X-Mate™ F.C.M.

Thaumatotibia leucotreta

Reg. No.: L10320 Act No 36 of 1947.

Ready-to-use male mating disruption:

X-Mate™ F.C.M. is a ready-to-use, pheromone based, mating disruption product, which disorientates male False codling moths *(Thaumatotibia leucotreta)* resulting in the failure of the male moths to locate the female moths and thus reducing mating. X-Mate™ F.C.M. is used in Citrus, Tree Nuts, Stone Fruit, Avocado, Litchi, Pomegranates and Vineyards and is ideal where Integrated Pest Management programs are followed.

Active Ingredients:

E-8-dodecenyl acetate (77 %)	962,5 mg
Z-8-dodecenyl acetate (23 %)	287,5 mg

Each dispenser contains a minimum of 1250 mg active ingredients.

Registration Holder:

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Manufactured and Distributed by:

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CAUTION

WARNINGS:

- Handle with care.
- Keep away from children and uninformed persons and animals.
- Store away from direct sunlight and damp area, in a well-ventilated area away from food and feed.
- Prevent contamination of drinking water, food and animal feed.
- Store unopened below 20 ° C in a dry area.
- Any X-Mate™ F.C.M. that will be stored for longer than 14 days should be refrigerated below 5 °C.
- Avoid contamination of surface water.
- **Use within 12 months of manufacturing date.**

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not guarantee that it will be effective under all conditions. The activity and effect thereof may be affected by factors such as abnormal climatic and storage conditions, and the occurrence of resistance of pests, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal, or for lack of performance of the remedy concerned due to failure by the user to follow the label instructions, or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS:

- Wear suitable protective clothing during handling – overalls and impermeable gloves.
- Avoid contact with skin, eyes or clothing. In the case of accidental contamination, wash the skin using a mild detergent.
- Do not eat, drink or smoke while handling the product and wash hands and face before and after doing so.
- After handling, change clothing and protective clothing and wash before re-use.
- Dispose of empty packaging material in a landfill site or incinerate.
- If incinerated, avoid inhalation of the smoke.
- Do not re-use empty packaging material for any other purpose.

DIRECIONS FOR USE: USE ONLY AS DIRECTED

General use restrictions:

FACTORS AFFECTING MATING DISRUPTION

Block Size: For optimal efficacy the treated area should NOT be smaller than 10 Ha, and preferable square blocks. Dispensers must be applied uniformly through out the treated area and will be more effective in blocks where trees are uniform compare to blocks where trees are missing. Avoid treatment of long and narrow areas where the width is less than 250 meters.
Shelter: Pheromone concentration will always be higher closer to the dispenser and is important to reduce wind speed and air movement. In some cases control can be compromised in windy or exposed situations and on slopes affected by air movement.
Population Size: X-Mate™ F.C.M. will be more effective if damage in the previous season was low. Supplementary insecticidal control measures should be considered if information on population density is unavailable.
Isolation: External sources of False codling moth can provide a significant source of mated immigrated females. Risk from such infested hosts within 50 m of the treated block should be managed by treating adjacent crops or host plants with a registered insecticide. The larger the area under mating disruption, the smaller the edge effect of mated immigrant females.
Climate: The wind has an effect identical to the border effect, preventing the pheromone cloud from maintaining the necessary concentration. The wind and temperature in the orchard influence the pheromone release rate, which influences the persistence of the pheromone. It is essential for the pheromone release period to cover the entire mating period.

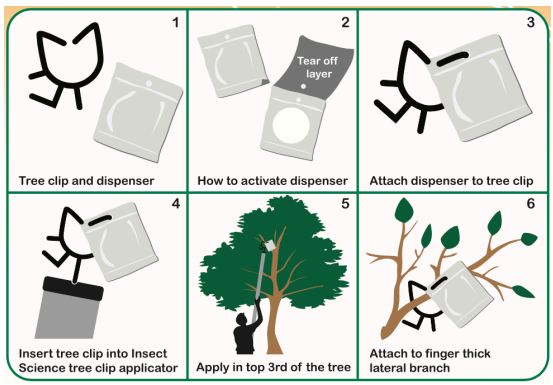
X-Mate™ F.C.M. is recommended for all susceptible cultivars harvested before the end of May.

Application Instructions:

Do not cut dispenser bag open, use tear tag. (see illustration below)

Attach the dispensers to the tree-clip (supplied) and apply the tree-clip with dispenser to a lateral branch (finger thickness) in the top 1/3 of tree / vine in such a way that it is not exposed to direct sunlight. Do not place the dispenser too deep into the canopy, as free airflow is required to distribute the pheromone for optimal disruption.

Use Insect Science tree-clip applicator or any suitable applicator such as a telescopic aluminium pole for bigger trees to ensure that the dispenser is placed in top 1/3 of tree / vine, (see illustration below).



