

Model Training Course (MTC)

On

Advances in Rapid Composting Techniques for Efficient Bio-waste Utilization *vis-a-vis* Enhancing Soil Health

(20th - 27th November, 2017)



Dr. M. C. Manna

Course Director

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Course Co-Directors

Sponsored by

Directorate of Extension, Department of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
Government of India, New Delhi



सत्यमेव जयते

Organized by

ICAR- Indian Institute of Soil Science
Nabibagh, Berasia Road, Bhopal - 462038, Madhya Pradesh



Background

Since independence India has achieved a remarkable growth in agriculture by making a visible impact on the national food security. But, intensive cultivation, imbalanced use of fertilizers and limited application of organic manure led to the second generation problems. In view of ever escalating cost of chemical fertilizers, the organic sources are the only way to supplement the nutrients and to sustain soil health and ecosystem functions. The potential availability of crop residues and animal wastes in India is about 679 and 369 million tonnes (Mt), respectively, that has nutrient potential of about 5.6 and 1.7 Mt of NPK. About 64.8 Mt of city wastes is generated every year from different cities of India that have nutrient potential of about 0.28 Mt of NPK. Moreover, every million tonne increase in food grain production will produce 1.2-1.5 Mt of crop residue and every million increases in cattle population will provide additional 1.2 Mt of dry dung per annum. It is estimated that if these wastes are managed properly in a scientific manner, it can be source of 10.25 Mt of NPK by 2030.

In this training program, the trainees will be exposed to various aspects of efficient bio-waste management which will ultimately enhance soil health. Rapid composting techniques can be taken to the doorstep of the farmers through innovative participatory approaches and demonstrations. Mainly the State Department officers, interact with the farmers and solve their problems at field levels. Therefore, it is imperative that the officers in the different state Departments of Agriculture need to be provided training on advances in rapid composting techniques. Unscientific and indiscriminate disposal of biodegradable city waste and reckless burning of crop residues in the field have emerged various challenges that need to be addressed by the scientific community to solve emerging problems. Thus, ICAR-IISS has developed a rapid composting techniques for efficient biowaste utilization and management, which is economically viable and socially acceptable. Appropriate application of these composts will protect, restore and sustain soil health, its diversity and productivity.

Since last five years the institute particularly soil biology division, has conducted several trainings including winter school, model training course, short course and workshop for ICAR scientists, SAU's Professors, agricultural officers and farmers. Institute has also developed excellent expertise in the proposed area. Thus, it will offer us a great opportunity to understand, share, interact, and collaborate with researchers and academicians who will act as catalysts for future wastes recycling efforts locally, nationally and world-wide.

In view of the information available, a model training course has been designed to impart knowledge and enhance the skills of the state department officers. Thus, over all a concentrative effort will be made by the course directors and various members of faculty (in house and guest) to train the participants to improve their knowledge and understanding on bio-waste management.

Objectives

The training course aims to enrich the knowledge as well as perception of the participants who intends to be the innovator and developer of new technologies regarding bio-waste recycling during the era of urbanization and consequent waste generation. Moreover, the training will also improve the comprehension of participants regarding the effect of compost, the valuable end product of waste recycling on soil health and crop productivity. The specific objectives are:

- Provide a comprehensive view of the major aspects of bio-waste recycling in terms of microbial mediated accelerated composting technique.
- Enhance understanding of the eco-friendly way of bio-waste recycling as well as the best agronomic and nutrient management practices to improve soil sustainability
- Provide the knowledge platform for quality assessment of crop residue/manure/compost and other bio-waste for safe use in agriculture
- Foster knowledge, skill and know-how support to meet the challenges of bio-waste utilization for sustainable agriculture

Course content and class room modules

Module I: Waste recycling: Need of the hour

Module II: Methods of waste recycling in India and abroad

Module III: Manipulation of thermophilic phase to achieve rapid composting for recycling of bio-waste

Module IV: Effect of compost on soil health and agricultural sustainability

Demonstration/Hands-on-experience, visits and audio-visuals

- ✓ Hands-on-field experience on basic technologies of bio-waste recycling research
- ✓ Characterization of compost/organic manure by standard analytical procedure and instruments.
- ✓ Isolation of microbes having potential for bio-waste recycling
- ✓ Field visits and multimedia audio-visual demonstration of organic manure uses in agriculture.

