


Mulberry Disease Forewarning Calendar for Sericulture Areas of India

1. Powdery mildew (*Phyllactinia corylea*)

	States	Major Sericulture areas	Relative disease intensity in different months												
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
	Karnataka	Ramnagara, Kolar, Hassan													
	Tamil Nadu	Salem, Krishnagiri,													
	Andhra Pradesh	Anandapur, Chittoor, Kurnool													
	Orissa	Koraput, Deogarh, Mayurbanj													
	West Bengal	Murshidabad, Malda, Birbhum													
	Bihar, Jarkhand	M.P Raj, Ranchi													
	Assam	Jorhat													
	Manipur	Imphal,													
	Tripura	Agarthala													
	Nagaland	Dimapur													
	Meghalaya	Meghalaya													
	Arunachal	Arunachal													
	Mizoram	Aiswal													
	Jammu Kashmir	Pampore, Manasbal, Mirgund													

Severe

Moderate


Low

Symptoms : White powdery patches on the lower surface of the leaves.
The corresponding portions on the upper surface develop chlorotic lesions
The white powdery patches turn to brownish-gray black; leaves turn yellowish and leathery

Control : Cultural control: Follow wider spacing of plantation (90 cm x 90 cm) or paired row planting system [(90 +150) x 60 cm]
Chemical control: Spray 0.1% Carbendazim 50% WP (Bavistin) [2 g/lit. water] or 0.2% Sulphur 80WP (Sulfex) [2.5 g/ lit.].

Safe period : 5-7 days for Bavistin and 10 days in case of Sulfex.

2. Leaf spot (*Cercospora moricola*)

	States	Major Sericulture areas	Relative disease intensity in different months												
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
	Karnataka	Ramnagara, Kolar, Hassan													
	Tamil Nadu	Salem, Krishnagiri,													
	Andhra Pradesh	Anandapur, Chitoor, Kurnool													
	Orissa	Koraput, Deogarh, Mayurbanj													
	West Bengal	Murshidabad, Malda, Birbhum													
	Bihar, Jarkhand	M.P Raj, Ranchi													
	Assam	Jorhat													
	Manipur	Imphal,													
	Tripura	Agarthala													
	Nagaland	Dimapur													
	Meghalaya	Meghalaya													
	Arunachal	Arunachal													
	Mizoram	Aiswal													
	Jammu Kashmir	Pampore, Manasbal, Mirgund													

 Severe

 Moderate


 Low

Symptoms : Initially brownish necrotic irregular spots appear on the leaf surface. Spots enlarge, extend and join together making larger circular spots. Leaves turn yellow and wither-off as disease becomes severe.

Control : Cultural control: Follow wider spacing of plantation (90 cm x 90 cm) or paired row planting system [(90 +150) x 60 cm]. Chemical control: Spray 0.1% Carbendazim 50% WP (Bavistin) [2 g/lit. water] .

Safe period : 5-7 days.

3. Leaf spot (*Myrothecium roridum*)

	States	Major Sericulture areas	Relative disease intensity in different months												
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
	Karnataka	Ramnagara, Kolar, Hassan									Low	Low			
	Tamil Nadu	Salem, Krishnagiri,									Low	Low	Low		
	Andhra Pradesh	Anandapur, Chitoor, Kurnool									Low	Low	Low	Low	
	Orissa	Koraput, Deogarh, Mayurbanj										Severe	Severe	Low	Low
	West Bengal	Murshidabad, Malda, Birbhum	Moderate				Moderate	Moderate	Severe	Severe	Severe	Low	Low	Low	Low
	Bihar, Jarkhand	M.P Raj, Ranchi									Low	Low	Low		
	Assam	Jorhat				Moderate	Moderate				Severe	Severe	Severe	Low	
	Manipur	Imphal,										Low	Severe	Severe	Low
	Tripura	Agarthala					Moderate	Moderate	Severe	Severe	Severe	Low	Low		
	Nagaland	Dimapur				Moderate	Moderate	Moderate	Severe	Severe	Severe	Severe	Low	Low	
	Meghalaya	Meghalaya									Low	Low	Low	Low	
	Arunachal	Arunachal									Low	Low	Low	Low	
	Mizoram	Aiswal				Moderate	Moderate	Severe	Severe	Low	Low				
	Jammu Kashmir	Pampore, Manasbal, Mirgund													

Severe

Moderate

Low

Symptoms

: Initially black necrotic irregular spots on the leaf surface. Spots enlarge, extend and join together making larger irregular holes


Control

: Cultural control: Follow wider spacing of plantation (90 cm x 90 cm) or paired row planting system [(90 +150) x 60 cm]
Chemical control: Spray 0.1% Carbendazim 50% WP (Bavistin) [2 g/lit. water]. If the disease is more a second spray may be done after 10 days.

