets and inefficient systems of waste collectors. Its studies had been intensive in the decade of 50's for the greater practical of the composting and the densely populated agricultural communities. It is identified basically that the human excrements is composed of 75% of water and 25% of solid substance (composed for bacteria deceased – 30%, fat – 10 to 20%, inorganic substance – 10 to 20%, proteins – 2 to 3%, remaining portions not digested – 30%). The alkaline external surface involves acid internal interface for the bacterial action. Its general chemical composition includes as bigger part the carbon (around 50%), nitrogen and calcium (around 5% each). The amount of excrements is 135 to 270g for individual to the day, after the drying determines around 88 to 97% of organics substances. It has two processes for the final stabilization of the organic substance: the aerobic decomposition (in the oxygen presence) and the anaerobic composition (in the complete absence of oxygen). Anaerobic occurs in four distinct phases: the hydrolysis by fermentation for acid producer bacteria that convert macro molecules of organic composites; acidogenesis or volatilization for methane producer bacteria; acetogenesis for dehydrogenization or hydrogenization bacteria; and methanogenesis for the methane producer archeas resulting in methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>). The methane is produced by the acetotrophics archaeas from the acid reduction of ascetic (70%) or by the hydrogeotrophics archaeas through the reduction of carbon dioxide (30%). The possibilities of treatment of the dejections in precocious way are processes in study in the isolated agricultural communities, in open systems of sand filtering, classics aerobic systems (wetlands), beyond the domestic composting. Humus has desirable characteristics as nutrient, making use the phosphorus more easily to the superior plants.

**Key words:** Composition; Chemistry; Physics; Chemical Physicist; Human Faeces; Human Excrements; Composting; Aerobic Digestion; Anaerobic Digestion; Treatment of Effluent.

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