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# Recommendations for The Management of Weligama Coconut Leaf Wilt Disease and Coconut Leaf Rot Disease



**Coconut Research Institute**  
**of Sri Lanka**  
**2008**

**Recommendations for the Management  
of Weligama Coconut Leaf Wilt Disease  
and  
Coconut Leaf Rot Disease**

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**Publication of the Coconut Research Institute of Sri Lanka**

**May, 2008**

The Director of the Coconut Research Institute has made the following recommendations to manage Weligama Coconut leaf Wilt Disease and Coconut Leaf Rot Disease spreading in the Southern Province of Sri Lanka.

**1. Recommended measures to prevent spread of the Weligama Coconut Leaf Wilt Disease in to other areas**

(a) The Weligama Coconut Leaf Wilt Disease (*WCLWD*) and Coconut Leaf Rot Disease (*CLRD*) have been declared as diseases, seriously affecting the coconut industry in Sri Lanka by the gazette notification no.1542/7 of 24<sup>th</sup> March 2008 under the Plant Protection Act 35 of 1999. Currently, these diseases are spread in Matara District, Habaraduwa and Galle Divisional Secretariat areas of Galle District and Walasmulla, Tangalle, Okewela and Beliatte Divisional Secretariat areas of Hambantota District. The following measures have been recommended.

(i) Transport of all plants of family *Palmae* (*including ornamental palms*) and their live plant parts (*excluding de-husked coconuts and arecanuts*) out of the above defined diseased areas are prohibited.

(ii) All other plants and their live plant parts (*excluding fruits and seeds*) should be treated with a recommended insecticide and obtain a certification from an Authorized Officer before transporting out of the above defined diseased areas. Please see Annex 01 for details. This certificate is issued by the Regional Officer of the Agrarian Services Department, or his representatives. The specimen form of the certificate is given in Annex 02.

(iii) The above (i) and (ii) are valid for the plants transported through the diseased areas.

**(b) Boundary zone**

It is recommended to maintain a 3km wide boundary zone around the diseased area. The boundary is A17 road from Galle to Akuresse, Akuresse to Kirinda - Puhulwella through Kamburupitiya, Kirinda - Puhulwella to Walasmulla, Walasmulle to Beliatte and Beliatte to Tangalle (*see Annex 03*).

The boundary zone is 2km interior and 1km outside of the above road.

- (i) All coconut trees and seedlings showing disease symptoms of WCLWD and CLRD within the boundary zone should be removed. The method of cutting and removing of the palms is given in Annex 04.
- The Officers appointed by the Coconut Cultivation Board will continuously inspect the boundary zone and advise the land owners on removal of palms.
- (ii) The Authorized Officers should complete the relevant form giving required details and send to the Director, Coconut Research Institute, Lunuwila. The specimen form for this purpose is in Annex 05.
- (iii) The Authorized Officer should mark the diseased palms and give written instructions to cut and dispose the palms to the land owner. The specimen form is given in Annex 06. This should be completed in triplicate and the original should be given to the land owner and one copy should be sent to the Director, Coconut Research Institute, Lunuwila. The other copy should be retained with the Authorized Officer. The land owner should remove the marked palms within 02 weeks of the notice. If it is not attended by the land owner in the stipulated time period, the Officers of the Coconut Cultivation Board will arrange to remove those palms and the expenses will be charged to the land owner.
- (iv) A relief payment will be paid by the Coconut Cultivation Board to the land owners for the palms that are removed as per recommended manner (*after completing all steps in no. 3 of Annex 04*).

