



The Ministry of Education  
Ras al-Khaimah zone  
Zainab for basic and secondary School

# Red Palm Weevil

Elimination of the insect in a friendly  
environment

## **Done**

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## Introduction of RPW

Information on Red Palm Weevil was first published in 1891 in India. This pest was first described as a serious pest of the coconut palm in 1906, while in 1917 it was described as a serious pest in the date palm in the Punjab, India.

In 1918, RPW caused serious damage to the date palm in Mesopotamia (Iraq) but no insect specimens were collected to confirm it.

RPW entered and was discovered during the mid-1980s in the Arabian Gulf countries. However, it has become a most destructive pest of date palms in the Middle East.

## Life Cycle

All stages (egg, larva, pupa and adult) are spent inside the palm itself and the life cycle cannot be completed elsewhere. The females deposit about 300 eggs in separate holes or injuries on the palm. Eggs hatch in 2 to 5 days into legless grubs which bore into the interior of the palms, moving by peristaltic muscular contractions of the body and feed on the soft succulent tissues, discarding all fibrous material. The larval period varies from 1 to 3 months. The grubs pupate in an elongate oval, cylindrical cocoons made out of fibrous strands. At the end of the pupation period which lasts 14 to 21 days, the adult weevils emerge. Thus the life cycle is about 4 months.

### Egg

The eggs are creamy white in color, long and oval in shape. The average size of an egg is 2.6 mm long and 1.1 mm wide.

### Larva (Grub)

The full grown larva is conical in shape and is a legless fleshy grub. It appears yellowish brown, while the newly hatched larva is yellowish white in color, with a brown head.

The length of the full grown larva is 50 mm and the width is 20 mm.

The head is brown in color and bent downwards. Mouth parts are well developed and strongly chitinized, which enable the grub to burrow into the trunk. However, the grub requires a moist environment.



#### Cocoon:

When about to pupate, the larva constructs a cocoon of fibers from palm. The cocoon is oval in shape, with an average length of 60 mm and a width of 30 mm.

#### Pupa:

The pupa is at first cream colored but later turns brown. The head is bent ventrally, the rostrum reaching the tibiae of the first pair of legs. The antennae and eyes are quite prominent. The elytra and wings are brought down ventrally, passing underneath the femora and tibiae of the second pair of legs, overlapping the third pair of legs and meeting in the middle of the abdomen.

The average length of the pupa is 35 mm and the width is 15 mm.

#### Adult

The adult weevil is a reddish brown cylinder with a long prominent curved snout. It varies considerably in size and is about 35 mm in length and 12 mm in width. The head and rostrum comprise about one third of the total length.

The mouth parts are elongated in the form of a slender snout or rostrum, which bears a small pair of biting jaws at the end and a pair of antennae near the base. The rostrum is reddish brown dorsally, and ventrally it is dark brown. In the male the dorsal apical half of the snout is covered with a pad of short brownish hairs; the snout of the female is bare, more slender, curved and a little longer. The antennae consist of the scape and funicle. The eyes are black and separated on both sides of the base of the rostrum.

The pronotum is reddish brown in color and has a few black spots. These black spots are variable in shape, size and number.

The elytra are dark red, strongly ribbed longitudinally, and do not cover the abdomen completely. The wings are brown in color and the weevils are capable of strong flight.

The male weevil has a tuft of soft reddish brown hairs along the dorsal aspect of the snout; it is absent in the female



### Economic Importance and Damage

Normally, the Red Palm Weevil prefers to infest palms below the age of 20 years, where the stem of the young palm is soft, juicy and easily penetrated. The weevils are destructive pests to palms.

The larvae are responsible for damaging the palm, and once they have gained access, the death of the palm generally ensues. The larva normally never comes to the surface, since it begins its life inside the palm. Therefore, neither the damage nor the larva can be seen. However, the trunk of the palm can be infested in any parts, including the crown.

The damage caused by a few larvae of the weevil is astonishing. Even one larva may cause considerable damage, and, sometimes the death of the palm.

It is difficult to assess the actual loss caused by this pest, but undoubtedly it affects the production of date palms.

### Where RPW is attacked to Date Palm

The female weevils lay their eggs on palms mostly in cracks, crevices and wounds. Another important site of pest entry into the palm is at the leaf axil and also from where offshoots emerge.

The trunk of the palm can be infested in any part including the crown

### Methods of Control

- Plant Quarantine:

The transport of offshoots as planting material from infested areas can contribute to the spread of the pest. Strict quarantine at international and national levels should be applied.

- Cultural Control:



Field sanitation and cultural practices are one of the important components to prevent weevil infestation.

1- Clean the crown of palms periodically to prevent decaying of organic debris in leaf axils.

2- Avoid cuts and injuries.

3- When green leaves are cut, cut them at 120 cm away from the base.

4- Cutting of steps in palms for easy climbing is to be avoided, as this provides sites for egg laying by weevils.

5- As palms affected by leaf rot and bud rot diseases are more prone to weevil infestation, they are to be treated with suitable fungicides; after that, application of any insecticide to prevent egg laying by weevils is essential.

6- Destroy all dead palms harboring the pest by cutting and burning.

- **Mechanical Control:**

Dead palms or palms beyond recovery are to be split open, exposing the different stages of the pest present inside and the debris, including the out logs and crowns, are to be burned.

- **Trapping the Weevils:**

Trapping the weevils and destroying them is another method by which weevil populations can be brought down.

- **Biological Control:**

No effective biological agent, which can be employed for the biological control of the pest has been found..

- **Chemical Control:**

A- Preventive.

B- Curative.

- **Training and Education:**



In order to successfully implement weevil management the cooperation of the farmer is essential. For any large scale pest management program to succeed, it is imperative that the farmer cooperate and involve himself at the operational level. This can be achieved by making him aware of the seriousness of the problem and training him in various IPM skills.

The only effective control is to cut down all infested palms and destroy them at an early stage so the nests of larvae cannot hatch and repopulate an area. The trunk of the palm needs to be split open and all stages destroyed. Burning the head does not kill the stages in the middle of the trunk. Thus, the whole trunk should be chopped and burned

Our method :

First : is the overloading of sugar cane solution Insecticide for two days.

Second : being a sugar cane in the basket are commenting on the corner of Almersah.

Third : Chem insect smell very high proportion of sugar to the basket and then erosion from sugarcane.

Thus, the erosion of the insecticide and die afterwards.

But when we examined our way with the Ministry of Environment and Water bargaining on our way. They noted that it was useful if the parties plantations.

But there are other methods are not used Insecticide be better for the environment.



The exporter:

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[http://www.uae.gov.ae/uaeagricent/index\\_ar.asp](http://www.uae.gov.ae/uaeagricent/index_ar.asp) ( uae environmental and agricugltural information centre )

<http://www.moew.gov.ae/min/index.jsp?lang=ar> ( the ministry of environment and the water )



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