



ICAR–Indian  
Agricultural Research  
Institute, New Delhi-  
110 012



**SUMMER SCHOOL**  
on  
**Waste to Wealth: Biocompost  
Production and Utilization  
Innovations in Organic Agriculture**  
(August 10–30, 2017)

**Sponsored by**  
Indian Council of Agricultural Research,  
New Delhi



**Course Director**

Dr. Shiva Dhar, Principal Scientist

**Course Coordinators**

Dr. Anil K. Choudhary, Sr. Scientist

Dr. Anchal Dass, Sr. Scientist

**DIVISION OF AGRONOMY**

ICAR–Indian Agricultural Research  
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**Background**

Food security, food quality, soil health sustainability and climate resilience are the key thrust areas for the advancement of agricultural research and development globally. Organic farming as well as application of organics in conventional agriculture are being looked upon as one of the strategies to meet the above priorities. At the same time, we are dependent enough on organic sources to meet out the nutritional requirement of our crops in addition to chemical fertilizer use to feed huge global population in general and India in particular. On the other, the chemical fertilizers are in short supply besides their high escalating prices and ill-effects on soil-plant-human-environment interface. Thus, we need to up-scale and scale-up the R & D capabilities to produce abundant organic sources of plant nutrients while using farm and livestock waste. In post-green revolution era, a huge amount of agricultural waste is produced in the country which needs to be scientifically disposed-off in an environment-friendly mode like conversion into valuable composting materials as organic source of plant nutrients.

At national level, great emphasis is being given on organic farming as well as integrated nutrient management strategies. But, meager research efforts have been made to generate sufficient amount of quality organic manures using advanced bio-composting technologies. At grassroot level, still we are using inefficient conventional composting methods which are producing low quality composts and causing environmental hazards. The BIOMASS UTILIZATION UNIT (BUU-IARI) of IARI, New Delhi is one of the pioneer unit of R & D on bio-composting technology, its utilization and capacity building under ICAR/NARES system. This unique IARI unit has developed and validated many microbe-mediated and farm-machinery driven bio-composting and utilization protocols in collaboration with different IARI Divisions and IIT, New Delhi as well, for the last 10 years. The BUU-IARI has the capability to up-scale and scale-up the bio-composting and utilization protocols at national level using capacity building programmes of ICAR and other national R & D organizations. In nutshell, this ICAR sponsored summer school capacity building program will be of immense importance to spread the BUU-IARI technologies to agrarian and rural India through

NARES scientific workforce using the specifically designed summer school entitled, “**Waste to wealth: Biocompost production and utilization innovations in organic agriculture**”.

**Objectives**

Capacity building and adoption of biocompost production and utilization innovations in organic agriculture is the need of the hour for quality production, soil health sustenance, agricultural resilience with minimal natural resource degradation etc. to achieve agricultural sustainability in holistic manner. The prime objectives of this training are: (i) to provide advanced training to NARES scientists on biocompost production technologies and their utilization under organic production systems and to improve their skills in the area of biocomposting research, and (ii) to provide a platform to discuss and exchange ideas/knowledge sharing among the academicians, scientists and experts/resource persons who have made notable contributions in this area.

**Course Content**

The course content will broadly cover the following topics: Prospects & potentials of organic wastes in India with reference to organic agriculture, principles and issues in organic farming, farm residue collection techniques, possible sources of bio-degradable wastes, extent and potential of recyclable agricultural wastes for meeting the nutrient demands in Indian agriculture, conventional composting techniques, recent advances in compost making, wind-row making and shredding of farm-wastes, low-cost biocomposting technologies for small and marginal farmers, farm machinery and equipments for collection, post-composting care and handling, packaging and transportation, microbial consortia for rapid decomposition, etc.

The skill upgradation on analytical techniques for chemical analysis of composted materials, anti-quality factors and heavy metal analysis using ICP facility and molecular analysis of microbial strains/populations in composted materials would also be done under this training. The impact of composted materials on soil carbon sequestration and eco-system services, status and scope of licensing and marketing of organic composts/manures in India and the utility of biocomposts in enhancing productivity and

resource-use efficiency of various organic production systems would be given the major emphasis in this training programme.

