

The silk production is largely dependent upon production of both quantitative and qualitative mulberry leaves. Mulberry being the sole food plant of the silkworm, *Bombyx mori*, success of cocoon crop largely depends upon the production of mulberry leaf and its nutritive value.

Although mulberry is a hardy perennial plant, with monocultural practices, leaf production is greatly hampered due to attack of pests and diseases. Out of these, thrips is one of the important pest causing serious damage to mulberry plantation. About eight species of thrips have been known to damage mulberry leaves in West Bengal.

#### Nature of damage and symptoms

❖ Thrips occur on the ventral surface mostly concentrated on apical buds and younger leaves. Thrips infestation tends to delay plant growth and retard maturity.



- ❖ The nymphs are the damage causing stages. They rasp tender leaves and terminal buds with their sharp mouthparts and suck the juices.
- ❖ Thrips feed on sap by scraping the palisade tissue on the ventral side of mulberry leaves and causes diminution of nutritive value.



❖ Affected leaves show yellow streaks in the early stage of the attack, whereas yellow blotches are observed at advanced stage of the attack which will later become yellowish brown on maturity, leaves appear leathery and become boat-shaped.



- ❖ Leaves turn brown on the edges, develop a silvery color, or may become distorted and curl upwards.
- ❖ Thrips infestation leads to arrest of plant growth, leaves become brittle, crinkle, corky and often fall prematurely. Thus heavily affected leaves become unfit for silkworm rearing.



#### Seasonal Incidence:

Thrips causes damage in mulberry gardens from March to June with April and May being the peak months of infestation.

Mulberry leaf yield loss caused by the pest ranged from 19% (November – April) to 25% (Feb.-June). Prolonged dry spells beyond June, would further augment the severity of infestation by the pest.

## Management:

- ❖ Removal of weed plants surrounding mulberry garden as they serve as alternate hosts.
- ❖ Deep digging followed by flood irrigation exposes the life stages of thrips that are sheltered in the soil to physical stress leading to mortality.
- ❖ Spray of 1.5% Neem oil or 0.1% dimethoate or 0.015% thiamethoxam with a safe period of 14 days when the population level crosses 20 / leaf.
- ❖ Spray of 0.2% dimethoate with a safe period of 14 days when the population level crosses 40 / leaf.
- ❖ *Micraspis discolor* a native predator is effective to regulate the thrips population.

## Preventive and control measures:

District	Name of the crop	Last date for insecticide spray*	Brushing date
Murshidabad Birbhum, Nadia and Malda	Baisakhi (March- April)	15 <sup>th</sup> March	27 <sup>th</sup> – 30 <sup>th</sup> March
	Shrabani (June)	5 <sup>th</sup> June	15 – 20 <sup>th</sup> June

\* Don't spray after that date.

☞ Spray on the lower surface of the leaves.

## Preparation of insecticide solution:

- ❖ For spraying one bigha (33 decimals) land area of mulberry the quantity of spray solution required is 70 litres

Insecticide	Commercially available as	Quantity to be mixed in 10 litres of water
Neem oil	1500ppm	150 ml (30 Teaspoon full) + 10 teaspoon full soap solution)
	3000ppm	75 ml (15 Teaspoon full) + 10 teaspoon full soap solution
	5000ppm	45 ml (9 Teaspoon full) + 10 teaspoon full soap solution)
	10000ppm	23 ml (5 Teaspoon full) + 10 teaspoon full soap solution
Dimethoate	30EC	33 ml (7 tea spoon full)
Thiamethoxam	25WG	5g (1 sachet full)

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