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## RETRACTABLE GREENHOUSE ESTABLISHED IN IHT'S TECHNOLOGY PARK

IHT has added retractable greenhouses in the array of greenhouses in the Technology Park of the Institute. The greenhouses with retractable roof tops offer both climate control and at the same time in favourable climatic conditions natural sunlight once the roofs are retracted. When plants are grown outside, they are exposed to both optimal conditions and periods of excessive cold, wind, rain and heat whereas the plants in the retractable roof are protected from these extremes and offer the plants an option of being exposed to the natural climatic condition when favourable.

When growing plants in the winter in cold climate, growers have no choice but to grow in a totally closed greenhouse environment. However, when crops are being grown during mild or hot conditions, the growers have the choice of growing in a protected environment or retracting the roof to allow the natural outdoor environment to come into the greenhouse.

Retractable roof greenhouses are useful for basic protection of crops or as a complete plant production system with retractable insect screening, curtain systems for shading, heat retention and black out and perimeter walls with roll-up curtains with insect screens.

The trainees in IHT will now be able to practically see as how the retractable greenhouses are operated to take the maximum benefit of the natural climatic conditions when favourable for the crop production in greenhouses.



Retractable Greenhouse in IHT's Technology Park with Standing Gerbera  
Crop Grown in Soilless Medium

## TECHNOLOGY DEMONSTRATIONS IN FARMER'S FIELDS

### **Demonstration of sustainable technologies for protected and open cultivation of important vegetable crops in farmer's field and main hub Mizoram**

In a partnership project with IBSD, IHT Demonstrated protected cultivation of hybrids of tomato, cucumber/capsicum and open field cultivation of Bird Eye Chillies, Sticky Pumpkin and French Beans in the farmers' fields and at main hub in Mizoram. Capacity building training programmes for the technologies demonstrated are also conducted every month for developing confidence in the farmers to adopt the technologies in their fields.

The project dwells on capitalizing tomato and capsicum/cucumber commercial production in Mizoram along with open field demonstration of important vegetables like French bean, Birds Eye Chili, and Sticky pumpkin so that entrepreneurship in horticulture is developed and a booming tourist and local demands of the vegetables are met across the state for gainful employment of youth of the region.

The farmers who took interest in producing the high value vegetables in the protected structures established in their fields have been provided capacity building training programme and hand holding in technical interventions needed for the successful for production of the crops. This has resulted in good returns to farmers as the seedless cucumber produced in the polyhouses with income of Rs 15,000 to Rs 30,000 in one cropping season.



Cucumber Cultivation under Protected Condition & Bird Eye Chilli in open field

### **Field Demonstration of Cultivation and Development of Process Technologies of Aromatic Crops (Patchouli, Citronella and Sugandh Mantri) in Assam**

Technology demonstration for the cultivation of aromatic plants like Patchouli (*Pogostemon cablin*), Citronella (*Cymbopogon winterianus*) and Sugandh Mantri (*Homalomena aromatica*) is being undertaken in IHT's NE Centre Mandira, Assam and farmers' fields in Goalpara, Kamrup and Berpeta districts of Assam. The farmers are being provided hands on training for the technological interventions used for improved production of the biomass from the plants. In this project buy back option is available for the aromatic oil extracted by the farmers. Market linkage with Kelkar Education Trust, Scientific Research Centre, Mumbai.



Citronella in Open Field

A view of Sugandh Mantri inside 4000m2 Nethouse



## CAPACITY BUILDING TRAINING PROGRAMS

### Commercial Hydroponics

IHT successfully organized various private trainings programs on “Commercial Hydroponics” during this month. Entrepreneurs, officers and trainees from Mumbai, Maharashtra, Andhra Pradesh, Delhi and Noida, UP took part in these training programmes. The participants found the training very informative the trainees were explained about water quality analysis for open & closed loop, plant nutrition management in hydroponic section and solution preparation, climate control in greenhouse, cladding materials, production technology, training and pruning, physiological disorders of hydroponics crops-due to climatic factors and nutrients imbalance and greenhouse pest management. This training is a step towards the upcoming startups being set up by the prospective bio entrepreneurs.



Glimpses of Hydroponic Training

### Production Technology of Cut Flower and Vegetables in Greenhouse

Training program for entrepreneurs' from Delhi and U.P on “Production Technology of Cut Flower in Greenhouse” and “Production technology of Greenhouse- Vegetable” were also conducted in this month. The trainees were explained about the significance of following standard operating procedures to be adopted during nursery raising, so that healthy and disease free seedlings can be raised. Interactive lectures were provided on the protected cultivation of rose, gerbera, carnation, liliun, tuberose, gladiolus, chrysanthemum and anthurium and hands on trainings sessions were conducted in the technology park of the Institute. The trainees found the program a practical based and helpful in understanding the operations of a protected cut-flower and vegetable production for developing their entrepreneurial skills.



Hands on Training on Cut Flower and Vegetable Production Technologies

## SCHOOL CHILDRENS VISIT

Students deputed by “HCL Foundation” under CSR was visited Technology Park of IHT, for seeing various innovative technologies developed for increasing crop production. It was good exposure for the students as they could practically see the standing crops in greenhouses and the modern technological interventions for the quality crop production in [protected and the open field crop production. Students found the visit very informative. They were very much interested in sharing this information to their elders so that they will be able to take advantages form this and able to adopt some technologies in their farms/villages as most of them have their own land and belonged to a farmer family.



School Childrens visit at IHT Techpark

## Future Trainings

Training	Duration	Starting Date	Closing Date
Production Technology of Greenhouse Vegetables- Supervisor Level 1	1 Month	04.11.19 & 02.12.19	03.12.19 & 31.12.19
Hydroponics Level 1	1 Month	05.11.19 & 02.12.19	04.12.19 & 31.12.19
Mushroom Production	3 Days	From every Monday to Wednesday	
Floriculture and Landscaping	1 Month	04.11.19 & 02.12.19	03.12.19 & 31.12.19

## THOUGHT OF THIS MONTH

The greatest change we need to make is from consumption to production, even if on a small scale, in our own gardens. If only ten percent of us do this, there is enough for everyone. Hence the futility of revolutionaries who have no gardens, who depend on the very system they attack, and who produce words and bullets, not food and shelter.