*The payments are;*

Age less than 5 years	– Rs. 500/- per palm
Age 5 - 45 years	– Rs. 2000/- per palm
Age over 45 years	– Rs. 500/- per palm

## **2. Recommendation for the management of Weligama Coconut Leaf Wilt and Coconut Leaf Rot diseases in the defined diseased areas**

- (i) It is required to use fungicides to manage leaf rot disease. Refer to Annex 07 on details of carrying out the treatment.
- (ii) The land owner should cut and dispose any palm affected by either one of the diseases or both diseases that is not producing at least 10 mature nuts (over 05 months old nuts) in accordance with the instructions given in Annex 04. For this purpose, the Authorized Officers could act according to the gazette notification. The Authorized Officer should complete the information in the specimen form given in Annex 05 and forward to the Director, Coconut Research Institute. The land owner should be given written instructions in this regard as per 1(b)(ii). Action will be taken as per 1(b)(ii) if the marked palms are not cut and disposed within 02 weeks of the notice. The Coconut Cultivation Board will make a relief payment of Rs. 500/- per palm, for the palms that are cut and destroyed in the recommended manner.
- (iii) The land owners are not encouraged to plant coconut seedlings in their lands.
- (iv) The coconut growers in the diseased areas are encouraged to apply recommended doses of fertilizer and carry out other agronomic practices. The Coconut Cultivation Board will provide subsidies for these purposes.
- (v) The Coconut Cultivation Board jointly with other relevant Institutions will conduct a programme of planting intercrops, alternative crops and animal husbandry to enhance the economic status of coconut growers.
- (vi) The Coconut Cultivation Board will provide subsidies to rehabilitate coconut lands.
- (vii) The Coconut Cultivation Board will assist coconut growers to improve their lands by providing "Kapruka Loan Scheme".

## INSTRUCTIONS FOR TREATMENT OF PLANT MATERIALS TAKEN OUT OF DISEASED AREAS WITH INSECTICIDES

Transport of all planting material (*except, de-husked nuts of coconut and areca nut*) and live plant parts of Family Palmae out of Matara District, Galle District (*Galle and Habaraduwa AGA Divisions*) and Hambantota District (*Tangalle, Walasmulla, Okewela and Beliatta AGA Divisions*), in which Weligama Coconut Leaf Wilt Disease is present is prohibited. All other live plants/plant parts and planting material (*except, seeds and fruits*) should be transported after treating with one of the following insecticides and certified by an Authorized Officer before transportation.

### Recommended insecticides

Common name/ Generic name	Trade names (currently registered)	Dosage
Dimethoate 40% EC	Dimethoate 40 EC, Agromet EC 40%, Bours Dimethoate, Perfekt, Perfekthion, Dimitox, Harcros Demro, Mackthoate, Turbo 40 EC	4 ml/l
Profenofos 50% EC	Selecrone 50% EC, Calcron 500 EC	3ml/l
Carbosulfan 20% SC	Marshal 20 SC	3ml/l
Acetamiprid 20% sp.	Mospilan	2g/l
Phenthoate 50% EC	Elsan 50, Cidial, Kemidol 500, Leader, Mackso, Pensan 50 EC, Phenthoate 50 EC, Visan 50 EC	2.5ml/l
Chlorpyrifos 20%	Cyren 20, Dursban, Mackfos, Pyrinex 20 EC	4ml/l
Chlorpyrifos 40%	Amichlor, Chlorban Plus, Commando, Cyren 40, Finfos 40, Judo 40 EC, Lorsban 40 EC, Morifos 40, Pattaas, Pyrimack, Pyrinex 400, Unifos 400.	2ml/l

### Method of application

Spray the recommended dose of one of the above insecticides to thoroughly wet all the plant parts using a Knapsack or a hand sprayer.

### Certification

Obtain a certificate from the Divisional Officer (DO) of the Department of Agrarian Services in the respective area or an Officer authorized by DO.

**Director**  
**Coconut Research Institute**  
May 2008

Plant Protection Act No. 35 of 1999

**TREATMENT CERTIFICATE**

This is to certify that the following article/ articles has/have been treated according to the appropriate procedures to conform to the internal quarantine requirements.

**ARTICLE DETAILS :**

Description of the goods	Quantity declared

Distinguishing details of the articles :-----

Name and address of sender/ consignor :-----

Name and address of consignee: -----

**TREATMENT DETAILS:**

Date of treatment: -----

Treatment: -----

Chemical (Active ingredient): -----

Duration and temperature : -----

Concentration/ dosage : -----

Additional information : -----

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I declare that these details are true and correct and the treatment has been carried out according to the recommendation given by the Director General of Agriculture.

