

# **Biofertilizer, Biofertiliser, Biogas, Organic Farming, Vermicompost, Vermiculture, Biotechnology**

[Handbook on Biogas and Its Applications \(from Waste & Renewable Resources with Engineering & Design Concepts\) \(2nd Revised Edition\)](#)

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI114

**Pages:** 384

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**Price:** Rs. 1,175.00 US\$ 125.00

Bio Gas typically refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Organic waste such as dead plant and animal material, animal dung, and kitchen waste can be converted into a gaseous fuel called Bio Gas. Bio Gas is basically a mixture of methane and carbon dioxide; it originates from biogenic material and is a type of bio fuel. It is a low cost form of energy derived from renewable waste resources: animal manures, agricultural residues, industrial wastewater, human waste and other organic materials. Bio Gas has been used widely as a source of energy and waste treatment, and as liquid fertiliser for soil enhancement, since long time. Digestion the underlying biological process of Bio Gas technology leads to a renewable energy service that ensures a distributed energy production, in which the energy is produced at the point of consumption or demand. A Bio Gas digester, which produces the Bio Gas, also provides an excellent agricultural waste management solution, most notably animal manures. Also, capturing methane generated in a Bio Gas digester has an immensely important role to play with respect to rural energisation, poverty alleviation and development, increased industrial and agricultural efficiency and competitiveness, and improved management of our greenhouse gas emissions. The major applications of Bio Gas are as fertilizer, fuel gas, methane production, mechanical and electrical power production, diesel engine operation, etc. Bio Gas technology is one of the fastest growing renewable energy sectors worldwide, with the annual market growth exceeding 30% each year. This book majorly deals with Bio Gas plants, raw materials for Bio Gas generation, utilization of Bio Gas and slurry, engineering design of Bio Gas units for developing countries, engineering aspects of small scale Bio Gas plants, a village scale Bio Gas pilot plant study using high rate digester technology, structural behaviour and stress conditions of fixed dome, simplified anaerobic digesters for animal waste, mechanical and electrical power from Bio Gas in developing countries, fuel gas production from organic wastes by low capital cost batch digestion, the toxicity effect of pesticides and herbicides on the anaerobic digestion process, the toxicity effect of pesticides and herbicides on the anaerobic digestion process, Bio Gas manure as a complete fertilizer, feasibility for Egyptian farmers etc. The book

contains technology of Bio Gas generation with its applications. This book will be an invaluable resource for researchers, consultants, entrepreneurs, institutional libraries, students etc.

# The Complete Technology Book on Biofertilizer and Organic Farming (2nd Revised Edition)

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI115

**Pages:** 608

**ISBN:** 9789381039076

**Price:** Rs. 1,400.00 US\$ 150.00

Biofertilizers are seen as an important alternative technology, since the negative externalities of chemical fertilizers have become well known. The use of the latter has led to considerable environmental cost. Biofertilizers do not pollute the soil and do not disrupt the ecological balance, and hence are environment friendly. An increasing number of farmers are using biofertilizers, and the numbers of biofertilizer manufacturing units have also grown considerably. Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (biofertilizers) to release nutrients to crops for increased sustainable production in an eco friendly pollution free environment. Organic farming has emerged as an important priority area globally in view of the growing demand for safe and healthy food and long term sustainability and concerns on environmental pollution associated with indiscriminate use of agrochemicals. Going organic may be a clear way of getting back to basics and getting away from the havoc chemicals can wreak on our health and our environment but the basics themselves may not be so clear. This book provides the view of immense potential of biofertilizers as a supplementary nutrient source for the crops and covers all major types of bacterial fertilizers. The major contents of this book is crop response to biofertilizers, nitrogen fixation, phosphate solubilising microorganisms, application and evaluation techniques, Bio Gas production, pest and disease management system in agriculture, production, promotion, quality control, marketing, future research planning, photographs and details of machineries, list of manufacturers and suppliers of biofertilizers and organic farming in directory section. This book will be of use and interest to consultants, researchers, libraries, entrepreneurs, manufacturers of biofertilizer and for those who wants to venture in to this field.

