



2. Pheromone Traps:

Using pheromone traps to attract the red palm weevil (the fully grown insect) during the period of its activity. After trapping the weevil in a bucket, they are disposed of later. The pheromone should be replaced periodically to maintain its effectiveness in attracting adult weevils.



Pheromone Traps

3. Chemical Control:

The chemical control will be conducted as follows:

- The infected palm trees should be sprayed with insecticide recommended by the ministry. Apply the insecticide to the infected areas of the tree. All holes in the trunk should be sealed with a paste of mud and copper fungicide. The success of this method depends on sealing the holes and preventing the pesticide from leaking and keeping it inside the palm tree at an appropriate concentration to eliminate all stages of the weevil inside the stem.
- The severely infected areas should be sprayed during the period between the reap and the development of new fruits or after complete fruit setting. The spraying must be halted enough before fruit maturity and from late May until October.

The following conditions should be met when conducting the control process:

1. Using highly efficient sprayers.
2. Using protective clothes during the control process.
3. Weather conditions should be appropriate for spraying.
4. Safe disposal of empty pesticides containers by collecting and delivering them to competent authorities.

Dear farmer,

Contact an agricultural expert as soon as possible to help you learn the appropriate control methods, materials, and techniques, to make sure you get the desired results.

Date Palm trees are a national treasure, let's maintain them



Indian Red Date Palm Weevil

www.moccae.gov.ae



Indian Red Date Palm Weevil (I.R.P.W)

Introduction:

Indian Red Date Palm Weevil (I.R.P.W) (*Rhynchophorus ferrugineus*) is one of the most dangerous pests infecting the palm trees and the most difficult to control, causing severe losses to farmers. The first time the weevil was found in the United Arab Emirate dates back to 1985.

The weevil attacks most date palm species, and it is able to infect most of other palm species, such as coconut trees. The weevil is especially dangerous because of its high fertility and the difficulty of early detection of infection. Besides, it is a strong flyer, particularly during night hours.

Life Cycle:

The color of adult weevil is rusty red, its length is 35-40 mm, and diameter is 20 mm. The females have long snout that is thinner and longer than that of their male peers. The males can be distinguished from the females by short, brown bristles on the back part of the snout of the males. While the snout of the females has no such bristles. The adult weevils mate more than one time. Then, the females lays eggs inside the soft tissues of the cracks or wounds caused by recently cut sapling, pruning, or holes excavated by other insects.

The adult females can lay between 200 and 400 eggs during their lifetime. The eggs hatch over a period of 2 to 5 days, depending on the temperature and humidity, producing the larvae. The larva is the harmful stage of the weevil, where it voraciously feeds on soft tissues, leaving behind galleries in all parts of the tree, including the internal parts of the stem. Consequently, a white gel forms inside the stem, which soon turns into yellow and then dark red. Eventually, the stem turns into a tube filled with decaying tissues and larva waste, and breaks once exposed to strong

winds or any other strong external factor. The larva undergoes metamorphosis into an adult in 55 days, during which it pupates to turn into a pupa; then, it develops from a pupa into a fully-grown weevil in 15-20 days and restarts the life cycle. Frequently, 3-4 generations can be passed in the same host tree.

Symptoms of Infestation

All stages of the weevil can be observed in a farm in a one year time. However, two distinct periods of activity were monitored:

The first period: From November to January. The second period: From May to June each year. Because the red palm weevil is a concealed tissue borer, symptoms of attack at an early stage of infestation are difficult to detect. When a palm is severely infested, the following external symptoms can be detected:

1. The base of the fronds and parts of the stem are torn;
2. The secretion of gelatin substances of various colors (white, brown, brownish black) and odor;
3. The pale of leaves color and dryness of their tips; and
4. The pupal case and exit holes caused by the larvae could be seen on the internal bases of frond cuts.

Protection and Control Methods:

The integrated management system to control the Indian Red Date Palm Weevil includes various means and techniques, the most important of which are:

1. Agricultural Control:

To reduce the chances of being infected by this pest and limit its spread, the following measures should be taken:



An adult Indian Red Date Palm Weevil (I.R.P.W)



Fully grown larva right before starting the pupal stage



Fully grown larva inside the base of a young, infected palm tree trunk



A larva inside a pupal case before it is fully built and before it pupates inside it for a month



Adult weevil after a month of feeding and before leaving its pupal case



A recently fully grown weevil inside worn out tissues of a palm tree base

- Paying special attention to pruning and regularly cleaning the stem of the palm tree to detect the infection before it spreads;
- Disposal of infected dry or falling trees and the wastes resulting from pruning;
- Tarring wounds after pruning or removing offshoot, as such wounds attract the females for egg laying;
- New date palm seedlings should be picked from uninfected farms
- Conducting agricultural operations with care, especially moderation in irrigation, as flood irrigation increases the chances of infection with red palm weevil, while drip irrigation reduces the chances of infection. Besides, fertilization should be conducted in a good, balanced manner.