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Review On Organic Farming For Medicinal And Aromatic Plants.

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Abstract

Organic farming not only fulfill the good food conditions but also provides healthy life to consumers. Organic husbandry minimize all forms of pollution. It's free from all dangerous chemicals, Fungicides etc. Health is the most important aspect of living systems. Organic husbandry should sustain and enhance the health of factory, creatures, humans and soil. ultramodern husbandry involves the use of dangerous chemicals like synthetic chemical diseases and Fungicides which isn't only causes the poisonous goods on mortal health but also affects soil fertility and terrain. Organic husbandry is terrain friendly and produces high- quality food and also maintains long term fertility of soil. [1]

Organic farming enhances soil organic carbon, available phosphorus content and microbial population/ enzymatic exertion of soil and therefore making it sustainable for organic crop product. operation of different organic emendations in combinations and in a accretive manner can supply the nutrient demand of organic medicinal shops cropping system. The used main weed control strategies in organic cropping system is frequently the combination of artistic or husbandry ways with direct mechanical and thermal styles. Pests are generally not a significant problem in organic system, since healthy shops living in good soil with the balanced nutrition are more suitable to repel against pest and complaint attacks. still, marketable product of bio fungicides containing different bacteria, fungi and contagions has been accepted to control certain insects, pests and conditions in organic crop product systems. Owing to positive influence of organic factors in medicinal shops cropping system, it's thus, be assumed that those growers who espoused organic operation practices, have set up a way to ameliorate the quality of their soil, or at least stemmed the deterioration icing productive capacity for unborn generations. From this review, specialized aspects of medicinal shops organic husbandry shows ultramodern conception and environmentally friendly. By these ways, the profitable aspects in the agrarian sector are being better. [2]

Key words: Organic farming, long term soil fertility, free of dangerous fertilizers and chemicals.

Introduction

Organic farming is a product system, which avoids or largely excludes the use of synthetic compounded chemicals, fungicides, growth controllers and beast feed complements. To the maximum extent doable, organic husbandry system calculate upon crop gyration, crop remainders, beast coprolites, Legumes, green ordure, off- ranch organic waste, mechanical civilization, mineral- bearing jewels and aspects of natural pest control to maintain soil productivity, to supply factory nutrients, and to control insects, weeds and other pests.

According to World Health Organization(WHO) further than one billion people calculate on herbal drugs to some extent. The WHO has listed 21,000 Plants that have reported medicinal uses around the world. India is a rich country in terms of medicinal Plants foliage of some 2500 species. Among them, 2000 to 2300 species are used in traditional drugs, while about 150 species are used commercially on a fairly large scale. India and Brazil are the largest exporters of medicinal Plants in world request. Medicinal Plants in India are estimated to be worthRs. 550 crores. India has a wealth of 2500 sweet Plants among the 20,000 species being in the world. Ayurvedic ethical phrasings contribute the remain. Medicinal and sweet Plants have a high request eventuality with the world demand of herbal products growing of the rate of 7 per cent annum.[3]

Organic Farming systems have attracted adding attention over the last one decade because they're perceived to offer some results to the problems presently besetting the farming sector. Organic husbandry has the implicit to give benefits in terms of environmental protection, conservation ofnon-renewable coffers and bettered food quality. Organic husbandry is a societal need; it isn't only from the consumer " s perspective but also from a planter point of view. For the metamorphosis of pastoral husbandry into a well sustainable husbandry, organic husbandry might come a nostrum which can make a plinth for sustainable husbandry and repay conversion cost and maintain the sustainability of soil.[15]

