

Two milestones in Musiri ECOSAN

Two major events have taken place in ECOSAN movement in the country in the month of June 2009.

Compost from the first chamber in the first ECOSAN Community Compost Toilet (ECCT) in Musiri was taken out and on June 30th the first bunch of Banana raised under the UNICEF-SEI research project, using urine as liquid fertilizer was harvested.

The first ECCT in the country constructed with assistance from WASTE of Netherlands was commissioned in April 2006. Of the 14 compost chambers, the first compost chamber was closed 30-01-2008. The same was opened by Mr. Valentine Post, Regional Officer, WASTE, Netherlands on 21st June 2009 in the presence of Mrs. Visalakshi Natarajan, Joint Secretary, Department of Agriculture, Government of India, (Government schemes) Mr. V.C. Sudhakar, President, MSTP, Mr. D.Subramanian, Executive Officer, MSTP and Mr. M.Subburaman, Director, SCOPE. The compost taken out from the chamber which was in very good condition, weighed about 510 kgs. The sample of the compost sent for scientific analysis. The same will be applied in the horticulture research field under the guidance of the Dr. Jothimani, of Tamil Nadu Agriculture University, the Principle Investigator.



Banana Research :

Mr. M. Subburaman said :

On 30th June 2009 the banana bunch raised in the research field under the guidance of Dr. K.J. Jeyabaskaran, Senior Scientist, National Research Centre for Banana, Trichy, was harvested by Mr. T. Soundaiah, I.A.S. District Collector, Trichy.

The research project was funded to the tune of Rupees 4 lakhs by Swedish Environment Institute, Stockholm and UNICEF, New Delhi.

It was planted in June 2008 and the urine collected from ECCT was used as liquid fertilizer under various combination through drip irrigation. The Banana bunch weighed 17 kgs and had 202 fruits.

Already two years research study on using urine as fertilizer for paddy has been conducted in Musiri by the Tamil Nadu Agricultural University, Coimbatore with financial support of Rupees 4 lakhs. The results are very promising.

Dr. Jeyabaskaran said :

The Trichy based National Research Centre for Banana (NRCB) and NGO-SCOPE (Society for Community Organisation and Peoples Education) jointly took up a research project into the utilization of human urine as liquid fertilizer for banana cultivation. One litre of normal human urine contains 4.6 grams of nitrogen, 0.6 grams of phosphorus and 2.2 grams of potassium. It is calculated that rural population of India generates about 135 crore litres of urine per day. Annually, 15 days urine from Indian rural population may be sufficient for fulfilling 100% nitrogen and phosphorus 25% potassium requirement of banana crop, in India. If human urine used as liquid organic manure in banana cultivation, about Rs. 445 crores may be saved in cost of fertilizer for banana crop.

At Musiri (near Trichy), the SCOPE established ECOSAN toilets in which human urine is collected in an integrated manner and the NRCB started its research experiments in half an acre banana land by using this collected urine as liquid organic fertilizer through drip irrigation system, in June, 2008. The banana was grown with 30, 40, 50 and 60 litres of human urine application with irrigation water along with graded levels of commercial potassium fertilizers. Application of 50 litres of human urine per plant with 75% recommended commercial potassium fertilizer recorded 32.1% more plant height, 25.6% more pseudostem girth, 71.5% more number of leaves and 68.8% more leaf area, 25% more leaf nitrogen concentration, 52.6% more phosphorus concentration and 6.5% more leaf potassium than normally grown banana plants without urine application. Seasonal leaf spot disease incidence and sodium toxicity (salinity) symptoms were not recorded with the application of human urine as liquid organic fertilizer, in banana. Detailed studies on yield parameters, edible quality of banana fruits will be studied. The final outcome of this experiment may pave solutions for impending challenges, in near future of Indian agriculture.



In India banana is cultivated in 5 lakh hectares with an annual production of 169 million tones. For optimum banana production 200 grams of nitrogen, 30 grams of phosphorus and 400 grams of potassium per plant are required. In India, 2 lakhs 50 thousand tons of nitrogen, 37 thousand 500 tons of phosphorus and 5 lakh tons of potassium are required for 5 lakh hectares of banana area, with crop density of 2500 plants/ha. The cost/kg of nitrogen, phosphorus and potassium are Rs. 11, 19 and 8, respectively. Nearly, Rs. 275 crores of nitrogen, Rs. 75 crores of phosphorus and Rs. 385 crores of potassium are required for optimum yield of banana per year. In the recent past the cost of chemical fertilizers are increasing steeply and the research will open up ways of using liquid fertilizer for banana cultivation which will cut down the cost of cultivation in addition to many other advantages.