Green ambrosia for Soil- Dry Cow Dung Powder: Rhexistasy to Biostasy

Bagla, Hemlata; Barot, Nisha

EGU General Assembly 2013, held 7-12 April, 2013 in Vienna, Austria, id. EGU2013-2604

"Greener ambrosia for Soil - Dry cow dung powder: Rhexistasy to Biostasy" Pedosphere, the soil with its biotic and abiotic component, is produced by lithosphere`s interactions with atmosphere, hydrosphere and biosphere. The theory of Biorhexistasy proposed by pedologist H. Erhart [1], describes two crucial climatic phases of soil i.e. Biostasy, period of soil formation and Rhexistasy, periods of soil erosion. Humus, the organic matter in soil, permits better aeration, enhances the absorption and releases nutrients, and makes the soil less susceptible to leaching and erosion [2], thus the agent of soil`s vitality. Mismanagement of soil, leads to the degradation of millions of acres of land through erosion, compaction, salinization and acidification. Among these threats salinity is a major abiotic stress reducing the yield of wide variety of crops all over the world [3]. It is been proved that Humic Acid (HA) treatment can ameliorate the deleterious effects of salt stress by increasing root growth, altering mineral uptake, and decreasing membrane damage, thus inducing salt tolerance in plants [4]. HA can be inexpensively incorporated into soils via different biowastes. Dry cow dung powder (DCP), is naturally available bio-organic, complex, polymorphic humified fecal matter, enriched with minerals, carbohydrates, fats, proteins, bile pigments, aliphatic - aromatic species such as HA, Fulvic Acid (FA) etc [5]. The microbial consortium enables DCP with considerable potentials for biodegradation and biotransformation of even saline soil and further contributes to many biogeochemical processes, boosting humus content of soil. Due to unambiguous biological, microbiological as well as chemical inert properties of DCP, it has been successfully utilized as a fertilizer and soil conditioner since ages in India, one of the leading agrarian countries of the world. Thus we summarize that DCP is one of the best contenders for the biostasy and desaliner of soil, aptly, soil`s Greener ambrosia. Reference: 1. C. Feller, E. Blanchart, A. Herbillon, SSSAJ: 72(5), (2008). 2. N.Fedoroff, M.Courty, Z.Guo, Interpretation of Micromorphological Features of Soils and Regoliths. Elsevier B.V., (2010). 3. Mackowiak et al, SSSAJ: 65, (2001). 4. K.Cimrin, O.Turkmen, M.Turan, B.Tuncer, African Journal of Biotechnology, 9(36), (2010). 5. H.Bagla, N.Barot, EGUGA - 11, 515B, (2009).