

PGP COLLEGE OF AGRICULTURAL SCIENCES

(AFFILIATED TO TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE-3)

Palani Nagar, Namakkal – 637 405

Ph.No-04286-200288Email: deanpgpcas@tnau.ac.in



“VELAAN ARAN”

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Malaivembu *Melia dubia*

Malaivembu belongs to the family Meliaceae indigenous tree species to India, South East Asia and Australia, where it has been cultivated as a source of firewood. *Melia dubia* is also called as a Mahaneem or Forest neem which is fastest growing tree species and within 5-7 years the plantation is ready to harvest. The wood is having good demand from plywood and paper industries.

A height of 20m with a spreading crown and a cylindrical straight bole of 9m length and 1.2 - 1.5m girth. The bark is dark brown, exfoliating in thin. Narrow strips with broad, shallow, longitudinal cracks.

Environmental requirements:

It grows on variety of soil. Deep fertile sandy loam soil shows optimum growth while shallow gravelly soil shows stunt growth. The tree is a light demander, the seedlings are suppressed under shade. Seedlings tolerate some frost but severe frost kills them. It is susceptible to damage by fires and salting suffers from browsing. The trees are sensitive in water logged conditions.

Uses:

Melia can also be grown as inter crop with banana, papaya, vegetables, Pulses, turmeric and leafy vegetable crops.

The wood is used for packing cases, cigar boxes, ceiling planks, building purposes and agricultural implements, pencil, match boxes, splints, and kattamarams.

- It is employed for outrigger of boats.
- It is suitable for musical instrument, tea boxes and ply board.
- It is a good fuel wood (calorific value: 3,400-4100 cal).

The fruit of the plant is bitter. It is considered anthelmintic. It is give positive tests with alkaloid reagents.

Market and Trade:

-The wood can be sold for match and veneer industry.

-The tree with the minimum size of 20inches girth is saleable at the minimum rate of Rs7500per tone for plywood industry.

- **Dr.N.Kanagaraj**
Assistant Professor (Forestry)



Biological control of Plant diseases

Plant disease management includes selection of disease resistant varieties, adaptation of modern agricultural practices, biological control and use of chemicals to control pathogens. Biological methods

are gaining importance to avoid the environmental hazards caused by chemicals usage.

The different biocontrol agents like, *Trichoderma*, *Penicillium*, *Gliocladium* and *Glomus species*, *Pseudomonas*, *Bacillus*, *Pasteurii* are used to manage of different plant pathogens control and also to reduce the disease severity.



Bio control activity of *Trichoderma* is enhanced by one kg of fungus mixing with 500 kg of farm yard manure or in 50 kg of Neem cake and placed under shade condition and sprinkle the water. Cover with gunny cloth or with plastic sheet for one week. Later mix with some more matured FYM and used for disease management.

It is used to manage basal rot or collar rot (wilting) disease in agricultural crops like maize, wheat, chickpea, redgram, and cotton. It is also useful in managing stem bleeding (ganoderma disease), wilt disease or thizome rot disease affecting horticultural crops like coconut, Areca nut, pepper and banana (apply 20 g of *Trichoderma* to soil twice a year near basal part of the plant). As well as in vegetable crops like brinjal, cauliflower, tomato, chilli, cucumber, nursery diseases like damping off and basal rot managed by treating 1kg of seeds with 4g *Trichoderma*. Use *Trichoderma* 4 g/kg of seed as a seed treatment and *Trichoderma* 10kg/acre as soil application.

This biocontrol agent *Pseudomonas fluorescens* destroys disease transferring, directly and indirectly through seed and soil and which helps in improving the yield. Seed treatment or seedlings dip with *Pseudomonas* culture (*Pseudomonas fluorescens*) is the rate 10g/kg of seed or seedlings or spray bacterial solution (5ml/lit of water) on diseases affected crops or infected part of plants to control them. Nematodes infecting horticultural and vegetable crops are managed by bio-control agents like *Trichoderma*, *Paecilomyces*, *Verticillium*, *Gliocladium* and *Glomus* microorganisms.

