CURA FLY
FRUIT FLY BAIT

Distributed by: Harvest Chemicals
Registered by: CURA CHEM cc.
Company Reg. No. 2000/037398/23
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HARVEST CHEMICALS

A selective concentrate bait for the control of fruit fly species in citrus, mango, pome and stone fruit and berry crop production. Suitable for use in organic farming practices.

'n Selektiewe konsentraat lokaas vir die beheer van vrugtevliegspesies in appels/pere, mango, sagtevrugte, sitrus en bessiegewas produksie. Geskik vir aanwending in organiese boerdery praktyke.

Batch No	Reg. No. L 10873, Act No 36 of 1947.		Reg Nr L 10873, Wet Nr. 36 van 1947.	Lot Nr
	INSECTICIDE GROUP CODE	**5**	**INSEKDODER GROEPKODE**	
Date of manufacture	**Active Ingredient:** **SPINOSAD** (Spinosyns)	**0,24g/ℓ**	**AktieweBestandeel:** **SPINOSAD** (Spinosiene)	Vervaardigings-datum
	Nett Volume	**20ℓ**	**Netto Volume**	

WARNINGS

Withholding period – the minimum time between the last application and harvest:
Citrus, Mangoes, Pome and Stone Fruit and Berry crops - 1 day.

- Handle with care.
- Slight eye irritation may be caused.
- Moderately toxic to fish and toxic to aquatic invertebrates. Do NOT apply directly on to open water areas.
- Keep away from food and animal feeds.
- Keep out of reach of children and uninformed persons.
- Avoid contact with animal and avian species.
- Store under roof under cool and dry conditions.
- **Re-entry period** - Do not enter the treated field until the spray deposit has dried unless wearing protective clothing.
- **Aerial Application:** Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

Beneficial Insects

- **"CURA FLY"** is relatively safe to bees.
- **"CURA FLY"** contains an ammoniac related compound as an attractant to fruit flies which repels bees.
- Caution - do not apply directly onto foraging bees or swarms of bees.
- **"CURA FLY"** will not harm beneficial insects such as Coccinellidae, Neuroptera, predatory mites and insect parasites.

Integrated Pest Management (IPM) Programme

- **"CURA FLY"** can be recommended for use in IPM programmes as it has no significant harmful effect on parasitic or predatory insects and mites such as ladybirds, lacewings, killer bugs and predatory mites.

PRECAUTIONS

- **Do not allow this product to freeze.**
- Rain within 3 hours of application can reduce the efficacy of this product.
- Store in the original labelled container and do not decant for storage.
- After skin contact, thoroughly wash the affected parts with soap and water.
- Safety clothing such as overall, shoes, gloves and face shield must be worn when handling the product in concentrated form.
- In case of accidental eye contact, rinse eyes with clean water for at least 15 minutes. Consult a medical practitioner if eye irritation persists.
- Do not eat, drink or smoke whilst mixing the product or during application.
- After contact with the product, change clothing and wash hands and face before eating, drinking, smoking or using toilet.
- Avoid spray drift onto adjacent crops, grazing, and open natural water sources.
- Wash and rinse application equipment after use and before using for other remedies. Dispose of wash and rinsing water where it will not contaminate crops, grazing, rivers, dams and water sources.
- After emptying the container into spray tank, triple rinse the container, adding the rinsings to the spray tank. Do not use the empty container for any other purpose. Destroy the empty container by perforation and flattening. Dispose of in a manner where no contamination of food, animals or water resources can take place.

Although this remedy has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the actions and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water; compatibility with other sub stance not indicated on the label and occurrence of resistance against the remedy concerned as well 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 of 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 event of any uncertainty.•

RESISTANCE WARNING

For resistance management **"CURA FLY"** fruit fly bait is a group code 5 insecticide. Any insect population may contain individuals naturally resistant to **"CURA FLY"** fruit fly bait and other group code 5 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. "CURA FLY" fruit fly bait or any other group code 5 insecticide may not control these resistant insects.

To delay insecticide resistance: Avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate with products from different insecticide group codes. Integrate other control methods (chemical, cultural, biological) into insect control programmes. For specific information on resistance management contact the registration holder of this product.

DIRECTIONS FOR USE - USE ONLY AS INDICATED ON LABEL

"CURA FLY" is a bait concentrate, which should be properly diluted with water before application.

