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CHEMICAL CONTROL OF INSECT, MITE AND NEMATODE PESTS

(This Circular Supercedes Advisory Circular PU 4, Serial No. 06/08, issued in December 2008 and links with Advisory Circular Nos. PM 2, PM 3, PM4, PM 7, PM9 and PM10)

The active ingredients (a.i.) of TRI-recommended insecticides, acaricides, fumigants and nematicides, and their dosages/rates, pre-harvesting intervals (PHI) and application procedures, are given in this Circular. The chemicals and their use in tea are periodically subjected to change owing to restrictions from food and beverage markets, cost-effectiveness, and social and environmental acceptance.

1. Nematodes

active ingredient	Trade name/s	Dosage	Remarks	PHI
Nursery fumigation				
Dazomet 98%	Basamid	250 g of Dazomet per one cube of soil	Sprinkle the chemical evenly on the surface of soil heap and mix into the soil immediately	Not applicable
Metam Sodium	Metam	800 ml of Metam per one cube of soil		
Prophylactic measures at planting				
Carbofuran	Furadan 3G Curetter 3G	7 g (¼ oz) per planting hole	Mix the granules with soil in the planting hole, in such a way that the roots of the plant are in contact with the chemical	Not applicable
Infested mature tea fields				
Carbofuran	Furadan 3G Curetter 3G	10 g per bush	Mix the nematicide thoroughly with the ground fertilizer, and apply at the time of tipping after pruning	12 weeks

2. Mites

active ingredient	Trade name/s	Dosage	PHI
Nursery plants and young tea not brought into bearing			
Sulphur	Haymite 80% WP Kumulus S 80% WP Sofril 81% WP	0.5% solution 22.5 g in 4.5 L of water per 3500 nursery plants 4.5 kg in 900 L of water per ha per application by knapsack sprayer	Not applicable
	Sulphur 80% WP Thiovit 80% WP	1.8% solution 81 g in 4.5 L of water 4.5 kg in 250 L of water per ha per application by mist blower	

- Use either the hollow-cone nozzle, or the solid-cone nozzle which produce a circular pattern of very fine droplets with knapsack sprayers
- Maintain a high pressure in the knapsack sprayers (3 bar or 42 psi) during spraying

3. Shot Hole Borer

active ingredient	Trade name/s	Dosage	Remarks	PHI
Prophylactic treatments for nursery plants				
Fipronil	Regent 50 SC	10 ml in 8 L of water for 1000 nursery plants per application	Spray onto susceptible stems and branches of 8-10 months old nursery plants	Not applicable
Prophylactic treatments for young, immature tea and new clearings				
Fipronil	Regent 50 SC	<p><u>First Spray:</u> 200 ml in 250 L of water per ha per application</p> <p><u>Second Spray:</u> 400 ml in 500 L of water per ha per application</p> <p>by knapsack sprayer</p>	<p><u>First Spray:</u> Spray onto susceptible stems / branches, 6-10 months after planting</p> <p><u>Second Spray:</u> Spray onto susceptible stems / branches of 2nd and 3rd year plants</p>	Not applicable

(Stems / branches of pencil thickness in size are the susceptible to Shot Hole Borer infestation)

4. Tea Tortrix

active ingredient	Trade name	Dosage	PHI
Chlorfluazuron	Atabron 50	0.1% solution 5 ml in 4.5 L of water by knapsack sprayer 1 L in 900 L of water per ha per application by knapsack sprayer	1 Week
		0.4% solution 18 ml in 4.5 L of water by mist blower 1 L in 250 L of water solution per ha per application by mist blower	

5. White Grubs

active ingredient	Trade name/s	Dosage	Remarks	PHI
Carbofuran	Furadan 3G Curetter 3G	7 g per plant	Mix granules into soil in the planting hole to give an envelop coverage to the root system	Not applicable

6. Low country Live-wood Termite

Protect the prune cuts with an anti-microbial wound dressing such as Kandarsan.

7. Miscellaneous Pests

i. Mealy bugs, Thrips, Brown bugs and Aphids

active ingredient	Trade name/s	Dosage	PHI
Imidachlopid	Admire	0.1% solution	1 week
	Gaucho 70	4.5 ml in 4.5 L of water	
	Admire SL200	600 ml in 600 L of water per ha per application	
	Kohinoor	by knapsack sprayer	

ii. Ant Pests

active ingredient	Trade name/s	Dosage	PHI
Diazinon Flowable	Knox Out 2FM	5% solution 237 ml in 4.5 L of water by knapsack sprayer	1 week
	Basudin 5% G(W/W)	10 g per square meter. A repeat application after 2 weeks	

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