AGRO-FORESRY - LECTURE

INSTITUTE OF FOREST BIODIVERSITY (IFB), HYDERABAD

March 02nd, 2022

A Report on Lecture on World Wetlands Day organized under Azadi Ka Amrit Mahotsav from 19 February 2022 to 25 February 2022

The Institute of Forest Biodiversity, Hyderabad organized a Lecture on 'Agroforestry: Best choice for mitigating climate change' from 19 February 2022 to 25 February 2022 under Azadi Ka Amrit Mahotsav through virtual mode.

The programme started with welcome address by Dr. Ratnaker Jauhari, IFS, Director and then the session was taken over by Dr. Aariff Khan, Senior Professor (Retd.), Professor Jayashankar Telangana State Agricultural University, the guest of the event.

He started with stressing on a point that Agriculture alone cannot mitigate the climate change, and similarly forestry alone cannot do the same, hence, the best choice to mitigate the climate change scenario is the agroforestry.

He explained about the CSF (Climate-Smart Forestry) – the targeted approach to increase the climate benefits from the forests following which he spoke about the causes of Climate change and its impacts on the Indian agriculture, what is agroforestry, Multi-Functional Agroforestry Systems. He also briefed about the possible agroforestry systems/models suitable for Telangana, advantages of Sericulture based Agroforestry and its importance etc.

After which the programme was concluded with the closing remarks by Shri. E. Venkat Reddy, IFS, Head Extension.

Below are few photographs of the event

Impact of Pests & Diseases by Climate Change

BITTER TIMES

Tea mosquito bug causing neem trees to shrivel up

VIVEK BHOOMI @hydmail

THE neem tree is known for its various medicinal benefits but climate change has not left this 'miracle' tree untouched. It is famed for its anti-malarial, anti-fungal, antiviral and anti-carcinogenic properties. However, in recent times, a strange phenomenon has been witnessed in neem trees across Telangana and Andhra Pradesh.

The 'Tea mosquito bug', usually found in tea plantations, is infesting soft tissues at the tip of the branches of neem trees, leading to degeneration and in some cases, makes the tree's foliage appear lifeless.

Dr M Padmaiah, a retired principal scientist (IIOR-ICAR), observes that the infestation has become more rampant due to climate change.

The Tea mosquito bugs, which have a life cycle of 25-31 days, are also found in plants like cashew, cocoa, jamun, grapevine, tamarind, lemon, black pepper, cotton, red gram, cinnamon and some other species.

The mother insects lay around 50 eggs each in the soft tissues of stem shoots during February and March by puncturing them. Out of these, 60 per cent survive and undergo development as nymphs in five phases for 13-16 days before becoming bugs.

When tender shoots start emerging from branches, the bugs and nymphs feed by sucking the sap from the tree. As they feed, they release poisonous oral secretions which kill the tissues. "When they puncture the tissues, a gum oozes out of the holes and when it rains, Phytophtora, soil-inhabiting pathogens, which may cause degeneration of the entire branch, causing Dieback disease in the trees," says Dr Padmaiah.

He, however, maintains that the tree dying from either the bug attack or the disease is not a thing to worry about as neem trees are deciduous. They have a strong bark and deep root system and have a great ability to regenerate. Further studies are needed to ascertain how the bugs have been able to evade the insect-repellent Azadirachtin, the chemical compound found in almost all parts of the neem tree.

FIGHTING THE ENEMY

To mitigate the infection, Dr Padmaiah suggests developing and placing pheromone traps specifically made to capture Tea mosquito bugs and suggests spraying profenofos (2 ml per litre water) and acetamide (1.5 gm per litre of water) in the area infected by the bugs and nymphs – in February and March, when they make the tree their host. Dr Padmaiah opines that encouraging natural parasites (good ones) to thrive could help mitigate the bug infestation, as controlling it mechanically or manually is difficult

Leaves of a neem tree appear lifeless after being infested by Tea mosquito bug

Melia dubia + Curry Leaf based Agroforestry Model for increasing income