Precautionary measures followed while using biocontrol agents

- Better results can be expected, when good quality biocontrol agents are used.

- Required moisture and organic materials must be present in sufficient quantity for biocontrol agents.

- No chemical fungicides must be treated to soil, while applying biocontrol agents in the soil. Do not use it by mixing with chemical fertilizers.

First and second dose are applied in the month of May-June and September-October respectively, along with organic manures helps in disease management.

- **Mr.K.Ramalingam & J.Santhoshkumar**
Assistant Professors (Plant Pathology)

Neem Seed Extract Preparation and Uses

Neem tree is widely called as a village pharmacy, there are many medicinal properties present in neem tree and from earlier days onwards neem seeds and leaves are used in pest control. Preparation of NSE 5% (neem seed extract),

Materials required

Neem seed (well dried) - 5Kg, Water -100Kg, Kadhi soap – 200gm, Muslin cloth.

Neems seed should be well powered and mixed initially in 10 liters of water and kept aside overnight, afterwards the suspension should be stirred properly to get extract and filtered through clean muslin cloth, the volume should be made upto 100 liters along with the Kadhi soap resulting NSE 5% ready for the spraying.

Application

NSE 5% can be sprayed for paddy, pulses, cotton, vegetables crops and it controls sucking pests such as aphides, whitefly, mealy bug, leaf hopper. The spray solution can be sprayed in 15 days if the pest population exceeds ETL and 3-4 shall be given for the effective management of sucking pest.

-**Ms.M.Kalainila**
Assistant Professor (Entomology)



Boosting Soil Fertility

➤ Cover Cropping/Green Manure

The legume is a nitrogen-fixer which takes nitrogen from the air and replenishes it in the soil. In addition being deeply rooted is resistant to drought and conserves moisture as crop cover.

➤ Reintegrating Livestock

Animal manure can be an effective and inexpensive way to boost the health of topsoil organically.

➤ Preventing Nitrogen Leaching

Inhibitors (Nitrosomonas and Nitrobactor) are not the absolute solution to nitrogen depletion, but if they are used in small doses properly with nitrogen - fixers and better land management, they can rebuild healthy soil into the future.

-S.Nanthakumar & S.Saravanakumar
Assistant Professor (Soil Science)

Egg production in Namakkal

Namakkal is the second largest egg producing zone among 30 National Egg coordination committee zones in the country. Egg consumption over the last five years has been steadily increasing by 6 - 7% annually. Consumption of chicken has been increasing by 10% annually during the same period. The strength of layer birds (egg laying chicken) in the Namakkal zones as on March 2018 stood at 8.59 crore. Namakkal District accounted for 80% of this population followed by Erode with 12% while other districts shared the remaining 8%.

-Mr.M.Venkatesh,
Assistant Professor (Agricultural Economics)



Vaccination Schedule for Poultry

Vaccination Schedule for layers

Days	Vaccine	Route
0 day	Mareks Disease Vaccine (HVT)	S/C 0.2 ml
5-7 days	Ranikhet Disease Vaccine-RDVF	O/N
10th day	Leechi Disease Vaccine (Optional)	Water
12-14 days	Infectious Bursal Disease Vaccine- Pruning Intermediate Georgia	O/N or water
18-22 days	Infectious Bronchitis	O/N or water
24-27 days	IB Vaccine Booster	Water
28-30 days	RD vaccine Booster- La Sota	Water
6th Week	Fowl Pox Vaccine or Infectious Coryza Vaccine (if prevalent in the area)	S/C
8th Week	RD vaccine- RDVK or R2B	S/C or I/m
9th Week	Fowl Pox Vaccine	Wing web
12th-13th Week	IB Booster	Water
18th week	RD Booster- RDVK or R2B	S/C or I/m
45th-50th Week	RD La Sota repeated every once in 2 Months	Water

S/C – Subcutaneous route, O/N – Nasal, I/M – Intra Muscular.

