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CHEMICAL CONTROL OF DISEASES

(This Circular supersedes the Advisory Circular PU2 Serial No. 02/23 issued in March 2023 and previous related circulars and links with Circular Nos. DM1, DM2, DM3, DM4, DM5, DM6 & DM7)

1. Introduction

For disease management in tea, an integrated approach inclusive of cultural, biological and chemical methods is recommended as specified in Advisory Circulars DM1 – DM7.

Two fundamental groups of fungicides are used to control tea diseases. They are either contact or systemic. Contact fungicides can kill a pathogen (fungus) only upon contact and are not absorbed into plant tissues. Systemic fungicides on the other hand have the ability to be absorbed into plant tissues and therefore may leave behind residues for a longer period with better controllability. This can become counterproductive when it comes to residues in the final product (made tea). Therefore, this makes necessary to take all the precautions in resorting to control diseases using systemic fungicides. It is very important to use only the recommended fungicides as per TRI guidelines following the required Pre Harvest Interval (PHI).

2. Blister Blight Disease

2.1 Nursery

Active ingredient (a.i.)	Trade name/s	ROP Registration No.	Dosage/30,000 plants using Knapsack sprayer	PHI (weeks)
Contact Fungicides: at 4 day spray intervals				
Copper oxide	CIC Copper 50% WP	N230000	120 g/45 L water	n/a
Copper hydroxide	Champ Copper Hydroxide 37.5% WDG	N690000	45 g/45 L water	
Copper sulphate	Cuproxat ® 345 g/ L SC	P750000	200 ml/ 45 L water	
Systemic Fungicides: at 10 day spray intervals				
Hexaconazole	Eraser EC	F020100	25 ml/45 L water	n/a
Tebuconazole	Folicur 250 EC	9370100		
Propiconazole	Bumper	N750000		

2.2 Fields not in plucking (immature/pruned until tipping)

Active ingredient (a.i.)	Trade name/s	ROP Registration No.	Dosage/hectare using Knapsack sprayer	PHI (weeks)
Contact Fungicides: at 4 - 5 day spray intervals				
Copper oxide	CIC Copper 50% WP	N230000	450 - 560 g/ 170 L water*	n/a
Copper hydroxide	Champ Copper Hydroxide 37.5% WDG	N690000	136 -170 g in 170 L water*	
Copper sulphate	Cuproxat ® 345 g/ L SC	P750000	700-850 ml in 170L water*	

Systemic Fungicides: at 10 day spray intervals				
Hexaconazole	Eraser EC	F020100	85 ml/170 L water	n/a
Tebuconazole	Folicur 250 EC	9370100		
Propiconazole	Bumper	N750000		

2.3 Plucking fields

Active ingredient (a.i.)	Trade name/s	ROP Registration No.	Dosage/hectare	PHI (weeks)
Contact Fungicides: at 7-10 day spray intervals				
Copper oxide	CIC Copper 50% WP	N230000	280 - 420 g/ 170 L water*	1
Copper hydroxide	Champ Copper Hydroxide 37.5% WDG	N690000	136 -170 g / 170 L water *	
Copper sulphate	Cuproxat ® 345 g/ L SC	P750000	700-850 ml in 170L water	
Systemic Fungicides: Not recommended				

**Dilutions given above are for Knapsack sprayers (high volume spray). Mist blowers (low volume spray) are recommended only for plucking fields diluting the above dose in 40 L water. Lower dosage of copper fungicide is for normal monsoon conditions and the higher dosage is for misty and cloudy conditions*

3. Black Blight Disease

This disease is confined to Low country regions.

Active ingredient (a.i)	Trade name/s	ROP Registration No.	Dosage	Remarks	PHI (weeks)
Copper oxide	CIC Copper 50% WP	N230000	0.25% solution (25 g in 10 L of water) Drench in new clearings with 450-500 L of solution per hectare using Knapsack sprayer	If rain continues, second spraying should be undertaken after 14 days	1
Copper hydroxide	Champ Copper Hydroxide 37.5% WDG	N690000			
Copper sulphate	Cuproxat ® 345 g/ L SC	P750000	0.25% solution (25 ml in 10 L of water)		

4. Red Rust Disease

This disease is prevalent in Low country region. When applying chemicals, it is essential to wet the green stems and older wood with the spray solution, on which the alga is sporulating.

Active ingredient (a.i)	Trade name/s	ROP Registration No.	Dosage	Remarks	PHI (weeks)
Copper oxide	CIC Copper 50% WP	N230000	0.25% solution (25 g in 10 L of water) Apply 170 L of solution per hectare using Knapsack sprayer Apply three rounds per year	For young tea, First spray: late April Second spray: May Third spray : June	1
Copper hydroxide	Champ Copper Hydroxide 37.5% WDG	N690000			
Copper sulphate	Cuproxat ® 345 g/ L SC	P750000	0.25% solution (25 ml in 10 L of water)		

5. Canker Diseases (Stem and branch canker and Collar canker)

Recommended only for new clearings and pruned fields

Active ingredient (a.i)	Trade name/s	ROP Registration No.	Dosage	Frequency of application
Hexaconazole	Eraser EC	F020100	0.05% solution (5 ml in 10 L of water). Apply 170 L of solution per hectare per application with a knapsack sprayer	Minimum of 3 rounds at 2-3 monthly intervals for new clearings
Tebuconazole	Folicur EC	9370100		

6. Root Diseases

Active ingredient (a.i)	Trade name/s	ROP Registration No.	Treatment of peripheral bushes	Treatment of infills	Frequency of application
			Apply 250 - 350 ml of solution per bush as soil drench *		
Hexaconazole	Eraser EC	F020100	0.2% solution (20 ml in 10 L of water)	0.1% solution (10 ml in 10 L of water)	Minimum of 3 rounds at 2-3 monthly intervals
Tebuconazole	Folicur EC	9370100			
Propiconazole	Bumper	N750000			

** Rest the treated tea bushes without harvesting for 8 weeks*

7. Wood Rots on Prune Cuts

Active ingredient (a.i.)	Trade name/s	ROP Registration No.	Dosage/ hectare	Remarks	PHI
Tar Acids 80 g / L SL	Brunolium Plantarium	N220000	15 % solution (1.5 L in 8.5 L water) 35 L in 200 L of water	Add a colour for identification purposes. Paint / spray on to individual prune cuts 2-3 days from pruning	n/a

8. Horse-Hair Blight

Active ingredient (a.i.)	Trade name/s	ROP Registration No.	Dosage/ hectare	Remarks	PHI (weeks)
Hydrated Lime	Commercially available products	n/a	20% solution (2 Kg in 10 L water) 1000 L solution per hectare per application with a knapsack sprayer	Spray on to bush frames after each pruning	n/a

n/a - Not applicable

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