



2. Chemical Control:

- Using light pesticides first such as powder or micronized sulfur, either by spraying or dusting in early morning. The sulfur kills the mites because of its vapor.
- Using pesticides dedicated for controlling mites and constantly changing their chemical compound to reduce the chances of resisting the pesticide.

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

- Setting a time for control as soon as the date berries indicate early symptoms of infection.
- 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.



Date Palm Dust Spider Mite (Al-Maghbarah)

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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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Date Palm Dust Spider Mite (Al-Maghbarah)

Introduction:

Oligonychus afrasiaticus (Acari: Tetranychidae) is an old pest that exists in palm tree farms in the Arabian Peninsula, which is locally known as Al-Maghbarah. It is classified under arachnida; tiny, non-insect arthropods pests that could not be seen with naked eyes, as they are usually 0.3 - 0.4 mm in length. They have neither antennas nor wings but have four pairs of legs. The mites feed on the fronds all year long and infest the fruits during the fruitage season and reproduce rapidly. It is one of the fast spreading pests, they move by wind and agricultural tools. It also spreads by sticking to the legs of insects and birds.

Life Cycle and Environmental Aspects:

The adult female mites spend the winter season inside the heart of the palm tree. The infection becomes manifest on the fronds during the second half of May and continues till the end of June each year. The females feed on tender fronds. Then, they start feeding on the fruits, laying eggs in the areas where the immature, green dates are attached to the fronds and on the creamy silken webs built by the first generation, second generation, and adult mites. The females lay 20-25 eggs during their lifetime. The life cycle of the generation is 8-11 days, depending on the temperatures.

Early infestation may occur depending on the environmental conditions such as high temperatures and low humidity. Heat waves of more than 40°C cause rapid multiplication and spread of this pest, which leads to inter-generations and the doubling of the spam numbers on each single fruit, resulting in severe infection of the fronds.

Symptoms of Infestation:

Symptoms of infestation appear as a result of the active generations feeding on leaves and fruits sap. This causes a mild crease and spots on the fruits. The number of mites may reach up to 140 mites per fruit in severe cases.

Consequently, the fruits lose their distinct natural appearance, which causes their size to shrink and reduce their market value. As the infection develops, the mites build webs on date bunches around strands and date fruits, blocking the physiological activities of the fruits, which delays their natural coloring and ripe. Dust and sand grains adhere to the webs; that is why the mites are known as Dust Mite (Al-Maghbarah). Eventually, the fruits become unfit for human consumption.



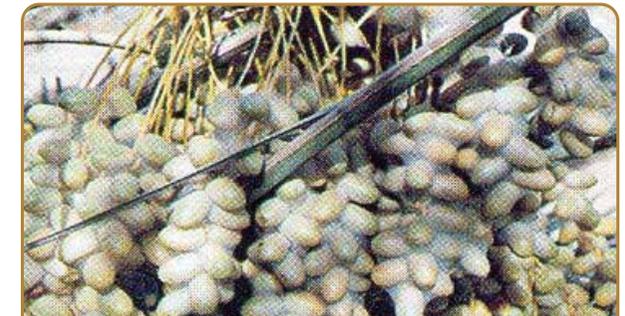
The beginning of infection with Dust Mite (Al-Maghbarah), during which the color of the fruits changes from yellow to grey-red



The web covering the infected fruits on the lower part of the bunch



Parts of a frond covered with ultra- thin web



The upper parts of the bunch of a frond covered with a web

Protection and Control Methods:

The integrated management system to control the *Oligonychus afrasiaticus* (Al-Maghbarah) includes various means and techniques, the most important of which are:

1. Agricultural Control:

- Monitoring the pest for early discovery and control.
- Keeping the farm clean by disposing the weeds, dropping-off fruits, and agricultural waste.