# [The Complete Technology Book on Vermiculture and Vermicompost](#)

**Author:** NPCS Board of Consultants and Engineers

**Format:** Paperback

**Book Code:** NI116

**Pages:** 354

**ISBN:** 9788178331362

**Price: Rs. 750.00 US\$ 100.00**

The production of degradable organic waste and its safe disposal have become the current global problem. The rejuvenation of degraded soils by protecting topsoil and sustainability of productive soils is a major concern at the international level. Vermicomposting is compatible process with sound environmental principles that value conservation of resources and sustainable practices. Vermicompost is known to be the world best organic fertilizer. Vermiculture is for vermicompost. Vermiculture means artificial rearing or cultivation of worms (Earthworms) and the technology is the scientific process of using them for the betterment of human beings. Vermiculture technology has improved the crop productivity by increasing soil fertility through ecological methods of farming. Vermiculture has been embraced throughout the world right from the developed countries to the developing countries. Vermicomposting is a panacea for solid waste management. It is a simple kindred process of composting, in which certain species of microorganism such as earthworms are used to enhance the process of waste conversion and produce a better end product. Earthworms serve as nature plowman to facilitate these functions. They form gift of nature to produce good humus, which is the most precious material to fulfill the nutritional needs of crops. The utilization of vermicompost results in several benefits to farmers, industries, environment and overall national economy. This contains experiments from the field, vermicomposting materials, earthworm life cycle, ecological types earthworms, role of earthworms, vermicomposting, advantages of vermiculture, vermiculture technology. This book majorly deals with advantages of vermicomposting, vermicomposting in daily life vermiculture v/s vermicomposting, earthworms: ecological types, physical and chemical effects of earthworms on soils, fertilizers use and deterioration of soil environment, vermicomposting materials, feeding vermicomposting materials, ideal conditions for life of earthworms, earthworms : their application in organic agriculture, maintenance of vermicomposting beds, vermicomposting : general procedures at agricultural farms vermicomposting : kiss plan, vermicomposting: a world scenario, soil fertility and texture, advantages of vermiculture, small scale or indoor vermicomposting, large scale or outdoor vermicomposting etc. This book is an invaluable resource for

readers, entrepreneurs, scientists, farmers, existing industries,  
technical institution, etc.

# Biopesticides Handbook



**Author:** NPCS Board of Consultants & Engineers

**Format:** Hardcover

**Book Code:** NI210

**Pages:** 544

**ISBN:** 9788178331133

**Price:** Rs. 1,575.00 **US\$** 150.00

Biopesticides are certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals. Agricultural pesticides, properly used, are essential in supplying the food requirements of the world ever growing population. The use of synthetic pesticides affects the health of human being. The indiscriminate use of pesticides has adversely affected the health of the soil. The residual pesticides in the soil not only affect the soil quality but also the water quality, as they get leached into the ground water. Due to these reasons, role of biopesticides are very important for sustainable agriculture. The use of biopesticides for sustainable agriculture is a complex issue that at times is difficult to comprehend and plan. Biopesticides are usually inherently less toxic than conventional pesticides. They generally affect only the target pest and closely related organisms, in contrast to broad spectrum, conventional pesticides that may affect organisms as different as birds, insects, and mammals. They often are effective in very small quantities and often decompose quickly, thereby resulting in lower exposures and largely avoiding the pollution problems caused by conventional pesticides. Biopesticides, key components of integrated pest management (IPM) programmes, are receiving much practical attention as a means to reduce the load of synthetic chemical products being used to control plant diseases. In most cropping systems, biological pesticides should not necessarily be viewed as wholesale replacements for chemical control of plant pests and diseases, but rather as a growing category of efficacious supplements that can be used as rotation agents to retard the onset of resistance to chemical pesticides and improve sustainability. In organic cropping systems, biopesticides can represent valuable tools that further supplement the rich collection of cultural practices that ensure against crop loss to diseases. Some of the examples of biopesticides are triazino benzimidazol, thiophene sar, pyrazoles, hydroxyacetophenones, benzoylphenylureas, thiadiazolo S triazine etc. It is observed that India occupies a comparatively better position in the arena of biopesticides; in terms of growth of usage, percentage share of the total pesticide market and also in research publications. The driving forces behind this progress are identified as huge research infrastructure (universities and bio control labs) and favourable public support system/policies. Subsequently, it delves on strategies to incorporate the promotion of biopesticides into rural development efforts like