General Instructions

Mixing Instructions for **"CURA FLY"** Fruit Fly Bait

"CURA FLY" Fruit Fly Bait is a product with high viscosity and high density compared to water. It is of primary importance that particular care be taken when mixing with water. The product is water soluble but vigorous agitation is required to ensure that it is completely dissolved and the concentrate does not sink to the bottom of the spray tank. Pre-mixing the bait concentrate with an equivalent volume of water before adding to the spray tank is recommended.

Half fill the spray tank with clean water and commence agitation while slowly adding the required volume of **"CURA FLY"** while filling the spray tank to the required volume. Maintain vigorous agitation for a further 10 minutes to ensure that a homogeneous mixture is obtained before commencing application.

Continue agitation throughout the application process to ensure uniformity of the bait mixture.

- The bait mixture must be applied within 12 hours after dilution.
- Do not add wetting agents, water buffers or any other chemical compound to the bait mixture.

GROUND APPLICATION

Use suitable, properly calibrated equipment fitted with the prescribed nozzle sizes without whirl plates to provide solid thin streams, targeting the inside of fruit tree canopies.

Application to fruit trees (Ground Application) - Bearing Trees.

"**CURA FLY"** must be applied at the recommended dosage rate specified for citrus, mangoes, pome and stone fruit and berry crop production.

- The bait concentrate must not be diluted to exceed a ratio of 1.0ℓ to 1.2 ℓ bait concentration on 29 or 28.8 litres water to make a 30 litre bait mixture.
- Bait droplets must not exceed 4mm in diameter.
- Medium or full cover spray techniques are not recommended.
- An ideal application would be to obtain 1 to 4 mm droplets on the inside of the tree canopy at heights of 1.0-2.5 m above ground level, depending on tree size.
- Bait must be applied to the one side of each row, alternating consecutive applications to alternative sides of the row.
- Alternatively, entry may be gained between two rows directing the application to either side, applying the bait to one side of each row. In such instance the following interrow can be skipped. Enter alternative rows for follow up applications.

Caution

Rate of application, droplet sizes exceeding 4mm in diameter or application techniques such as re-entry on the same side of the row at shorter intervals (7 day cycle) resulting in fusion of droplets and accumulation in the same area may be conducive to the development of sooty mould in the area of the accumulated bait.

Rind Stipling

Certain Citrus cultivars – such as Nodorcott mandarins are susceptible to rind stipling under climatic conditions when delayed drying of droplets occur and / or incorrect droplet sizes are applied. Copper sprays preceeding the CURA-FLY bait application may also result in blemishes occurring under the "**CURA FLY"** droplets.

Berry Crops
Avoid application of **"CURA FLY"** direct onto the fruit where berries are produced in bunches.
Recommended application techniques
Nozzle sizes and pump pressures may be varied to achieve the desired application rate per ha. Use the guidelines provided by different equipment and spray nozzle manufacturers to deliver a thin solid stream, directing the stream upwards into the tree canopies. This will result in the solid stream breaking up into coarse droplets when making contact with any obstruction such as branches, leaves or fruit. Focus on droplet sizes of 1 to 4 mm in diameter.

AERIAL APPLICATION
Aerial application of **"CURA FLY"** may only be conducted by a registered aerial application operator using a registered and correctly calibrated aircraft according to the instructions of SANS Code 10118 (Aerial application of Agricultural Remedies).
Ensure that fields are accurately marked and that the aerial spray operator knows exactly which fields to spray.
Obtain an assurance from the aerial spray operator that the following requirements will be met.

Aerial Spray Equipment
Use suitable atomising equipment that will produce the desired droplet size to cover the target area minimising product loss through spray drift.
Guidelines for nozzles to meet the criteria for aerial application of "CURA FLY" fruit fly bait: Solid stream spray nozzles orientated to spray in the direction of airflow (180º to the rear) are the most appropriate nozzle types to achieve larger droplets for bait application.
Nozzles with flat fan or cone spray patterns should not be used.
Nozzles equipped with "Spraying Systems" D- type hollow cone tips "or equivalent" without the whirlplate and orifice diameter of 3-6 mm are suitable.
The number of spray nozzles may differ from 2-6 per wing, depending on the required application volume, type and size of aircraft and application speed. All nozzles should be placed within less than 75 % of wingspan for fixed wing aircraft and 90 % of rotor span for helicopters.

Application by Gyrocopter
Nozzles to be positioned within 90 % of rotor diameter pointing 90º downwards ↓ Nozzles must be a maximum 0.5 m from the rotor tip. Number of nozzles - 2 non-drip nozzles (1 per side).