Medicinal and aromatic plants and their uses

In the Indian environment, medicinal Plants can be considerably defined as" Plants whose products similar as roots, stem, bark, leaves, flowers, fruits and seeds either collectively or inclusively or chemical substances concluded from these Part are used in different systems of drug like Allopathy, Ayurveda, Siddha, Unani, Homeopathy, Herbo- mineral, Folkloreetc.specially for their restorative parcels". still, in the environment of globalization, medicinal Plants are defined as" all advanced Plants that have been contended to have medicinal parcels i.e. goods that relate to health or which have been proven to be useful as medicines by western norms or which contain ingredients that are used in medicines" or as" those that are generally used in treating and precluding specific affections and conditions, and that are generally considered to play a salutary part in health care". sweet Plants are defined as" shops enjoying odoriferous and brume unpredictable substances being as essential canvases , goo exudates, balsam and oleoresin in one or further Part similar as roots, dinghy, heartwood, leafage, flowers, fruits, seedsetc." [4]

Relationship between organic farming systems and medicinal & aromatic plants

Organic farming has grown the elegant possible relationship between the earth and natural being. Soil organic matter content is the direct measure of soil fertility. Organic husbandry system emphasise on the use of organic matters for maintaining soil health, growth and addition of salutary microbes and minimizing health hazards associated with food. Medicinal and sweet crops have great demand in ultramodern civilization to prize colorful natural products for mortal weal. It's gained global significance and are sought after by pharmaceutical companies and flavour and scent diligence each over the world. The physical and chemical parcels(quality) of the emulsion uprooted from the organically grown medicinal and sweet crop shops are superior as compared to traditional system. But designing an organic husbandry system to tie together principles of sustainability and productivity is complex in these crops. Organic growers must consider how the colorful factors of their system- reels, pest and weed operation and soil health- will maintain both productivity and profitability. Although practices vary from ranch to ranch and region to region, at the core of any successful periodic organic husbandry system is the crop gyration. Enhance soil conservation and make soil organic matter, give weed, complaint and nonentity control, enhance water quality and conservation, natural diversity and wildlife niche and insure profitable profitability for the husbandry system. As the main operation tool for all aspects of the husbandry system- including weeds, pests, insects, soils, and crop product- a well- planned gyration is further than the sum of its region, addressing the connections between all of those factors. Along with developing a successful gyration, securing healthy soil is imperative to a profitable and successful organic system. [5]



Table 1. Important Medicinal plants and their uses

Local name	Botanical name	Part used	Used to cure
Neem	<i>Azadirachta indica</i>	Root, bark, flower	Arthritis, bronchitis, cough, diabetes
Ashok	<i>Saraca asoca</i>	Bark Flower	Menstrual Pain, uterine disorder, diabetes.
Kalonji	<i>Nigella sativa</i>	Seeds	Diarrhoea, dysentery
Tulsi	<i>Ocimum sanctum</i>	Leaves	Antiallergic, antidiabetic
Brahmi	<i>Bacopa monnieri</i>	Whole plant	Nervous, memory enhancer, mental disorder.
Dhatura	<i>Dhatura stramonium</i>	Leaves and fruits	Asthma, cardiac pains
Sandal Wood	<i>Santalum album</i>	Heart wood, oil	Skin disorder, burning sensation, jaundice, and cough.
Khajoor	<i>Phoenix dactylifera</i>	Fruit	Genito-urinary ailments, diarrhea
Satavari	<i>Asparagus racemosus</i>	Tuber, root	Enhance lactation, general weakness, fatigue, and cough.
Anar	<i>Punica granatum</i>	Seeds, flowers	Syphilis, bronchitis, stomachic
Paiya	<i>Prunus cerasoides</i>	Bark, fruit	Antipyretic, leprosy
Methi	<i>Trigonella foenum</i>	Seeds	Constipation, diabetes
Peepal	<i>Ficus religiosa</i>	Bark, leaves, fruit, seeds, latex	Skin diseases, neuralgia, constipation and gynecological disease
Ajwain	<i>Thymus vulgaris</i>	Seeds	Antiseptic, antispasmodic
Amla	<i>Embolica officinalis</i>	Fruit	Vitamin -C, cough, diabetes, cold, laxative, hyperacidity