-Dr.A.V.Akalya,
Assistant Professor (Veterinary)

Allelopathic effect of sunflower

Alleopathy is a process of chemical inhibition of one species by another species acting on germination or growth inhibition influencing the development and growth of nearby plants. These chemicals can originate from any part of the plant (leaves, roots, fruits, stem, flower, etc....) and they are also present in the surrounding soil of the plants.

Effects of sunflower

Sunflower depresses the growth and productivity of succeeding crops. The reason postulates are the allelochemicals being secreted by sunflower crop. Decomposing the residues of sunflower also brings allelopathic effects.

Phytotoxic compounds viz, chlorogenic and isochlorogenic acids are released in to the rhizosphere of soil which causes varying degrees of allelopathy / auto toxicity in crop. Crop grown after sunflower like maize, sorghum, cowpea, pearl millet, pigeon pea, mung bean and sesamum record reduced yield due to allelopathy.

The allelopathic effect of sunflower residue lasts upto 24 days after incorporation and beyond this period the effect declined.

-Ms.S.Indhu
Assistant professor (Agronomy)

Students Excel



Anbil Dharmalingam Agricultural College and research Institute, Trichy conducted intercollegiate cultural competition “Freedom” in which more than 16 colleges participated. Our students secured first prize in Brainstorming, second prize in instrumental music and rangoli competition and third place in fusion dance and soap sculpture.

Our college students have participated in intercollegiate sports competition conducted by TNAU, Coimbatore. In cricket matches conducted by Aadhi Parashakthi Agricultural Collage, Vellore, our students have participated and secured first place at zonal level.

College Activities

On 21.04.2018 Rainbow FM Trichy conducted a live broadcasting programme with PGPCAS Namakkal. Dean Dr.S.Sridharan gave a detailed description about the facilities available in the college. Our students exhibited their talent by delivering poetry, songs, skits, essay and others. Further our faculties gave speech on following topics to Rainbow FM. Likewise a separate programme was organized by PGP community Radio (90.8MHz).

S.No	Assistant Professor	Topics
1	Mr.S. Nanthakumar	Organic Farming
2	Dr.B.Ramya	Traditional Paddy Varieties

3	Mrs.S.P.punitha	Seed Certification procedures
4	Dr.R.Pachiyappan	Micro Nutrient Deficiency and their Management
5	Ms.D.Ananthanayahi	Agricultural Extension Department Activities
6	Mr.K.Rajkumar	Woolly Aphid Management in sugarcane
7	Dr.A.V.Akalya	Management of Poultry in summer
8	Mr.M.Venkatesh	Regulated market
9	Mr.K.Ramalingham	Disease Management in Tomato
10	Ms.M.Kalainila	Integrated Pest Management
11	Mr.J.Santoshkumar	Production of Oyster Mushroom

PGP Agri College Dean Dr.S.Sridharan participated in live telephonic interaction with farmers and answered to their queries.

II B.Sc. (Ag.)students attended NSS Camp in Keelsengadu village from 02.05.2018 -8.05.2018. In this camp our students and staff delivered several technologies to the farmers to improve their livelihood .They have also conducted many rallies to create awareness among the farmers and village people on issues related to ecofriendly farming and personal hygiene.



TNAU Open Day 2018 was organized by our college on 21.05.2018. During the day, students who have completed their 12th standard and their parents visited our college from 9.00am to 5.00pm. The faculties explained the activities of the individual departments besides showing the laboratory facilities. Buses were also arranged from Namakkal bus stand to PGPCAS, Namakkal.



EDITORS:

Dr.S.Sridharan, Ms. D.Ananthanayahi,
Ms.K.Hemasankari, Dr.B.Ramya &
Designed by Mr.B.Sathiyaraja