Application Parameters
- Use a low volume of 2.0 to 4.0 ℓ spray mixture per ha.
- A droplet coverage of 3 – 6 droplets per cm^2 must be recovered at the target area.
- A droplet spectrum with a VMD of 500 – 1000 micron is recommended and fine droplets, with a VMD less than 300 micron to be minimised.
- Do not spray when the aircraft is in a climb, at the top of a turn or during a dive or when banking.
- Effective swath width for "CURA FLY" bait application must be determined for each aircraft taking cognisance of the atomizing equipment and nozzles in use.
- Recommended Flying Height: Rotary atomisers – 8 to 12m; Hydraulic nozzles – 15 to 20m; Helicopter – 25 to 30m.

Meteorological Conditions
- The difference between the wet and dry bulb readings as determined by a whirling hygrometer must not exceed 8º C.
- Do not spray under turbulent, unstable conditions or during the heat of the day when rising thermals and downdraughts occur.
- Do not spray under temperature inversion conditions (spraying in or above the inversion layer).
- Do not spray when the wind speed exceeds 15 km per hour.

GENERAL
For maintenance of phytosanitary conditions non-bearing trees can be treated by scattering larger droplets of up to 6 mm at the same bait mixture rate applicable to bearing trees. A longer period of efficacy and fruit fly attraction can be expected from the larger droplets.Fruit fly should be monitored throughout the year by using suitable fruit fly traps and orchards should be treated when threshold levels are exceeded.

IMPORTANT
- Since fruit fly have phytosanitary restrictions for export crops it is important that all areas surrounding the crop be monitored and treated to prevent fruit fly build up on the outskirts from where orchards can be infested.
- Orchard sanitation is equally important by removing all fallen and unharvested over-ripe fruit from the orchards.

Rain
Heavy persistent rain will wash bait off and a repeat application will be required.

Cleaning of equipment
Thorough cleaning of spraying and other equipment is essential as remaining bait residues will provide favourable conditions for
microbial and fungal growth. Chlorine at a 0.1 % solution will assist to remove undesirable contamination of equipment.

APPLICATION RATES:

CROP/PEST	DOSAGE RATE	REMARKS
CITRUS, MANGOES, POME AND STONE FRUIT TREES AND BERRY CROPS. *Mediterranean Fruit Fly (Ceratitis capitata)* *Natal Fruit Fly (Ceratitis rosa)* *Marula Fruit Fly (Ceratisis cosyra)* *Olive Fly (Batrocera oleae)* *Oriental Fruit Fly (Batrocera dorsalis)*	<u>GROUND APPLICATION</u> 1.0 – 1.2ℓ **"CURA FLY"** in 9.0 – 29ℓ water (10 – 30ℓ bait mixture per ha)	Apply **"CURA FLY"** bait as coarse droplets (approx. 1-4 mm on bearing fruit trees and 4 -6 mm on non-bearing fruit trees. Apply a total of 10 to 30 litres bait mixture per planted ha. Use only calibrated equipment adapted to meet the application criteria. Scatter droplets approximately 1 - 2.5 m above ground level to one side of each row of trees. Alternate sides with each consecutive application. Repeat bait applications at least every 7 -14 days depending on insect pressure or in accordance with the prescribed protocol of the relevant research controlling authorities. Treat all susceptible and surrounding orchards. Alternatively apply to one side of two adjacent rows at the same time. In such instance the following interrow can be skipped. Enter alternative inter-rows on consecutive applications.
BERRY CROPS		Apply **"Cura Fly"** at the same dosage rate and droplet size as described for fruit trees. Avoid droplets of the **"Cura Fly "** on the berries and where berries are produced in bunches the spray must be directed in between the bunches . 2 to 3 interrows can be skipped provided that the untreated zone between applications does not exceed 10 meters. Re- enter in different rows with follow up applications. Repeat application at 7 – 14 day intervals depending on insect population pressure.
	<u>AERIAL APPLICATION</u> 1.0ℓ **"CURA FLY"** in 1.0-3.0ℓ water per ha. (2.0-4.0ℓ bait mixture per ha)	**"CURA FLY"** has a high viscosity and high density compared to water. Vigorous agitation is required to ensure thorough mixing before adding it to the aircraft hopper. The spray mixture must be evenly distributed over the target area and spray drift must be minimised. Repeat the bait application at 7 to 14-day intervals depending on insect pressure or in accordance with the prescribed protocol of the relevant research controlling authorities.