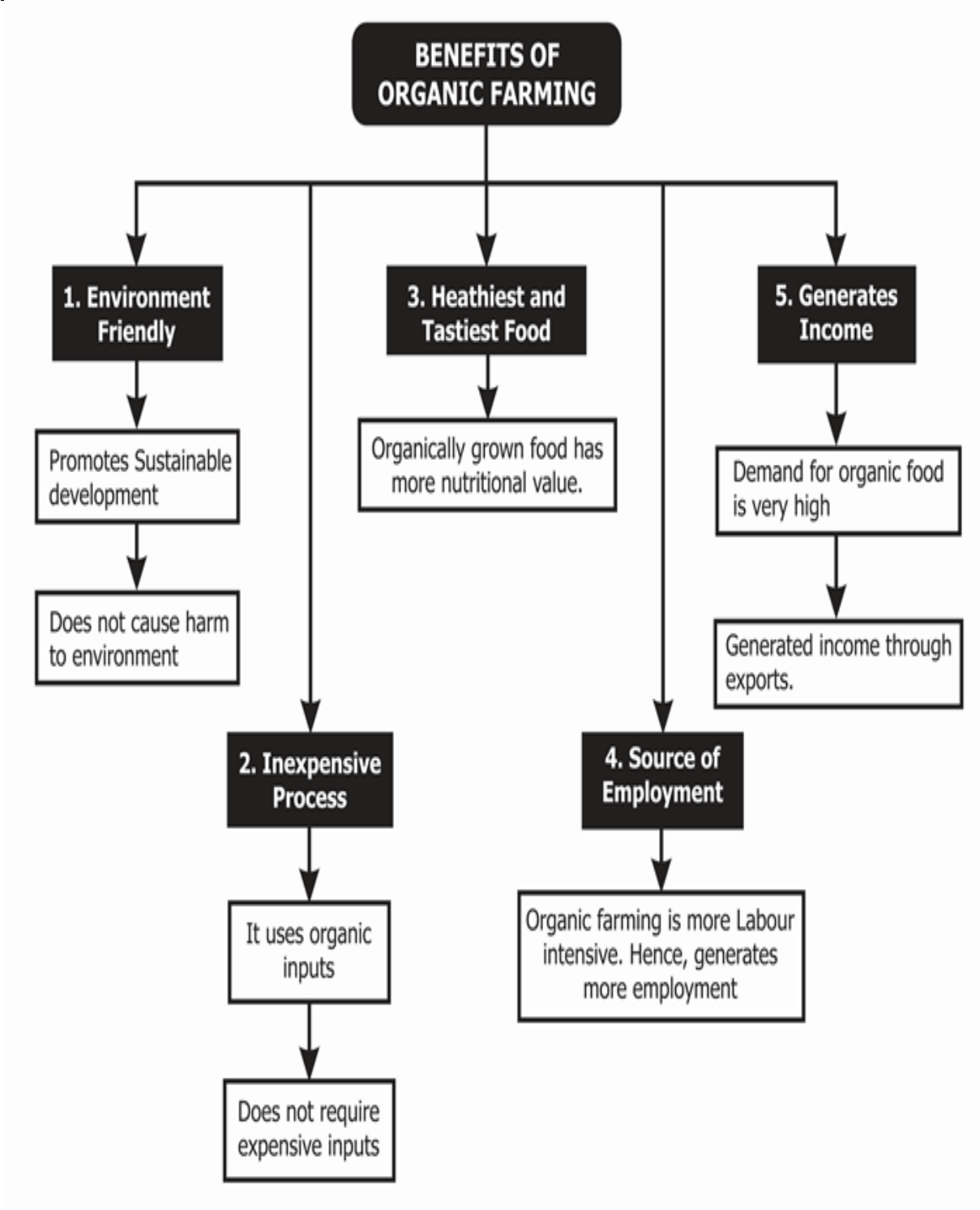
Table 2. Important aromatic plants and their major chemical compounds

