

2. Biological Control

- Using biological, low-toxicity pesticides, which have zero impact on the environment.
- Biological control also includes the use and preservation of natural enemies such as:
Bracon brevicornis
Phanerotoma ocularis

Bracon brevicornis



3. Chemical Control:

The efficiency of chemical control process depends on the following points:

- Setting a time for control as soon as the date fruits indicate early symptoms of infection.
- The first phase of the control process should focus on the racemes; then, the shoot system attacked by the fully-grown insect.
- The control process should be comprehensive and include all the farms in each area to reduce the chances of reinfection.

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.



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UNITED ARAB EMIRATES
MINISTRY OF CLIMATE CHANGE
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Lesser Date Moth (Al-Humayrah)

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Lesser Date Moth (Al-Humayrah)

Introduction:

Batrachedra amydraula (Lesser Date Moth; locally known as Al-Humayrah) is one of the major seasonal pests affecting date palms, which attacks the fruits starting from the fruit set stage to early ripening stage (Basar).



Adult Insect

Life Cycle:

This insect has three overlapping generations. The first generation emerges in spring, from March and the beginning of April. The last generation of the larvae enter diapause (inside silky cocoons) by the end of the summer.

The possibility of renewed infestation during the same production season remains high. The role of the fully grown insect - a small, thin moth of 13-15 mm in length - is restricted to mating and laying eggs on racemes. The eggs

hatch and the larvae emerge. The length of a fully grown larva is 11 mm and the color of its body white-grey and its head light-brown. The larvae attack the fruits during the early ripening stage (Basar) or even during earlier stages.

One larva is able to damage from five to six fully-grown berries. Then, the larvae diapause inside a silky white, silver, or light yellow cocoon that is thin at both ends and its length is 15 mm and diameter is 2 mm. The pupa is thin and long. Its color is yellowish brown. The fully grown moth terminates the diapause to mate and lay eggs to produce the next generation.

Economic Importance:

Al-Humayrah is a major pest that attacks date fruits. The larvae cause severe damage to the fruits. If the pest is not well-managed, it may reduce the outcome of each palm tree by 50-60%. The infection may also cause the date fruits to drop off the racemes. This pest infests all types of date palm, with no exception; thus, they are widespread in all palm tree planting areas.

Symptoms of Infestation:

The harmful stage of this pest is the larva, which attacks the fruits by developing an entry hole and feeding on their internal pulp, causing their shell color to change into red; a clear symptom of infestation. The fruits remain attached to the racemes by silken threads woven by the insect, or drop off on the ground around the base of the palm.

In many cases, the infested green fruits had dropped before the larva fed on their entire interior pulp. Usually, the infested fruits drop off due to mechanical factors such as the winds shaking the racemes, or any other such factor. When the internal tissues of the infested fruits had been examined, the presence of larva was often revealed.



The larva inspecting the shell looking for a fresh fruit.

The larva on the shell of the infested fruit after feeding on its pulp and moving to a healthy fruit.

Infested fruit before the emergence of lesser date moth larva.

Drop-off fruits long after infestation. The shell could be seen wrinkling.

The lesser date moth larva on the shell of a fruit, which becomes dark red.

Protection and Control Methods:

The integrated management system to control of Lesser Date Moth (Al-Humayrah) includes various means, the most important of which are:

1. Agricultural and Mechanical Control:

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

- Collecting the infested saplings and fruits, whether those dropping-off on the ground or those attached to the trees, and disposing of them, as they constitute a source of infection.
- Pruning and disposing of the outcome of pruning; and
- Covering the palm fronds and date fruits with nets, soon after pollination.