Eligibility Criteria of Applicants

Participants (AO/ADO/ADA/SMS etc.) from all the concerned Development Departments such as Agriculture, Horticulture, Animal husbandry, Dairy of states and union territories who are engaged in research/ extension /training related to the field of natural resource management (NRM) are eligible to attend the training course. The total number of participants will be 20. In case, the trainees from other organizations viz: ICAR Institutions, SAU'S and KVK's desire to attend the MTC, their TA/DA may be borne by their respective institute/organization. However, all the trainees may avail the lodging/boarding and other facilities in the host training institution. Reimbursement of travelling expenses to the trainees nominated by the State Development Departments shall be made as per their entitlement and GOI norms specified in the Guidelines for organizing MTCs.

The application for participation may be sent in enclosed prescribed format, duly forwarded/nominated by the competent authority/Head of the Institution. It should reach the Course Director on or before the last date by post, fax or email. The participants will be selected on the basis of their qualification and area of work, relevant to the training course.

Duration of training

Duration of the model training course (MTC) is 8 days from 20-27th November, 2017 (both days inclusive). The participants are expected to arrive at IISS, Bhopal latest by evening of the 19th November, 2017 and can leave after 17:00 hrs on the 27th November, 2017.

TA/DA, Boarding and Lodging

The food and accommodation will be arranged at IISS and CIAE guest house. The cost of traveling, boarding and lodging etc. of the selected participants will be met out of the grant from the Ministry of Agriculture, Department of Agriculture & Cooperation, New Delhi. The participants will be reimbursed the to and fro travel fare for the journey to Bhopal by rail or Bus by shortest route. The payment will be made as per the entitlement class of travel, restricted to maximum of AC-II tier train fare/bus fare. As regards to daily allowance (DA), any participant, refusing to avail the free board and lodging facilities, will not be given any cash payment in lieu thereof. He/She can, however, claim DA from respective state Government after getting a certificate to this effect from training Institute. Participants are requested not to bring family members with them, as the institute has limited hostel facilities.

Travel to IISS, Bhopal

Bhopal, Capital of Madhya Pradesh, is well connected by rail and roadways to different parts of the country. Participants traveling by train/bus should alight at Bhopal Railway station/Bhopal Bus stand from where autorickshaw can be hired to reach IISS Campus located near KarondChowraha on Berasia Road at distance of 8 km from railways station and 7.5 km from bus station. The participants are advised to make their return journey reservations at their end before leaving for Bhopal.

Registration Form

APPLICATION FORM FOR PARTICIPATION IN THE MODEL TRAINING COURSE

“Advances in Rapid Composting Techniques for Efficient Bio-Waste utilization *vis-à-vis* enhancing soil health”

(20-27th November, 2017)

(To be sent directly to the Course Director/Co-Directors of the Model Training Course)

- Name (In block letter):.....
- Designation:.....
- Institute/organization where employed:
- Address for correspondence (Postal address with PIN):.....
.....
- Permanent Address.....
- Phone No:..... Fax No:.....
- Email:..... Date of birth:.....
- Sex: Male.....Female..... Marital status: Single..... Married.....
- Participation in any research seminar/summer-winter schools/short course/model training course etc. during previous year under ICAR/Other Govt. Organization.....
.....
- Academic qualification

Degree	Year	Subject	University / Institution	CGPA/% of marks
Bachelor degree				
Master degree				
Other degree certificates/Diploma				

Date.....

Place.....

Signature of the participant

- Recommendation of the forwarding Institution

Date.....

Place.....

Signature

Important Dates

Last date for receipt of application : 25th September, 2017
Confirmation of participants (by email/fax) : 30th September, 2017

All correspondence should be addressed to:

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