### Course duration

This summer school will be organized for 21 days w.e.f. August 10–30, 2017 at the Division of Agronomy, ICAR-IARI, New Delhi.

### Travel, Boarding and Lodging

The boarding, lodging, TA and DA expenses of the selected participants will be met from ICAR fund as per norms and operational guidelines for organization of Summer School. Participants will be paid to and fro fare for journey by train (II<sup>nd</sup> AC) or bus or other means of transport in vogue as the case may be. Actual TA will be paid on production of a certificate by the participants. The participants will be provided shared accommodation in the **Sindhu Scientists' Home** of the Institute.

### About IARI

Indian Agricultural Research Institute, popularly known as 'Pusa Institute', is the country's premier institution for research and higher education in the field of agricultural sciences. The primary mission of the Institute is to explore new frontiers of science and knowledge and develop human resources to provide leadership to the country in technology development and policy guidance. IARI conducts basic and strategic research, serves as a centre for academic excellence, and provides national leadership in agricultural research, education and extension through development of new concepts, hypotheses and technologies.

The Division of Agronomy is one of the oldest divisions of the IARI, and is engaged in teaching, research, extension and training. It has contributed significantly in developing improved production technologies which ushered green revolution in Indian agriculture. The division is pioneer in development of environmentally-sound and economically-viable agronomic technologies for sustainable high productivity of cropping systems involving cereals, pulses, oilseeds and vegetables.

### How to reach IARI

IARI is located at Pusa Campus in East Patel Nagar about 10 kms from 'Maharana Pratap-ISBT', 8 kms west of New Delhi Railway Station, and about 16 kms east of Indira Gandhi International Airport.

Pre-paid taxi/auto can be availed at railway/airport/bus stations to reach at IARI, Pusa Campus, New Delhi.

### Who can participate?

This Summer School is meant for active researchers / teachers/ Scientists in SAUs /ICAR Institutes in the field of Agronomy/Soil Science/Agricultural Microbiology/Horticulture/ Agroforestry/Silviculture/Agri. Engineering/ Animal Husbandry/Agricultural Extension or any other related disciplines. The total number of participants shall be strictly limited to 25.

### How to apply?

Application for participation in the Summer School may be made in the prescribed format as given herewith and forwarded by the competent authority of the SAU/ICAR Institute where the candidate is employed. Applicants may send an advance copy if they anticipate delay in forwarding through proper channel. However, the final selection will be made only if the application duly recommended by the competent authority is received, which must not be later than one week before the commencement of the training.

### Application form for Participation in Summer School

(To be sent to the Course Director of Summer School)

#### APPLICATION FORM

Institute \_\_\_\_\_ at \_\_\_\_\_.

1. Full name (in block letters):
2. Designation:
3. Present employer and address:
4. Address for correspondence (Give E-mail, Tel. / Mobile No.):
5. Permanent address:
6. Date of birth:
7. Sex:
8. Marital status:
9. (a)Teaching/research/professional experience (Mention posts held in last 5 years):  
(b) Present area of research and no. of publications:
10. Mention if you have participated in any Summer/ Winter School/Short Course etc. during previous years under ICAR/any other organization (Give details of course, organizers, duration/dates/year etc.):

Recent Photo

11. Registration fee of Rs. 50/- (DD/Postal Order No..... dated..... (in favour of Course Director) (Non-refundable)
12. Academic record (Indicate in tabular form examinations passed from B.Sc. degree onwards, Main subjects, Year of passing, Class/rank/distinction, University/ Institution, Other information):
13. Relevance of training to applicant's present academic and research activities:
14. Signature of applicant (indicate name of place and date):
15. Recommendation of the forwarding Institute (Signature with date, designation/address):

### CERTIFICATE

It is certified that the above information was furnished as per the office record and was found correct.

(Signature and Designation of sponsoring authority)

### Applications may be sent to:

**Dr. Shiva Dhar**  
**Course Director**

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ICAR-IARI, New Delhi-110 012  
Tel.: 011-25842902 (O)  
Mobile: 09868354933; 09650334583 (M)  
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### For further information please contact:

#### Course Coordinators:

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