

DECOMPOSITION FOR PRODUCTION OF BIO-FERTILIZERS

1.3 million tones bio-waste is obtained per year from animals and also tons of waste produced from dead plants, dead animals municipal waste, food waste and house garbage etc. Generally this waste disposes off and it will polluted the environment. This waste can use as a biofuel which is pollution free. Generally all waste is burned and energy obtained from them. This paper includes method of obtaining more energy from biofuels in such a way firstly it will decomposed and from which biogas is produces which is pollution free and poison less and electrical energy can be produced. After that this decomposed waste is extracted and use as bio-fertilizer in agricultural field.

Agricultural Waste

As massive production is per year in agriculture but million tons of agricultural products get waste during agricultural process on it [2]. To achieve maximum and high quality production fertilizers are used. Required elements absorbed by plants from fertilizers. It is known as nutrition of the plants. In permanent land farming as continuing farming content nutrient decreases for recovering this excessive use of artificial fertilizers increased [6]. On excessive use there is soil salinity, heavy metals came in contact with human also nitrate get accumulated with water resources. There are bad effect on the environments. Instead of artificial fertilizers bio-fertilizers used for massive and quality food production. In this agricultural waste gives bio-fertilizers as well as energy.

Generally animal waste, dead plants and other wastes kept in sunlight for drying and then it is used as fuel and bio-fertilizer but when it directly burn it produces smoke and less amount of bio-fertilizers also pollutes environment. This paper include method for production bio-fertilizers and energy without polluting environment. All agricultural waste fed into decomposing tank for 20-25 days. It produces methane (CH₄). This gas act as fuel in kitchen and power plant. When methane burns without producing smoke as result it not pollute the environment. Waste from the tank removed and it kept about 10-12 days and sunlight for drying. After drying it used as bio-fertilizer which is eco-friendly this method provides fertilizers in less price as compare to artificial fertilizers.

Household Waste

Household wastes are classified into two types 1.Decomposable 2.Non-decomposable. The household contain wrapping materials, packing covers,

vegetable peelings, meat scraps, bones etc. household waste also contains batteries and other electrical and electronics components. Household waste also contains oils, paints, pool chemicals, medicines, caustic materials, sterilizing agents, bleaches babies nappy or diapers, animal faces. This all waste produces pollution as well as unpleasant odour in environment. If there is absence of proper collection transport or improper disposal of household waste it affects that environment. Also in rainy season chemicals from household waste come in contact with water and infect to bore-wells, wells, dams etc. which effects on health of human animals, plants which are in contact with this source of water. This effect is not limited up to water but also loss of productivity of plant in which water for farming provided from these infected sources. In rainy season non-decomposable waste blocks drains therefore creates flood like situation in rural and urban areas. Traditional way for decomposition of waste is it get burned. This results pollution of air as well as that soil on which that waste is burned.

Decomposable and non-decomposable waste collected separately through cities. It placed different from each other. Non-decomposable waste sent for recycle and decomposable waste fed into large tanks with waste water. This mixture placed in this tank around 20-25 days. Large amount of methane gas produced from decomposition of waste. This methane gas act as a fuel in house for cooking purpose and in power plant for production of electricity, without producing smoke. Totally decomposed waste removed from tank and it kept in sunlight for 10-12 days. After drying it act as bio-fertilizer. In this method not only energy bit also bio-fertilizers obtained without pollution.

Municipal Waste

Growing population + Economy = Increased waste, this equation says that as population and economy of country is increase in wastes. One of between them is municipal waste. Municipal waste means garbage come from hotels, health facilities, markets, gardens, educational institutes, small factories and camps [1]. Increase in waste produces pollution. Municipal waste classified into three types 1. Solid waste 2. Semi solid waste 3. Liquid waste [7]. Generally municipal waste are send directly into open plots, rivers and toward other resources. Municipal waste depends on economic, industrial and urban development. Municipal wastes also contains non-decomposable wastes, these are recycled and energy as well as fertilizers can produced from decomposable waste. The 4Rs method means Reduction, Reuse, Recycle and Recovery helps to reduce Pollution. Solid municipal waste transported form cities to fertilizers producing stations by using trucks, railways. Semisolid and liquid waste are send towards fertilizers producing stations through pipelines. This solid, semisolid and liquid waste are

kept in decomposition producing tank for 20-25 days. Produced methane gas used as good fuel for household energy and power generation stations. Decomposed sludge removed and placed in sunlight for 10-12 days. Dried sludge is nothing but biofertilizer. In this method production of bio-fertilizer for agricultural use and power from waste is possible.

Conclusion

1. By implementing these methods problem of energy as well as bad effect of artificial fertilizers on human, animals and environment can completely stopped. 2. Farmers spend large amount for buying artificial fertilizers per year this cost reduced by producing bio-fertilizers as result farming profession can become more beneficial than previous. Basic need of power for cooking, generation of electricity can obtained pollution free without using separate processes. 3. This is sustainable way of production of energy. 4. 69000 new jobs can create in waste sector as well as 2600 additional jobs for waste service delivery and recycle procedure.