

**Model Training Course**  
on  
**Waste Management for Sustainable  
Agriculture in Low Rainfall Areas**

(November 28 - December 05, 2017)



**Dr. N.R. Panwar**

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**Sponsored by**

**Directorate of Extension**

**Department of Agriculture, Cooperation and Farmers Welfare**

**Ministry of Agriculture & Farmers Welfare**

**Government of India, New Delhi -110 012**



**Organized by**

**ICAR- Central Arid Zone Research Institute**

**Jodhpur-342 003, Rajasthan**



## **Background**

The proper use of agricultural, industrial and solid waste is an important component of sustainable agriculture in order to close nutrient cycles on a global, regional and local scale. Farmyard manure or slurry are established as fertilizers in agricultural or horticultural production and substitute mineral fertilizers. Moreover the low rainfall areas are having low soil organic carbon and light in texture which results in low nutrient use efficiency.

Organic matter status of cultivated lands in most of the agroecological regions of India is low due to rapid mineralization loss of C input into the soil from different sources. This, in conjunction with low fertilizer input, has resulted in continuous decline in agricultural productivity. Long-term fertilizer experiments as well as manurial trials in various parts of the country have conclusively shown that integrated nutrient management (INM) involving various types of organic manure can sustain or augment agricultural productivity. Rural compost prepared mainly from cattle shed litters and agricultural wastes remained major source of organic matter in the INM in Indian agri-horticulture sector. However, availability of rural compost is very low and is declining continuously due to decreased dependency on animals in crop husbandry. India is endowed with various types of naturally available organic form of nutrients in different parts of the country. These include animal excreta, crop residues (>700 MT/year), green manures, city waste, rural compost, biofertilizers, industrial by-products, mined waste and natural occurring minerals.

Composting biodegradable fraction of the solid waste and industrial by-products to prepare a useful product for agriculture sector has been found to be an effective way of reducing pollution burden on the environment. Among the composts prepared from biodegradable fraction of MSW, only those prepared using source separated biodegradable wastes belonged to marketable grade and suitable for producing food crops. The use of wastes from food as well as paper production is another option to supply various nutrients but special care has to be taken in order not to transfer heavy metals or infectious material in the food chain. For those reasons the application of either agricultural or industrial wastes in most of the countries is strictly regulated by legislation.

## **Objectives**

This training will focus to enrich the knowledge as well as perception of the participants who are working in the field for sustainable production in low rainfall areas. The specific objectives are:-

1. Overview and fundamentals of waste management
2. Efficient use of various organic wastes for sustainable production
3. Advances in production and utilization of solid waste
4. Application of organic waste in enhancing soil health under low rainfall areas

## **Curriculum**

A series of lectures and practical demonstrations will cover overview, legislative issues and characterization of wastes, industrial overview of solid waste, its decomposition and effect on soil health for sustainable agriculture in low rainfall areas and related aspects.

## **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 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 28 November – 05 December, 2017 (both days inclusive). The participants are expected to arrive at ICAR-CAZRI, Jodhpur latest by evening of the 27 November, 2017 and can leave after 17:00 hrs on the 05 December, 2017.

## **TA/DA, Boarding and Lodging**

The food and accommodation will be arranged at CAZRI Scientist Hostel. The cost of traveling, boarding and lodging etc. of the selected participants will be met out of the grant from the Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, New Delhi. The participants will be reimbursed the to and fro travel fare for the journey to Jodhpur 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. Participants are requested not to bring family members with them, as the institute has limited hostel facilities.

## **About Jodhpur**

Jodhpur is known as the "Sun City" because of its bright and sunny weather throughout the year. Named after Rao Jodha, who established in 1459 it rose to be the second largest city of Rajasthan. Jodhpur city has many beautiful palaces and forts such as Mehrangarh Fort, Umaid Bhavan Palace and Rai ka Bag Palace. Other charms of Jodhpur include Jaswant Thada, Government Museum and its beautiful Umed and Mandore Gardens.

## **How to reach CAZRI**

Jodhpur is well connected through Rail and Bus transport and has links with all the major cities of India. The institute can be reached by hired or personal vehicle by road. Distance from major terminals of the city is:-

From Railway Station: 6 km

From State Roadways Bus Stand: 9 km

## **Important Dates**

**Last date for receipt of application (through proper channel) : 20 October, 2017**

**Confirmation of participants (by mail/fax) : 22 October, 2017**

**All correspondence should be addressed to**

**Dr. O.P. Yadav**

Director

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# Registration Form

## APPLICATION FORM FOR PARTICIPATION IN THE MODEL TRAINING COURSE “Waste Management for Sustainable Agriculture in Low Rainfall Areas”

(November 28 – December 05, 2017)

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

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

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

Date.....

Place.....

Signature of the participant

Recommendation of the forwarding Institution

Date.....

Place.....

Signature