

# Nursery sanitation

## a pre-requisite to healthy plant progeny

Tanushree Sahoo<sup>1</sup>, G.C. Acharya<sup>2</sup>, Deepa Samant<sup>3</sup>, Jotirmayee Lenka<sup>4</sup>, Prativa Sahu<sup>5</sup>

<sup>1,2,3</sup>ICAR-IIHR, Central Horticultural Experiment Station, Bhubaneswar-751019

<sup>4</sup>ICAR-IISWC, RC-Koraput-763002

<sup>5</sup>ICAR-IIWM, Bhubaneswar-751023

Received: February, 2026; Accepted: March, 2026; Published: April, 2026

### Introduction

Horticulture sector is such a unique branch of agriculture, that comprises of plants with specific physiology and needs. Most of the perennial horticulture crops are mainly propagated by vegetative means, hence the necessity for a nursery unit comes into picture. Nursery is a place

where disease free planting materials are produced with the intent of generating a healthy plant progeny. The formulation and application of measures designed to protect plant health is known as sanitation.

### Need for hygiene:

- There will be loss of income to the personnel engaged in nursery venture due to dead or diseased plants.
- Further expense is incurred if chemicals have to be bought and applied for the control of disease.
- Plants that are free from disease, pests and weeds will grow faster because there is no competition for the available resources. This can be put into economic terms as the plant becomes saleable more quickly.
- The goodwill of the nursery must be established so that the clients will return for more plants. If diseased plants are sold and then die, the client will think twice before purchasing.

### Types of organisms which affect plant production

- Fungal diseases: "Damping-off" is the term given to a condition that seriously affects seedlings and young plants. It is caused by one or various combinations of the following fungi: *Pythium* spp., *Rhizoctonia* spp., *Botrytis* spp., *Phytophthora* spp. These may be found in the soil or be spread by water or other agents.
- Bacteria: There are several species which attack plants.
- Nematodes: These inhabit the soil and will burrow into the roots of many species of plants causing bad health and eventually death.
- Weeds: Weeds do not affect other plants directly, but will cause decreased growth of the desired plant by competition for the available water, nutrients and light. Weeds may harbour pests and diseases which are easily transferred to the desired plant.
- Viruses: These are microscopic organisms which are harmful to many plants. They are not soil inhabitants, but are transferred from an infected plant to a non-infected plant by vectors such as insects.

### Key components of nursery sanitation

**Site selection and preparation:** A well-drained land with ample access to sun light should be chosen for establishing a nursery. Proper spacing

and drainage channels have to be provided within the nursery premises.

**Sterilization of soil and growing media:** Soil solarization is a basic step before moving ahead for planting material production as it will prevent from contamination of soil borne pathogens. In some advance nurseries, steam sterilization is followed too. Sterilization of growing media such as; coco peat, sand, perlite etc. is also essential.

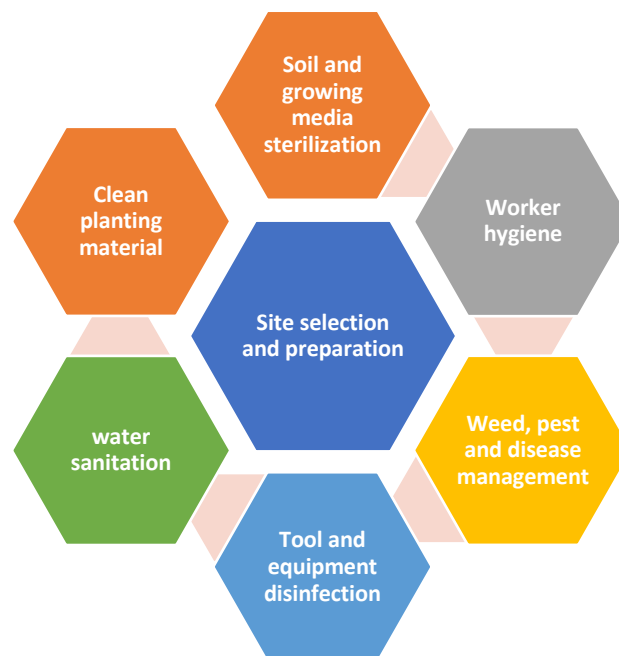
**Clean planting material:** A nursery should rely only on certified disease free seeds and planting materials. Infected or weak seedlings should be discarded as soon as noticed.

**Water sanitation:** For irrigation purpose, water should be sourced from clean sources. Any kind of water stagnation to be discouraged as it will attract more fungal diseases.

**Tools & equipment disinfection:** 70% alcohol or 1% sodium hypochlorite solution has to be used for disinfecting grafting knife, pruning tools and other implements. Cleaning of trays and containers has to be done before reuse.

**Management of disease-pest and weeds:** As weeds act as alternate hosts for pathogens, so it has to be always kept in control. Rouging of infected plants along with IPM and IDM strategies helpful in checking various disease-pest problem in nursery.

**Worker hygiene:** Clean footwear and clothing's has to be used by the workers employed in nursery. Unnecessary movement has to be restricted between different sections. The man power should be trained on sanitation protocols.



### Conclusion

In the era of rapid advancements, the consumers are more driven towards quality rather than quantity. A superior produce can only be obtained from a healthy source in a healthy

environment. Hence, nursery sanitation practices can be proven low cost approach to produce genuine planting material leading to foundation for a sustainable horticulture.