Name and designation of the authorized officer: -----

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Signature : -----

Stamp of the Officer:



## INSTRUCTIONS FOR THE REMOVAL OF COCONUT LEAF ROT AND WELIGAMA COCONUT LEAF WILT DISEASED PALMS

### 1. Removal of palms in the 3km boundary zone

Remove all coconut and other palms showing one or more of the symptoms given below without considering the yield of the palms.

#### Symptoms of Coconut leaf rot disease

1. Water soaked or brown spots on unopened bud leaf
2. Sticking of portions rotten bud leaves together
3. Fishing rod- like appearance of blackish mid rib of rotten leaves
4. Appearance of unaffected portions of leaflets green with blackish shriveled tips
5. Tapered trunk with reduced crown



## Symptoms of Weligama coconut leaf wilt disease

1. Flattening of leaf laminar and downward bending of leaflets (*ribbing like appearance*)
2. Yellowing of lower whorl of fronds and occasional yellowing of fronds in mid whorl
3. Drying of margins of yellowed leaflets



2. **Removal of palms inside the boundary zone (*interior areas*)**  
Remove palms with severe coconut leaf rot / Weligama Coconut Leaf Wilt Diseases or both and with not having even 10 mature nuts (*over 5 months old*) per palm
3. **Method of removal and disposal of palms**
  - a. Cut the palm at the ground level
  - b. Burn/ bury crown portion of the palms immediately after felling
  - c. Apply used engine oil / coal tar / soil or mud on the cut surface of stumps
  - d. Stem portion can be used as fuel wood or timber of any other purpose

**IDENTIFICATION AND REPORTING OF COCONUT PALMS AFFECTED BY COCONUT LEAF ROT DISEASE AND WELIGAMA COCONUT LEAF WILT DISEASE**

Land owners Name and address : -----  
 -----  
 -----

Palm No.	Symptoms*						
	1	2	3	4	5	6	7

\*Mark with a 'X' if symptom present, add more lines if necessary

**Key for the disease symptoms**

**Coconut Leaf rot disease**

1. Rotting of flag (bud) leaf/ brown-black spots on the flag leaf
2. Sticking of rotten leaf portions
3. Falling of rotten leaf portions in unfolded leaves, remaining leaf portions green in colour and leaf tips turned brown and shriveled
4. Appearing of mid rib of rotten leaves black in colour and as fishing rods

**Weligama Coconut Leaf Wilt Disease**

5. Flattening and ribbing of leaflets
6. Yellowing (or orange in colour) of leaflets
7. Marginal necrosis of yellowing leaflets

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Name and address of Authorized Officer

.....  
 Signature and date



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## ADVICE ON APPLICATION OF FUNGICIDES FOR THE MANAGEMENT OF COCONUT LEAF ROT DISEASE

For the management of Coconut leaf rot disease, it is recommended to treat the palms with a fungicide.

### 1. Recommended fungicides

Chemical/Trade names (*currently registered*) of recommended fungicides

Tebuconazole – “ Folicur ”, “Oriz”  
Hexaconazole – “ Shakthi ”, “ Contaf ”

### 2. Dosages

Tebuconazole – Mix 10 ml in 1 litre of water  
Hexaconazole – Mix 10 ml in 1 litre of water

Prepare fungicide solution in plastic vessels and use a plastic bottle with a narrow spout to drench the fungicides into the crown to prevent spillage and contamination with skin.

### 3. Method of application

- a. Climb on to the crown and cut the bud leaf to remove majority of the rotten tissues.
- b. Cut the rotten portions of 3-4 fronds adjacent to the bud
- c. Pour one litre of the fungicide solution in to the bud slowly to prevent spillage
- d. Burn the rotten portions
- e. In subsequent applications cutting and removal of the bud leaf is not necessary, but fungicide should be drenched into the bud leaves by pulling unopened fronds apart.

### 4. Frequency of application

At 3- 4 month intervals repeatedly avoiding raining season.

Director  
Coconut Research Institute  
Lunuwila  
May 2008