Safe period

: 5-7 days.

4. Leaf spot (*Pseudocercospora mori*)

	States	Major Sericulture areas	Relative disease intensity in different months												
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
	Karnataka	Ramnagara, Kolar, Hassan				Low	Low	Low	Low						
	Tamil Nadu	Salem, Krishnagiri,				Low	Low	Low	Low						
	Andhra Pradesh	Anandapur, Chitoor, Kurnool				Low	Low	Low	Low						
	Orissa	Koraput, Deogarh, Mayurbanj													
	West Bengal	Murshidabad, Malda, Birbhum					Moderate	Severe	Severe	Severe	Severe	Severe	Severe	Severe	Moderate
	Bihar, Jarkhand	M.P Raj, Ranchi									Severe	Severe			
	Assam	Jorhat													
	Manipur	Imphal,													
	Tripura	Agarthala													
	Nagaland	Dimapur					Severe	Severe							
	Meghalaya	Meghalaya													
	Arunachal	Arunachal													
	Mizoram	Aiswal									Severe	Severe	Severe		
	Jammu Kashmir	Pampore, Manasbal, Mirgund													

Severe

Moderate


Low

Symptoms : Small or medium size velvety black spots appear on lower surface of the leaves. Spots coalesce and spread below the leaves. Severely infected leaves turn yellowish and defoliate prematurely.

Control : Spray 0.1% Carbendazim 50% WP (Bavistin) [2 g/lit. water]. If the disease is more a second spray may be done after 10 days

Safe period : 5-7 days

5. Leaf rust (*Cerotelium fici*)

	States	Major Sericulture areas	Relative disease intensity in different months													
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC		
	Karnataka	Ramnagara, Kolar, Hassan	Low	Low					Low	Severe	Severe	Severe	Severe	Low	Low	
	Tamil Nadu	Salem, Krishnagiri,	Low	Low				Low	Severe	Severe	Severe	Severe	Severe	Low	Low	
	Andhra Pradesh	Anandapur, Chitoor, Kurnool	Low	Low				Low	Severe	Severe	Severe	Severe	Severe	Low	Low	
	Orissa	Koraput, Deogarh, Mayurbanj		Low	Low	Low	Low	Low		Severe	Severe	Severe	Severe	Severe	Severe	
	West Bengal	Murshidabad, Malda, Birbhum	Severe	Severe	Low								Low	Severe	Severe	
	Bihar, Jarkhand	M.P Raj, Ranchi														
	Assam	Jorhat					Low				Low	Severe	Severe	Severe	Low	
	Manipur	Imphal,						Severe	Severe				Severe	Severe		
	Tripura	Agarthala														
	Nagaland	Dimapur				Severe	Severe	Severe					Severe	Severe		
	Meghalaya	Meghalaya														
	Arunachal	Arunachal														
	Mizoram	Aiswal							Severe	Severe	Severe	Severe	Severe			
	Jammu Kashmir	Pampore, Manasbal, Mirgund				Low	Low	Low	Low				Severe	Severe	Low	

Severe

Moderate


Low

Symptoms : Several pin head shaped brown to black pustules on the lower side of the leaves.
Black spots on the concomitant upper side of the leaves.
Yellowing of leaves and premature defoliation

Control : Apply 0.2% Copper Oxychloride 50WP (Blitox) [4 g/litre of water] or 0.02 Tridiamwfon 25WP (Bayleton) [8g/10 lit. water

Safe period : 15 days after spray.

6. Bacterial leaf blight (*Xanthomonas campestris* pv. *mori*)

	States	Major Sericulture areas	Relative disease intensity in different months												
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
	Karnataka	Ramnagara, Kolar, Hassan													
	Tamil Nadu	Salem, Krishnagiri,													
	Andhra Pradesh	Anandapur, Chitoor, Kurnool													
	Orissa	Koraput, Deogarh, Mayurbanj													
	West Bengal	Murshidabad, Malda, Birbhum													
	Bihar, Jarkhand	M.P Raj, Ranchi													
	Assam	Jorhat													
	Manipur	Imphal,													
	Tripura	Agarthala													
	Nagaland	Dimapur													
	Meghalaya	Meghalaya													
	Arunachal	Arunachal													
	Mizoram	Aiswal													
	Jammu Kashmir	Pampore, Manasbal, Mirgund													

 Severe

 Moderate

 Low

Symptoms

- : Small water soaked spots appear on the lower surface of the leaves.
- The spots later turn brownish. Often shot holes appear due to shedding of dead leaves.
- Brown longitudinal streaks develop on the infected stem
- Under severe infection leaves turn yellowish and defoliate.

Control

- : Spray 0.01% Plantomycin/ Pushamycin [1 g/lit. water], spray may be repeated after 10 days if required.

Safe period

- : 14 days.