recognition of the huge traditional knowledge base and use of biopesticides developed using indigenous technologies. Some of the fundamentals of the book are synthesis of triazino benzimidazol as 1 biopesticides, synthesis and pesticidal activities of thiadiazolo S triazine and imidazol, synthesis and antimicrobial activities of pyrazoles, effects of penconazole on plasma membrane, metabolism of diclofop methyl , bleaching herbicides stimulate maize HMGR activity, soil transformation of acetochlor, propanil degrading amidase activity, inhibition of BTX B binding by RH 3421, KDR type resistance in German cockroach etc. This is the first book of its kind which provides different parameters about biopesticides. The book will not only be resourceful for new entrepreneurs but will also help the technocrats, research scholars and those who willing to know more about biopesticides.

# The Complete Book on Organic Farming and Production of Organic Compost

**Author:** NPCS Board of Consultants & Engineers

**Format:** Hardcover

**Book Code:** NI213

**Pages:** 448

**ISBN:** 9788178331157

**Price:** Rs. 1,275.00 US\$ 125.00

India is an agro based country. It ranks 2nd in agricultural products manufacturing in the world. So organic farming plays an important role in agro field. India has many natural resources of various organic compounds and so it is an excellent opportunity to produce sufficient quantity of organic foods to meet the global demand. There is a bright future for organic farming to export its quality product. Organic farming is a form of agriculture that excludes the use of synthetic fertilizers and pesticides, plant growth regulators, livestock feed additives, and genetically modified organisms. This type of farming is not new to Indian farming community. Several forms of organic farming are being successfully practiced in diverse climate, particularly in rain fed, tribal, mountains and hill areas of the country. The popularity of organic farming is gradually increasing and now organic agriculture is practiced in almost all countries of the world, and its share of agricultural land and farms is growing. The present book contains the organic farming management, production and uses of various organic compounds, which are well known and also for agriculture for their worldwide use. Compost serves as a growing medium, or a porous, absorbent material that holds moisture and soluble minerals, providing the support and nutrients in which most plants will flourish. Use of organic manure is extremely essential for better crop productivity and maintaining the fertility of soil to ensure sustainable production. This book basically deals with Indian agriculture before the green revolution, characteristics of sustainable agriculture, essential characteristics of organic farming, objectives of organic and conventional farming, livestock and human wastes, organic farming in rice, important regulations for organic farming, production of organic compost, effect of organic fertilizers in pongamia pinnata, significance of azospirillum and pseudomonas on growth of elucine crocana, chemical composition of banana, effect of azospirillum and phosphate solubilizing culture on quality of sugarcane, industrial wastes as sources of plant nutrients, role of organic fertilizer in upland crop production etc. The book provides you with comprehensive information on organic farming and related methods of farming. The book aims to provide you with many other profitable information about the method of obtaining sustainable agricultural and organic farming.