Crop	Scientific name	Useful part	Major compounds
Patchouli	<i>Pogostemon patchouli</i>	Leaves	Patchoulol
Citronella	<i>Cymbopogon winterianus</i>	Leaves	Citronellal, citronellol, geraniol
Lemongrass	<i>Cymbopogon flexuosus</i>	Leaves	Citral a, citral b
Davana	<i>Artemisia pallens</i>	Herb	Davanone
Palmarosa	<i>Cymbopogon Martinii var. motia</i>	Herb	Geraniol, geranyl acetate
Vetiver	<i>Vetiveria zizanioides</i>	Roots	Vetiverol
Lemon-scented gum	<i>Eucalyptus citriodora</i>	Leaves	Citronellal, isopulegol
Rose-scented geranium	<i>Polargonium species</i>	Herb	Geraniol, citronellol
Rosemary	<i>Rosemarinus officinalis</i>	Herb	1,8- Cineole
Menthol mint	<i>Mentha arvensis</i>	Herb	Menthol
Sweet basil	<i>Ocimum basilicum</i>	Herb	Linalool
Sacred basil	<i>Ocimum sanctum</i>	Herb	Eugenol/ methyl eugenol
North Indian basil	<i>Ocimum basilicum</i>	Herb	Methyl chavicol

NECESSITY OF ORGANIC FARMING IN MEDICINAL AND AROMATIC PLANTS

India is a global leader in the product of medicinal and sweet Plants. The National Medicinal Plants Board and the Food and Agriculture Organization recommended that all the medicinal and sweet Plants to be cultivated organically. Organically grown medicinal and sweet products aren't only readily respectable in global request but also cost decoration prices than those grown with conventional husbandry. For illustration, during March, 2006 the rate of organically grown Psyllium(Plantago ovata) cocoon was further than six times advanced than the sick/ conventional yield. still, organically produce senna(Cassia angustifolia) splint rate was roughly double over the conventional. also, organically produced senna(Cassia angustifolia) capsules rated roughly 40 advanced over conventional. Hence the unborn global request is bright for organically grown products. thus, it's essential that India has to initiate pace to move from chemical or conventional husbandry to organic husbandry in the medicinal and sweet Plants sector. Grounded on the ecological significance of medicinal and sweet Plants, these are veritably specific for soil, water and climatic demand. To introduce in new areas, the soil should have perceptible quantum of organic matter, which can give buffer action in the soil so that Plants can repel correctly else veritably small volume of individual ion present in the soil and in irrigation water may leaves adverse impact on Plants growth. [3]





MAJOR COMPONENTS OF ORGANIC FARMING IMPLYING TO MEDICINAL AND AROMATIC PLANTS

The major factors are Green sewage and farmland waste, megacity and ranch waste compost, vermicompost and vermi-marshland, crop residue operation, cover crops and mulching, concentrated coprolites (oil gallettes, meat and blood, fish, cornucopia and hoof messetc.), microbial diseases and crop revolutions and crop operation. All the below soil inputs are major source of organic matter, which provides the guck in the soil after corruption. [3]

Composts and vermicomposts

A pot trial was conducted to test the growth of 9 Plant species of medicinal value (Andrographis paniculata, Abelmoschus moschatus, Plumbago zeylanica, Psoralea corylifolia, Plantago ovata, Ruta graveolens, Solanum xanthocarpum, Withania somnifera and Hyoscyamus niger) on cadaverous (demoralized) soil of Madhya Pradesh, India and it has been concluded that during recuperation/afforestation of cadaverous and analogous demoralized lands low in organic matter and nutrients, compost should be mixed in the face soil in 12 proportion before sowing. Intercropped with coconut were treated with FYM (24 and 32 t ha⁻¹), composted coir pith (CCP, 29 and 39 t ha⁻¹), vermicompost (VC, 21 and 28 t ha⁻¹), 20 t FYM ha⁻¹ 505050 kg NPK ha⁻¹, NPK alone and control. Used organic and inorganic sources of toxin on performance of Aloe vera at Kharagpur, India. They set up N and K diseases significant increase in natural and gel yields, Plant height, number of leaves per Plant and chlorophyll content with operation of toxin as compared to no toxin treatment. Still, vermicompost and vermin-marshland was set up to be effective and similar with inorganic source of toxin in adding content of gel, humidity, gel ash and aloin. In turmeric (Curcuma longa), operation of vermicompost enhanced the fresh and dry weight of rhizomes and the impact was advanced when it applied along with N, P and K toxin than in insulation.

