

# THE RED PALM WEEVIL

In 2019, the FAO reported that over 50 million farmers in the Middle East and North Africa were affected by the Red Palm Weevil. In Morocco, approximately 60,000 hectares dedicated to the date palm industry are currently at risk.

«The Red Palm Weevil is the most dangerous threat to date palms»

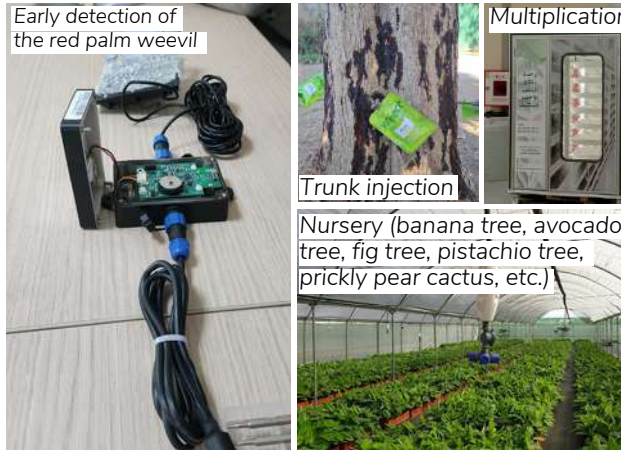
A. Ould Ahmed, FAO Deputy Director (March 2017).

The battle against this beetle is complicated by various factors : its rapid reproduction system, the difficulty in identifying attack symptoms in time, and the limitations of traditional control methods. Once symptoms of an attack appear, it is often too late; traditional control methods are not optimal, etc.



# ABOUT US

FOUNDED IN 2019, SMART AGRICULTURE LEADER WAS ESTABLISHED TO PROVIDE INNOVATIVE SOLUTIONS TO THE AGRICULTURAL SECTOR IN MOROCCO AND BEYOND.



We aspire to provide creatives and innovative solutions to the challenges faced by farmers.

Leveraging our experience, network of experts, and partners, we are well-equipped to introduce proven solutions and also develop and enhance new products and services.

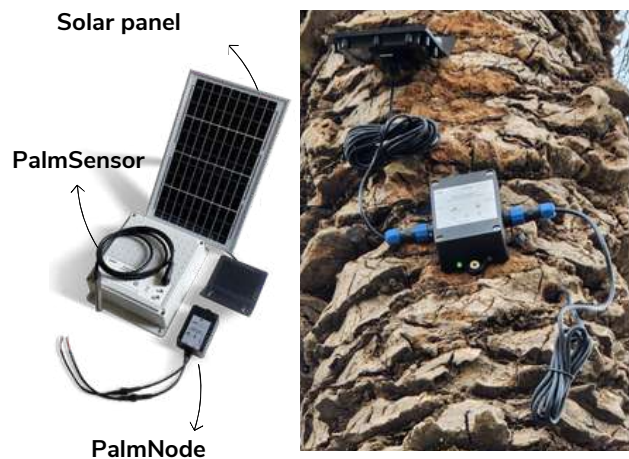
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# PALMSHIELD, AN INNOVATIVE SOLUTION AGAINST THE RED PALM WEEVIL

## EARLY DETECTION

### ■ PalmNex™ Device



PalmNex™ developed by **Lumnex**, is an innovative device with 3 components carefully designed to enhance the accuracy of detecting the Red Palm Weevil.

### ■ PalmSensor

Sensor / transmitter to stimulate the Red Palm Weevil larva and collect the emitted sounds.

### ■ PalmNode

Data processing console for the information provided by the PalmSensor.

### ■ Solar Panel

Solar panel linked to a battery for 24/7 energy and autonomy.

The device is self-sufficient, reliable, and innovative in that it accurately identifies the vibrations emitted by the movements of the larva.

## TARGETED TREATMENT

### ■ Trunk injection

Trunk injection is a **treatment method** that involves directly injecting a biostimulant or phytosanitary product **into the trunk of the tree or stem of the palm tree**.

In collaboration with **Fertinyect**, experts in trunk injection, we have established **precise protocols to fight the Red Palm Weevil**, both in **preventive** and **curative** measures.



When it comes to fighting the Red Palm Weevil, **endotherapy** stands out as a **relevant solution** compared to other alternatives.

**The removal of suspected palms** or the treatment of the entire phoeniculture park by **spraying the crown** are **not optimal solutions**, as they are both time-consuming and costly.

## ADVANTAGES OF OUR SOLUTION

### ■ Innovative & Integrated

Palmshield combines **2 patented solutions**, one aims at early detection of the Red Palm Weevil in its larval stage, and the other one focuses on promptly and effectively treating the infested palm tree before it's too late.

### ■ Reliable

The detection device has undergone **numerous tests over several years**, and its reliability has been proven. The same applies to trunk injection in the context of combating the Red Palm Weevil.

### ■ Easy to use

Our system is easy to handle and requires minimal equipment, personnel, and time. **Two operators** can treat up to **300 palm trees** per day.

### ■ Focused

With Palmshield, there is no longer a need for systematic and widespread treatments of the entire green space or farm. This device enables flexible management, allowing **targeting of specific palm trees or an entire plot**.

### ■ Sustainable

The treatment leaves **no residue** in the **soil** or in the **air**, does not consume water, and only requires relatively **small amount of chemical** to be injected directly into the palm tree.