PROJECT PROFILE

Title of the Project	**:**	**Investigations on Casuarina mortality in different agro-climatic zones of Tamil Nadu and developing of suitable management measures including identification of tolerant material**
Principle Investigator	:	Dr. V. Mohan
Co Investigators	:	Dr. K.R. Sasidharan
Duration of Project (Start & End)	:	3 years (01-04-2017 to 31-03-2020)
Objectives		1. To assess the intensity of mortality in different age groups of Casuarina plantations in various agro-climatic zones of Tamil Nadu. 2. To identify the causative organisms. 3. To determine the status of Frankia nodulation. 4. To study the edaphic and climatic factors influencing the incidence of mortality. 6. To identify pest/ disease tolerant materials. 7. To develop a package of practice to contain the problem.
Funding agency	:	ICFRE
Summary/Achievements	:	Field surveys undertaken and enumerated mortality problem of *Casuarina equisetifolia* and *C. junghuhniana* in fifteen districts falling under five agro-climatic zones in Tamil Nadu. Recorded bacterial wilt, collar rot, stem wilt diseases and bark feeding caterpillar attack in different age groups of plantations in Farmer's fields and SFD plantations and identified the causal organisms responsible for the mortality. An experiment was conducted for screening antagonistic potential of thirty isolates of Bacillus species against stem wilt disease pathogen, *Subramanianospora vesiculosa* (*T. vesiculosum*) under in vitro condition by adopting dual culture technique. Out of thirty isolates screened, nine Bacillus isolates showed >55% inhibition of mycelial growth of the fungal pathogen. Based on the efficacy of the organism in controlling bacterial wilt, collar rot and stem wilt diseases, a "Potential Bio-control and Bio-booster" product ("Bio Bacillin" - *Bacillus velezensis*) was developed and released during Tree Growers Mela-2020 organized by IFGTB on 10-03-2020 and made available to various stakeholders.