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Organic Farming of Some Valuable Medicinal Plants

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Abstract: *The excess use of chemical fertilizers and biopesticides creates various side effects on human body. To overcome this condition people moving towards organic food. In pandemic all over the world high demand on organic medicinal plants has increased. Organic farming increases soil organic carbon, phosphorus content and microbial population of soil. In present study, different organic amendment scan supply the nutrient requirement to selected medicinal plants. Organic farming shows great influence on medicinal plant. Therefore, it helps to farmers who adopted the organic management practice have a way to improve soil quality and capacity for next generation. From this research paper, technical aspects of cultivation of medicinal plants shows safer way for sustainability. By these ways, it helps to improve economic aspects in the agricultural.*

Keywords: Organic farming, medicinal plants.

I. INTRODUCTION

Chemical farming created much serious problems for soil, environment and human health. There is a path of organic farming which create integrated, humane, environmentally and economically sustainable agricultural production systems, which increase reliance on farm-derived renewable resources and the management of ecological and biological processes and interactions, are provided acceptable level of crop, livestock and human nutrition, protection from pests and diseases and an appropriate return to the human and other resources. (Lampkin, 1990;Neuerburg and Padel, 1992)

In India, after green revolution modern agriculture move towards uses of fertilizer, insecticide, pesticide and farm operation with heavy machinery. The excess use of fertilizer started creating environmental problems such as enrichment of nitrate in underground water (Aishwath, 2005), pesticides contamination in underground water and soil erosion etc. In pandemic people also perceived that organically grown food is good as that of produced with fertilizers. These problems and issues create the attention to the scientific community of various fields for produced organic agricultural products. During last few years, the global market for organic food was increased about US $ 26 billion in 2003 and estimated to reach up to 102 billion by the 2020. India's share in this market for organic food was 0.76%(Anonymous, 2004).

According to World Health Organization (WHO) more than one billion people used herbal medicines. The WHO has reported 21,000 plants that have reported medicinal uses around the world. India is a rich country in terms of medicinal plants flora. while some species are used commercially on a fairly large scale. India and Brazil are the largest exporters of medicinal plants in world market. In India, medicinal plants are estimated to be worth Rs. 550 crores. Organic cultivation of medicinal and aromatic plants has an excellent global market and India can exploit this market and takes its advantage (Rajeswara Rao and Rajput,2005). Results on application of organic manures on medicinal plants revealed that enhancement of yield and markets.

II. METHODOLOGY

Whole plant or individual plant part such as root, stem, leaves, bark, flower, fruits, seeds etc. or the chemicals derived from these parts are used in different system of medicines (Allopathy, Ayurveda, Homeopathy, Siddha, Unani, Herbomineral, Folklore etc.) to cure the disease. In present study, some medicinal plants like *Aloe babadensis, Bacopa monnieri, Catharanthus roseus and Lawsoniainermis* are cultivated under normal soil and soil with organic manure. The experiment set in three plots and mean values put in results. The present work carried out in campus of AIJ degree college of science Murud-Janjira.

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III. Literature Review

Medicinal plants are a valuable source of biomolecules with therapeutic potential and as a lead to develop new drugs. India is a gold mine of medicinal plants and a rich repository of traditional medicinal knowledge. Organic cultivation is an attitude or behavior of the farmer in implementing farming system by Concerning the ecological balance, by utilizing natural and organic ingredients and without using chemical fertilizer. Trisilawati*et al.* (2019) studied on organic cultivation of medicinal crops in the efforts to support the sustainable availability of Jamu raw material. They concluded that organic medicinal plant cultivation can play a role in supporting the sustainable supply and efficacious of Jamu raw materials, improving public health and the environmental safety. Blum *et al* studied improvement of seed quality of medicinal plants and herbs in organic farming. They noticed the physical and biological methods of seed treatment for medicinal plants cultivation. Victoria and Mariaselvam (2004) discussed the importance of growing medicinal plants in organic farming systems, The domestic and commercial uses, the water, soil and weather requirements for growth and the methods of propagation of different medicinal plant are provided.

IV. Result And Discussion

Organically grown medicinal products are not only readily acceptable in global market but also fetch premium prices than those grown with conventional farming. Hence the future global market is bright for organically grown products. Therefore, it is essential that India has to initiate pace to move from chemical or conventional farming to organic farming in the medicinal and aromatic plant sector. Based on the ecological significance of medicinal plants, these are very specific for soil, water and climatic requirement. In present study four medicinal plant selected for this experiment.

Table 1: Some important medicinal plants with their useful part and medicinal uses

Scientific name	Common name	Useful parts	Uses
Aloe babadensis	Aloe vera	Leaves	cosmetics, purgative,vermifuge
Bacopa monnieri	Bacopa	whole plant	improves memory
Catharanthus roseus	periwinkle	leaves, roots	anti-cancer, hypotensive
Lawsoniainermis	Mehendi	leaves	Antidermatophytic properties, anticancer, wound healing

The effect of organic manure on growth of medicinal plant mention in table 2. The parameter such as plant height and number of plant branches are counted. Selected medicinal plant shows remarkably difference in growth.

Table 2: Effect of organic manure on growth of medicinal plant.

Scientific name	Plant height		No. of branches	
	Normal soil (cm)	Soil with organic manure	Normal soil	Soil with organic manure
Aloe babadensis	27	34	6	8
Bacopa monnieri	15	17	8	12
Catharanthus roseus	36	40	3	6
Lawsoniainermis	50	55	4	7

Organic farming has grown the best possible relationship between the earth and human being. Soil organic matter content is the direct measure of soil fertility. Organic farming system includes the use of organic matters for maintaining soil health, growth and multiplication of beneficial microbes. It helps minimizing health hazards associated with food. Medicinal crops have great demand in modern civilization to extract various natural products for human welfare. It's gained global significance and are sought after by pharmaceutical companies and flavour and fragrance industries all over the world. The physical and chemical properties (quality) of the compound extracted from the organically grown medicinal plants are superior as compared to traditional system. But designing an organic farming system to tie together principles of sustainability and productivity is complex in these crops. Organic farmers will maintain both productivity and profitability. This practice helps to ensure economic profitability for the farming system. Organic agriculture builds on the idea of the efficient use of locally available resources as well as the usage of adapted technologies. It is best promising option for sustainable agricultural intensification in the tropics, as it may offer several potential benefits (Watson et al., 2008). It helps to strengthened self-confidence and autonomy of farmers.

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V. CONCLUSION

Medicinal plants perform better in terms of yield and quality under organic farming system. At present the imbalanced application of the chemical fertilizer caused decreases in quality of the products not only inferior but also in residual effect leads to enter the food chain and threat to human health and other creatures. But the organic manures along with improvement in the yield and also controls weeds and provide the organic matter and nutrients to the soil, ultimately improve the soil health. However, switching over from modern farming to organic farming in Indian perspective is not so feasible at present.

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