# Manufacture of Biofertilizer and Organic Farming

**Author:** H. Panda

**Format:** Paperback

**Book Code:** NI239

**Pages:** 336

**ISBN:** 9788178331461

**Price:** Rs. 975.00 US\$ 100.00

With the introduction of green revolution technologies, the modern agriculture is getting more and more dependent upon the steady supply of synthetic inputs. Intensive agriculture with the use of chemical fertilizers in large amount has, no doubt, resulted in manifold increase in the productivity of farm commodities but the adverse effect of these chemicals are clearly visible on soil structure, micro flora, quality of water, food and fodder. At this critical juncture, biofertilizers are useful supplement to chemical fertilizers. Organic farming has emerged as the only answer to bring sustainability to agriculture and environment. Biofertilizers is also an ideal for practicing organic farming. Biofertilizers are the most advanced biotechnology necessary to support developing organic Agriculture, sustainable agriculture, green agriculture and non-pollution agriculture. Bio Fertilizer are natural and organic fertilizer that helps to keep in the soil with all the nutrients and live microorganisms required for the benefits of the plants. Today product like biofertilizers using the biotechnology techniques have proved that biological control is widely regarded as a desirable technique for controlling insects and pests, due to its minimal environmental impact and its avoidance of problems of resistance in the vectors and agricultural pests. The increasing demand for biofertilizers and the awareness among farmers and planters in the use of biofertilizers have paved way for the fertilizer manufacturers and new entrepreneurs to get into biofertilizers production. It is one of the important components of integrated nutrient management, as they are cost effective and renewable source of plant nutrients to supplement the chemical fertilizers for sustainable agriculture. This book gives a detailed process on manufacture of biofertilizers & organic farming. It contains chapters on biofertilizers, role of biofertilizer in crop production, production and distribution of biofertilizer, organic farming, method of organic farming, weed and pest management, and many more. This book will be very helpful to soil scientists, microbiologists, biologists, students, new entrepreneurs, fertilizer industry, organization engaged in biofertilizers production, training centres and to all those interested in the efficient use and recycling of wastes, resource management and sustainable farming.

# Integrated Organic Farming Handbook

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI248

**Pages:** 472

**ISBN:** 9788178331522

**Price:** Rs. 1,275.00 US\$ 125.00

Organic agriculture has grown out of the conscious efforts by inspired people to create the best possible relationship between the earth and men. After almost a century of neglect, organic agriculture is now finding place in the mainstream of development and shows great promise commercially, socially and environmentally. Integrated organic farming is a commonly and broadly used word to explain a more integrated approach to farming as compared to existing monoculture approaches. It refers to agricultural systems that integrate livestock and crop production and may sometimes be known as Integrated Bio systems. It denotes a holistic system of farming which optimizes productivity in a sustainable manner through creation of interdependent agri-eco systems where annual crop plants (e.g. wheat), perennial trees (e.g. horticulture) and animals (including fishes where relevant) are integrated on a given field or property. This concept of organic farming is based on following principles: 1. Nature is the best role model for farming, since it does not use any inputs nor demand unreasonable quantities of water. 2. The entire system is based on intimate understanding of nature's ways of replenishment. The system does not believe in mining of the soil of its nutrients and do not degrade it in any way. 3. The soil in this system is considered as a living entity 4. The soil's living population of microbes and other organisms are significant contributors to its fertility on a sustained basis and must be protected and nurtured, at all cost. 5. The total environment of the soil, from soil structure to soil cover is more important and must be preserved. Integrated Organic farming is a method of farming system, which primarily aims at cultivating the land and raising crops in such a way, so as to keep the soil alive and in good health. It is the use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials, mostly produced insitu- along with beneficial microbes (bio fertilizers) to release nutrients to crops, which connotes the 'organic' nature of organic farming. It is also termed as organic agriculture. In the Indian context it is also termed as 'Javik Krishi'. We have compiled all the relevant information regarding integrated organic farming in this book. This is first book of its kind which contains reliable details related to organic farming, green manuring, biological nitrogen fixation,



uses of vermiculture bio-tech, organic fertilizers for flooded rice ecosystem, biological pest management, press mud as plant growth promoters, bio fertilizer for multipurpose tree species, rice- fish integration, response of crops to organic fertilizer and many more. The book is very useful for farmers, agriculture, universities, consultants and research scholars.

