

GAGRVAC01 - ORGANIC RESOURCES FOR SUSTAINABLE AGRICULTURE

OBJECTIVES:

- Students will gain knowledge about organic inputs for sustainable Agriculture.
- Students will be practiced to prepare liquid formulation like Panchakavya, Dasakavya and Amirthakaraisal etc., and get exposure on innovative organic farm products and certification.

COURSE OUTCOMES

- To understand information pertaining to organic inputs
- To develop sustainable indigenous farming practices
- Student will gain basic and practical knowledge on preparation of organic liquid formulations.
- Will become capable of doing marketing of products

THEORY

Unit I: Organic farming

Organic farming – introduction – concepts – status of organic farming in World and India – principles and practices for progressive organic cultivation – good health – zero hunger – Indigenous Technical Knowledge (ITK).

Unit II: Organic inputs

Organic inputs for higher yield in sustainable agriculture - bulky organic manures. life on land – types of compost – aerobic method – anaerobic, concentrated organic manures – green manuring – insitu – green leaf manure. climate action – biodiversity – crop rotation – crop residues – mulching – life below water – diatoms – spirulina – sea weeds

Unit III: Liquid organic inputs

Quality inputs responsible for soil health - organic liquid formulation – importance – innovation of on farm products - Panchagavya – Vermiwash – Amirthakaraisal – Fish amino acid – Beejamrit – Jeevamrit – Dasagavya – Amritpani – Sanjivak – Agniashtra – Neemashta – Brahmashtra – Kunjapala.

Unit IV: Biological source of nutrients

Bio intensive nutrient management – uses – nitrogen fixing microbes – Azospirillum – Rhizobium – Azatobacter – Blue green algae – Beijerinckia – Frankia.

Unit V: Organic certification

Organic certification – quality education in organic farming - purpose and process – systems in India – national programme – scope – operational structure – NSOP – responsible consumption and production. Current stream of thoughts.

PRACTICAL

Resource inventory of organic farm - soil sampling and analysis for organic carbon and pesticide residues/contaminants - raising of green manures crops and incorporation techniques – recycling of wastes - quantification of nutrients from organic sources and application of manures and bio-fertilizers – ITK's preparation and application – organic crop

production – visit to bio pesticide units, bio control agent units – production techniques – visit to organic farms and organic outlets – economics of organic crop cultivation.

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3. Palaniappan S.P. and K. Annadurai, 2018. Organic Farming-Theory and Practice, Scientific Publishers.
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E-RESOURCES.

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4. [http://nsdl.niscair.res.in/123456789/670Revised Organic farming.pdf](http://nsdl.niscair.res.in/123456789/670Revised%20Organic%20farming.pdf)
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