Red Palm Weevil RPW is widely considered the most damaging insect pest of palm in the world

The red palm weevil is one of the most devastating and invasive insect pests, causing immense damage to date palms worldwide, especially in Arab countries, due to their economic, social, and environmental importance. Stopping progeny production is a key protection element, along with restoring plant nutrition, which is weakened or blocked by the tissue destruction from which the insects feed.

The larvae of the weevil chew and feed in the apical growing point of the date palm and in the trunk or base of fronds.

The cost of removal of infested palms in the Gulf Region alone is estimate on over than U$D 20 mill annually. The economic loss due to the infested palms is estimated to range from U$D 7 mill to 27 million, depending the level of infestations

EFFECTIVE RESULTS WITHOUT TRUNK INJECTION

The date palm treatment is a non-invasive endotherapy method.

Breaking the weevil life cycle by stopping larvae from pupating and reproducing

Restoring the health of plants by replenishing nutrients lost to tissue damage

NaturCare´s molecule as **EMM3 carrier**

- To restore the palm tree's ability to absorb nutrients, which is impaired by damaged tissues, and to
- kill the larvae and pupae in the trunk.

FOSNUTREN, applied as a non-invasive endotherapy treatment, has a double purpose of **stimulating rooting and nutrition.**

HUMIFORTE foliar spraying is also used to ensure quick absorption of nutrients, provide a **shock nutrient effect**, and **avoid pheromones from attracting pests.**

Treatments´ on date palm farm Al Ahmadi province, Kuwait. May, 2017

Farm´s Owner: His Excellency Mr. Faisal Al Hajji Bukhadhour
Location: Al Alhmadi Province, Kuwait. **Treatment trial:** 5-palms block, 3 to 4-year-old

A block of five palm trees with an estimated 50% infection rate was selected for treatment. The trees were labeled and treated over a three-month period from May to August.

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Ref: Effective results on infected palms by RPW, without trunk injection on a palm block located at Al Ahmadi province, Kuwait

Abstract: The present report aims summarizing the observed results on a selected 5 date palms' block, infected by RPW, after have been treated by a targeted INAGROSA bio-technology; remarking that despite the short period elapsed after the solely two-treatments done, it has demonstrated a high-effectiveness and response to control infection, with low-dosage and non-trunk injection

The present document purpose is record formally the observed successfully results on a non-invasive therapy carried out on a block of date palms infected with red palm weevil, which had showed 30% to 50% infection on its palms, before the treatments, and after two-treatments shows are no evidence of larvae neither other adult-stages on the palms. Treatment have been undertaken on May, 20, 2017 and July, 15, 2077, by soil injection and foliar spraying.

The treatment protocol has been designed as «non-invasive Endo-therapy method» with the aim to: 1) Halting larvae activity and progeny production, and 2) Restoring the plant nutrition weakened by tissue destruction.

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In the first case, by triggering the larvae's irreversible paralysis to death after digestion of an eco-selective biocide, that is concealed carried by amino acids' molecule with high effectiveness and quick results, turning it out an appetizing feed for larvae, where trunk tissues turn into a in a lethal reservoir for the emerging larvae

And second, by restoring the normal plant nutrition process, weakened or blocked when insect destroy on tissues. The bio fertilizer shock action generates quickly the smallest roots, restoring the normal plant nutrition process. And, a second foliar bio fertilizer assures a quick assimilation, but also avoid that pheromones attract other insect that may be placed on trunk crack and crevices

The treatments' protocol has been largely detailed on the technical documents, provided by Taurus Environmental Consulting, LLC, whom supervised the date palms' selection, and the subsequent products treatments.

As is well-known the red palm weevil female is lured strongly by certain substances' oozing which along to "pheromones" attract them to put her eggs into holes and cracks of the trunks, and the

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lower trunk parts, from where emerging larvae start destroying the tissues which interfere with the normal nutrition and sab movement. In such sense, the FOSNUTREN spraying has demonstrated its high effectivity, not only by contributing to restore of nutrient intake by the palm but also, avoiding such egg deposition by the insect's female. Thus, such treatment is also recommended for preventive spraying treatments, particularly from September to November when temperature drops, to March to May coincident to its rising. Furthermore, the treatment to control infection with NATURCARE, HUMIFORTE and MM3 also turned out high-effective, being highly recommend to treat infected palms trees.

In conclusion, it must emphasize that, the carried out treatments have demonstrated a high-effectiveness to control the infections, well as on the immediate nutrient absorption by the palms, wh evident on the overall health of the palms

For the appropriate purpose

Signed by, Director of Wafra Agricultural Administration

محسن محمد المطيري
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At the second treatment on July 15th, there was no sign of red palm weevil (RPW) larvae, cocoons, or adults on the palms. The infection on Palm No. 3 appeared to be controlled or nearly gone.

The treatments have demonstrated their high efficiency and cost-effectiveness compared to other treatments on the market. They have also shown their quick action in controlling the larvae, unlike other expensive treatments that cannot kill or stop the exponential proliferation of larvae.

After the third application the farm was considered free of RPW