Application Rate:

Use 40 – 42 X-Mate™ F.C.M. dispensers in total per hectare per production season irrespective of tree density. Use the following table as a **guideline** to determine your correct placement within the orchard. Always ensure 1 dispenser is placed per 250 m^2. Hang the dispensers evenly and uniformly throughout the orchard.

Citrus, Stone Fruit and Avocado orchard placement guideline:

Row spacing (m)	Tree spacing (m)	Trees per ha	Dispenser per Ha	Instruction (1 dispenser per 250 m^2)
6	3	550	40	Start application in 2nd row tree no 3 there after in every 7th tree in the row. Repeat application in every 2nd row.
5	3	660	42	Start application in 2nd row tree no 2 there after in every 6th tree in the row. Repeat application in every 3rd row.
7	4	357	42	Start application in 2nd row tree no 2 there after in every 4th tree in the row. Repeat application in every 2nd row.
6	4	417	40	Start application in 2nd row tree no 3 there after in every 5th tree in the row. Repeat application in every 2nd row.

Tree Nuts and Litchi orchard placement guideline:

Row spacing (m)	Tree spacing (m)	Trees per ha	Dispenser per Ha	Instruction (1 dispenser per 250 m^2)
5	5	400	40	Start application in 2nd row tree no 3 there after in every 5th tree in the row. Repeat application in every 2nd row.
6	3	555	40	Start application in 2nd row tree no 4 there after in every 7th tree in the row. Repeat application in every 2nd row.
6	4	416	40	Start application in 2nd row tree no 3 there after in every 5th tree in the row. Repeat application in every 2nd row.
7	3,5	408	40	Start application in 2nd row tree no 3 there after in every 5th tree in the row. Repeat application in every 2nd row.
7	4	357	40	Start application in 2nd row tree no 3 there after in every 4th tree in the row. Repeat application in every 2nd row.
8	3	416	40	Start application in 2nd row tree no 2 there after in every 5th tree in the row. Repeat application in every 2nd row.
8	4	312	40	Start application in 2nd row tree no 3 there after in every 4th tree in the row. Repeat application in every 2nd row.
10	5	200	40	Start application in 2nd row tree no 2 there after in every 3rd tree in the row. Repeat application in every 2nd row.
10	10	100	40	Start application in 1st row tree no 2 there after in every 2nd tree in the row. 2nd row begin application in 3rd tree in the row there after in every 2nd tree in the row. Repeat sequence application in every row there after.

Vineyards and Pomegranate orchard placement guideline:

Row spacing (m)	Tree spacing (m)	Trees per ha	Dispenser per Ha	Instruction (1 dispenser per 250 m^2)
3	2	1666	40	Start application in 2nd row vine no 5 there after in every 7th vine in the row. Repeat application in every 6th row.
3,5	2	1428	40	Start application in 2nd row vine no 3 there after in every 9th vine in the row. Repeat application in every 4th row.
3	1,8	1852	40	Start application in 2nd row vine no 5 there after in every 8th vine in the row. Repeat application in every 6th row.
3,5	1,8	1587	40	. Start application in 2nd row vine no 3 there after in every 10th vine in the row. Repeat application in every 4th row.
2,5	1	4000	40	Start application in 3rd row vine no 8 there after in every 17th vine in the row. Repeat application in every 6th row.
2,5	1,4	2857	40	Start application in 3rd row vine no 6 there after in every 12th

				vine in the row. Repeat application in every 6th row.
2,5	1,8	2222	40	Start application in 3rd row vine no 5 there after in every 9th vine in the row. Repeat application in every 6th row.

Timing:
Hang X-Mate™ F.C.M. dispensers out from mid to end October, before first False codling moth emergence. Hang 40 – 42 X-Mate™ F.C.M. dispensers in all relevant orchards once per season.

Monitoring of Male Moths:
Use False codling moth pheromone traps (1 trap / 5 ha) to monitor male moth flights. It is recommended that traps are used and placed in the top 1/3 of the tree to determine the False codling moth emergence patterns. Place False codling moth monitoring traps in the orchard by the beginning of August and inspect weekly until the end of harvest period. Replace lures and traps as recommended by the label. After X-Mate™ F.C.M. has been applied, no male moths, if any, should be caught in traps. Should moths be caught in treated orchards, consult with your local agent.

Additional control methods:
Mating disruption is always more effective in orchard where the False codling moth pressure is lower. If moderate to high moth populations are present, spray a registered insecticide, according to the label, additional to the mating disruption program. During the period before harvest often coincides with increased moth activities and fruit damage. It is of critical importance to apply a registered insecticide weeks before harvest to control any larva infestation in combination with a weekly orchard sanitation programs, destroy damage fruits as per protocol and maintain sanitation until harvest.