



## Contents

- FUNGUS TURNED TO NATIONAL EMERGENCY IN MALAYSIA
- CAPACITY BUILDING PROGRAMMES
  - Jharkhand Farmers' Training
  - Skill Development Programs for Bio-Entrepreneurs
  - Landscape and Gardening Program

## FUNGUS TURNED TO NATIONAL EMERGENCY IN MALAYSIA

Fungal attack is a very common issue in crops. But, a few of those become devastating and can destroy the whole crop. Fusarium type4 (TR4) is one of the fungus that has disastrous effect on Banana. It is too devastating that Columbia declared National Emergency after detection of this fungus in soil over 180 hectares. The fungus was first detected in 1990s in Malaysia, Indonesia and thereafter it spread to China very rapidly. The UN says that this fungus can be proved detrimental for Banana plantation and can wipe of banana plantation if not controlled. Cavendish banana is reported as most affected group in Columbia. Police, even military was deployed to combat against the disease. TR4 or Tropical Race 4 was coined for, the strain of the fungus *Fusarium oxysporum* f. sp. *cubense* (Foc) that causes Fusarium wilt (aka Panama disease) in Cavendish cultivars of banana. This race is different than other races that affect Cavendish cultivars only in the presence of predisposing factors such as low temperatures. Fusarium enters the plant through roots and block the xylem vessels by making colonies there. Primary symptoms look like scarcity of water, which triggers the farmer to irrigate and what helps the fungus to spread from one field to another.



Infected Plant's Cambicem

Affected Orchard

## CAPACITY BUILDING PROGRAMMES

### Jharkhand Farmers' Training

Farmers from two districts of Jharkhand, namely Latehar and Gumla attended training at IHT under MIDH programme. It was a five-day program from 22<sup>nd</sup> to 26<sup>th</sup> August 2019, divided into five different modules on hi-tech interventions in horticulture, quality crop production and recent advances in horticulture. Participants were provided capacity building training on “Standard Operating Procedures” which need to be followed to produce quality planting material and best hi-value produce. Participants showed interest in the programme especially in construction, maintenance and management of greenhouse crops as well as mechanical and cultural controls insects and pests under protected condition.



Interactive Lecture Sessions

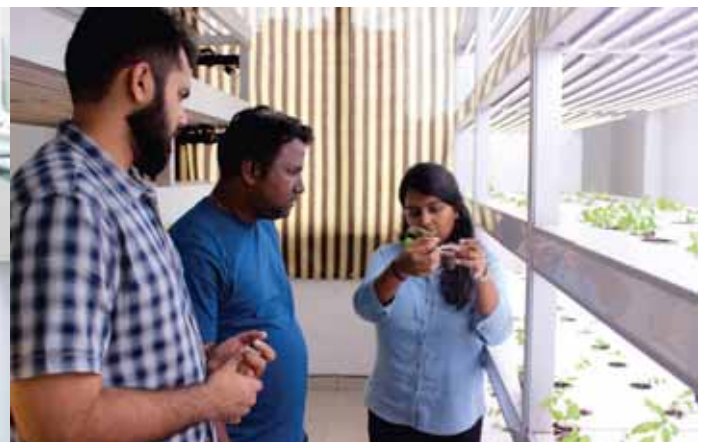


Hands on Training Sessions



## Skill Development Programs for Bio-Entrepreneurs

IHT conducted skill development programs on “Production Technology of Greenhouse Vegetable Crops”, “Innovative Nursery Technology” and “Commercial Hydroponics”. Participants, from various states of India such as Tamil Nadu, Delhi, Chhattisgarh, Bihar etc. participated in the programs. Participants took active participation in plug type nursery raising in soil less media for hydroponics. Participants also special interest in hands on trainings, such as solarization and sterilization of soil and soil less medias and trays, training and pruning of polyhouse vegetables etc. The entrepreneurs were provided SOPs for working and maintaining greenhouse, proper handling of various pesticides, agricultural tools and equipment.



Trainees Recording Observations in Laboratories

## Landscape and Gardening Program

IHT provided one month training program on “Landscape Horticulture”. Participants from Punjab, Uttar Pradesh, Kerala and other parts of India participated in the program. The course curriculum was based on ASCI guidelines. The program most of the aspects of garden and landscape designing. Participants were provided hands on trainings in plant multiplication and propagation, raising of good quality nursery, selection of plants and IPM. Detailed information about Design of Garden Components like Shrubbery, Hedges, Arches, Pergola and Edges was conversed during the training. Participants appreciated the program and the course content further they expressed their interest for future courses as well.





## Future Trainings

Training	Duration	Starting Date	Closing Date
Supervisor Level 1	1 Month	04.11.2019	03.12.2019
Hydroponics Level 1	1 Month	04.11.2019	03.12.2019
Mushroom Production	3 Weeks	Every Monday from	November onwards
Floriculture and Landscaping	1 Month		07.10.2019



ISO 9001 : 2008

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