Response of biofertilizers

Some of the microbes are useful as a natural nitrogen obsession. These are two types Symbiotic nitrogen fixer like – Rhizobium spp., Non symbiotic nitrogen fixer like – Azotobacter, Azospirillum, Clostridium, blue green algae and Azolla. Tricalcium phosphate which is water unsolvable and it could be solubilized by phospho-bacteria. Bacillus siliceus degrades silicate minerals and make K available to plants. Some other microbes affect the solubility of boron, sulfur, iron etc. and make them available to the crops. In the rhizosphere soil of 25 medicinal and 20 sweet plants, palmarosa had loftiest Azotobacter population, whereas Rauvolfia serpentina and Plantago ovata set up smallest population. The Datura stramonium invested contemporaneously with Azotobacter, Azospirillum and AM fungi enhanced the dry matter accumulation and alkaloid content. Azospirillum seed treatment enhanced root growth and weight, which lead to increased product of dry splint, cover and overall dry matter product of senna (Cassia angustifolia)

Green manure and farmyard manures

The green manuring crops are important where sufficient water is available for raising them. Green manuring crops are generally leguminous crops helps in tapping of atmospheric nitrogen and restore nitrogen in soil and also enhance the accessibility of other nutrients. The nutrients lying beneath the exterior soil are also come out on the face and employed by the crop. Maximum of the trials conducted on organic coprolites are with integrated nutrient operation in response to medicinal and sweet shops. Safed musli (Chlorophytum borivilianum) responded well with sole operation of 10-15 t ha⁻¹ of FYM with respect

to root yield. The macro and micro nutrients uptake by safed musli as well as soil parcels also bettered due to operation of 10- 15t FYM. attained advanced yield with cropland ordure alone or in combination with inorganic diseases in cardamom.

Control of pests and diseases

maximum of the medicinal Plants are consumed directly or used in the medications of varied phrasings in traditional system of drug(Ayurveda, Siddh and Unani) and some of the active principles are uprooted or insulated for the medication of allopathic medicine. thus, control of pests and conditions in medicinal and sweet Plants has to be taken seriously to avoid the adverse impact of fungicide remainders or other chemicals. In general, medicinal and sweet Plants are veritably resistant to pests and conditions.

still, organic husbandry is tone sustaining system provides the natural strength in Plants to avoid, tolerate and repel against the complaint and pests, reason being the medicinal and sweet Plants have wide rigidity. still, under conventional husbandry, the control of these pests and conditions should be inferring the principles of organic husbandry to avoid above mentioned consequences. [3]

Conclusion

Medicinal and sweet Plants perform better in terms of yield and quality under organic husbandry system. At present the imbalanced operation of the chemical toxin caused diminishments in quality of the products not only inferior but also by residual effect leads to enter the food chain and trouble to mortal health and other brutes. But the organic coprolites along with enhancement in the yield and also controls weeds and give the organic matter and nutrients to the soil, eventually ameliorate the soil health. still, switching over from ultramodern husbandry to organic husbandry in Indian perspective is not so doable at present. numerous of the studies were carried out with biofertilizers in pot culture and organic or biopesticides tested in the laboratory. These need to be verified at field position in natural terrain for the similar results. It has been provoked that quality of medicinal and sweet shops deteriorates with chemical diseases. thus, supposition in medicinal and sweet shops grounded on other crops may not be proved. utmost of the medicinal and sweet crop response with coprolites and diseases isn't on soil test base. thus, results aren't similar with varied sites, and occasionally it misled for recommendations of coprolites boluses and that has to be taken care with proven data. [5]

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