

Sustainable Use of Agricultural Waste to Enhance Food Security and Conserve the Environment

Authors : M. M. Tawfik, Ezzat M. Abd El Lateef, B. B. Mekki, Amany A. Bahr, Magda H. Mohamed, Gehan S. Bakhoom

Abstract : The rapid increase in the world's population coupled by decrease the arable land per capita has resulted into an increased demand for food which has in turn led to the production of large amounts of agricultural wastes, both at the farmer, municipality and city levels. Agricultural wastes can be a valuable resource for improving food security. Unfortunately, agricultural wastes are likely to cause pollution to the environment or even harm to human health. This calls for increased public awareness on the benefits and potential hazards of agricultural wastes, especially in developing countries. Agricultural wastes (residual stalks, straw, leaves, roots, husks, shells etcetera) and animal waste (manures) are widely available, renewable and virtually free, hence they can be an important resource. They can be converted into heat, steam, charcoal, methanol, ethanol, bio diesel as well as raw materials (animal feed, composting, energy and biogas construction etcetera). agricultural wastes are likely to cause pollution to the environment or even harm to human health, if it is not used in a sustainable manner. Organic wastes could be considered an important source of biofertilizer for enhancing food security in the small holder farming communities that would not afford use of expensive inorganic fertilizers. Moreover, these organic wastes contain high levels of nitrogen, phosphorus, potassium, and organic matter important for improving nutrient status of soils in urban agriculture. Organic compost leading to improved crop yields and its nutritional values as compared with inorganic fertilization. This paper briefly reviews how agricultural wastes can be used to enhance food security and conserve the environment.

Keywords : agricultural waste, organic compost, environment, valuable resources

Conference Title : ICAFE 2014 : International Conference on Agricultural and Food Engineering

Conference Location : Miami, United States

Conference Dates : March 09-10, 2015