# [The Complete Book on Biological Waste Treatment and their Utilization](#)

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI251

**Pages:** 504

**ISBN:** 9789381039236

**Price:** Rs. 1,675.00 US\$ 150.00

The organic waste stream is composed of waste of a biological origin such as paper and cardboard, food, green and garden waste, animal waste and biosolids and sludges. Organic waste is usually generated as a component of most waste streams. For information on the treatments for managing organic wastes click on the links to the right. Four significant components of this organic, biodegradable stream are from food preparation, agricultural production, livestock manures, and municipal sewage sludge. Organic waste from food sources includes vegetables, fruits, grains, meats, fish, dairy products, etc., and constitutes some 18% of the typical municipal organic waste stream. An average of 1 kg per person per day of organic waste is produced, originating from households, wholesalers & processors, restaurants, and institutions. Urban centers are the major generators of organic food waste. Agricultural waste includes waste made up of those materials such as manure and animal output, in either solid or liquid form from poultry or other livestock operations. It also includes harvest remains from grain, oilseed, vegetable, and orchard crops. Increase in biological waste has led to the increase in biological waste management technology. Waste management is the collection, transport, processing or disposal, managing and monitoring of waste materials. The book includes organic waste for biological treatment, organic waste forms and treatment strategies, transformation of liquid manure into a solid, modeling of agricultural waste treatments, utilization of Indian waste in livestock feeds etc. This book also explains the different types of organic wastes like waste from tomato, jute, cotton, agro-industries, dehydration process of onion, piggeries, poultry, milk parlour etc. This book describes the methods how organic waste can be converted into useful products like oxalic acid, oxytetracycline, humic acids etc. The book is highly recommended to new entrepreneurs, existing units who wants to get more information of organic waste treatment.

## [Handbook on Organic Farming and Processing](#)

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI255

**Pages:** 400

**ISBN:** 9788178331546

**Price:** Rs. 1,275.00 US\$ 125.00

India is an agro based country. So organic farming plays an important role in agro field. The popularity of organic farming is gradually increasing and now organic agriculture is practiced in almost all countries of the world, and its share of agricultural land and farms is growing. As the organic food market continues to expand, so do the opportunities for small farmers. Organic farming has emerged as the only answer to bring sustainability to agriculture and environment. This handbook is a comprehensive guide to growing, certifying, and marketing organic produce. Organic farming is not only a philosophy, but also a well-researched science that combines soil fertility, plant pathology and other biological and environmental sciences. The major contents of this book are Sustainable Agriculture, National Programme on organic farming, Integration with organics and biofertilizers, Bulky organic manures and crop residues, Manuring on sight, Manuring potentials, Green Manuring, Production and promotion of organic fertilizers, Vermi composting, Response of crops to organic fertilizers, Phosphate solubilizing, *Bacillus thuringiensis*, Crop residue management, Integrated nutrient management towards sustainable agriculture, Integrated farming system, Mechanism of nitrogen fixation, Economics and marketing of organic farming. As we have seen, the booming development taking place in organic farming and marketing offers many opportunities. We will be able to go on contributing to the establishment of organic production systems and this could lead to changes in life style and consumption patterns that will reach far beyond food and nutrition. This book will be very helpful to soil scientists, microbiologists, biologists, students, new entrepreneurs, fertilizer industries, training centers and to all those interested in efficient use and sustainable farming.

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[Directory / Database of Corporate/Leading Companies in Indian Fertilizer Industries \(Chemical and Bio\) with Financial Figures \(5th Edition\) \[.xlsx, excel format\]](#)

**Format:** CD-Rom

**Book Code:** NID176

**Price: Rs. 6,490.00 US\$ 225.00**

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Turnover Ratios) (\*Wherever available) Note: All Records does not contain all fields of information. However, maximum information has been incorporated. Format: MS Excel, .xlsx

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