

Quality guidelines proposed by WHO for the cultivation of medicinal plants

Shinde S. N.¹, Manisha Gurme^{2*}, S. D. Dhavle³

¹Department of Botany, RSM, Latur-413512, Maharashtra, INDIA.

²Department of Botany, Azad M. Ausa, Dist. Latur, Maharashtra, INDIA.

³Department of Botany, ASM, Mukhed-431715, Maharashtra, INDIA.

Email: manishagurme@gmail.com

Abstract

Plants, whether wild or domesticated are fundamental components of ecosystem on earth. Human economics are highly dependent on the plants for supplies of resources such as food, fire, housing, construction materials, fuel and medicinal purposes. Therefore present study deals with how such medicinally important plants are cultivated properly that should create new dimension in the field of Agriculture.

Key Words: Medicinal plants, cultivation practices.

*Address for Correspondence:

Dr. Manisha Gurme, Department of Botany, Azad M. Ausa, Dist. Latur, Maharashtra, INDIA.

Email: manishagurme@gmail.com

Access this article online

Quick Response Code:



Website:

www.statperson.com

Accessed Date:
10 March 2018

INTRODUCTION

Natural environment has been a source of medicinal plants for thousands of years, since healing with plants dates back. About 80% of world's population depends mainly on traditional medicines for their primary health care, while remaining 20% is contributed by medicinal plants. Medicinal plants play important role in the life of people and are present in innumerable forms. In Indian traditions, all the plants on this earth are considered as medicinal. Because of the increased use of herbal medicine worldwide and herbal products make the global market for their use globally, the quality and safety of medicinal plants have become a major concern for health authorities. These play important role in disease management and livelihoods of people worldwide. Therefore traditional systems of medicine and in particular herbal medicines have increased in both developed and developing countries. The plant based

medicines are having great importance and huge demand in the global markets in the past few decades. Apart from this demand, the supply of good quality raw drugs is poor due to plant biodiversity. This has led to destruction of the medicinal herbs. Thus there is an immediate need to adapt proper techniques of plant cultivation practices for the propagation of high grade herbal products. The factors like climate, fertile land, disease management, timely harvesting, post-harvest storage and transport of plant materials have major role in plant production of excellent quality. Hence this practices for better yield of raw drugs. World Health Organization ((WHO) meeting was held at Ottawa, Canada on 20th and 21th July 2001 on Methodologies for quality control of Finished herbal products which reviewed the entire process of production of herbal medicines from raw materials to finished herbal products. In this meeting, it was recommended by WHO that the priority to the development of globally applicable guidelines to promote the safety and quality of medicinal plant materials. Thus WHO has developed a series of technical guidelines for the cultivation of medicinal plants having good agricultural practices.¹

AIMS AND OBJECTIVE

For obtaining medicinal plant materials of good quality for the production of herbal products, WHO suggest guidelines on good agricultural and collection practices (GACP) for medicinal plants. It includes cultivation and collection of medicinal plants, including certain post-

harvest operations. Some of the main objectives of these guidelines are:

1. Contribute the production of quality medicinal plant materials used as the source for herbal medicines.
2. Guide the formulation of national and regional GACP guidelines for medicinal plants and related standard operating procedures and
3. To encourage and support the sustainable cultivation and collection of medicinal plants of good quality.^[2]

Taking these objectives into consideration, following are the some of guidelines proposed by WHO for the identification, cultivation, harvest management, post harvest processing, storage and transport of medicinal plant material.

Identification of medicinal plants: The selected medicinal plants should be classified depending upon the standard system of botanical classification. If the selected plant is unknown or newly introduced, its identification is to be documented. The identification of the plant is done in the following order: genus, species, subspecies, author-who discover the plant, family, local name and English common name.

Cultivation: The climatic conditions, the selection of land, soil preparation, seed and propagation material, manual application, irrigation are some of the factors affecting the cultivation of medicinal plants.¹

Climatic conditions: The critical length of day that is the time between sunrise and sunset, the annual rainfall, temperature and humidity has the influence over plants.

Selection of land: For the selection of land the considerations are: To know the history of field, to access the fertility of soil, check the availability of water source. There is no chemical contamination of land. The soil/water/air pollution have minimum and then suggest the land where the plant is to be grown.³

Preparation of soil: It plays very important role in the cultivation of plants. The type of soil and PH, moisture, nutrients, microbes and drainage of soil are essential factors for the growth of plant.

Manure application: Any organic substance obtained by decomposition of animal waste and plant residue is a manure.⁴ The manure application is done which shows the date, origin, amount, name of the producer and type of treatment.

Seed and propagation material: The seed free from any disease or contamination should be selected. The seed material should be resistant to biotic or abiotic factors. The supplier of seed should provide necessary

information such as- identity, quality and breeding history of the material. The seed should adapt to the soil. Documentation of propagation includes- method of propagation, date of propagation, distance between rows, distance between plants, and number of plants per unit area.

Irrigation practices: The irrigation means an artificial application of water to land or soil. While irrigating, irrigation method, source of water, season duration and frequency need to be considered and implemented according to the need of individual medicinal plant.¹

Plant protecting: The plants are protected by the chemicals whose due date is to be verified.⁵ The time period and time interval between each application is to be maintained.

Harvest: The harvesting of medicinal plants depends upon which part of the plant to be harvested. The underground parts are to be collected when the aerial parts shows signs of senescence, Bark is collected when plant shed leaves, flowers are collected just after they have opened while fruits and berries when they ripen. The harvested plant material should be cleaned and are to be transferred to dry and no-contaminated conditions.

Post-harvest processing: Inspection and primary processing are the two procedures done in post-harvest period. Drying, peeling, soaking, chopping are some processing methods.

Bulk packaging and labeling: The material which should be packaged should be selected and named.

Storage and Transport

CONCLUSION

Since the plants are major source for the finished products, guidelines for good agricultural practices have greater impact on the herbal medicine manufacturing industries. Good agricultural practices from cultivation to raw drug transport must be followed to ensure potent and efficacious herbal formulations.

REFERENCES

1. <http://whqlibdoc.who.int/publications/2003/9241546271.pdf>.5 April,2013.
2. Dr. Xiaorui Zhang, coordinator, World Health Organization (2003). WHO guidelines on cultural and collection practices for medicinal plants pp.2.
3. <http://www.fao.org/prods/gapl>.15 April 2013.
4. Sharma R. Agro-Techniques of Medicinal plants. Daya Publishing House, Delhi, 2004, 9.
5. Sharma R. Agro-Techniques of Medicinal plants. Daya Publishing House, Delhi, 2004, 49.

Source of Support: None Declared
Conflict of Interest: None Declared