

# DIES PALMARUM: A DECLARATION FOR THE PROTECTION OF PALMS COMES FROM SANREMO

The Fifth Biennial European Conference on Palms “DIES PALMARUM”, organized by the “Centro Studi e Ricerche per le Palme - Sanremo” Association and the local Municipality, took place in Sanremo, Italy, from 12 to 14 March 2008. This Conference edition focused on “Mediterranean palms and the arrival of new palm pests”.

The participation of several palm experts from all over the world, including botanists, phytopathologists, entomologists, geneticists, as well as administrators, representatives of professional bodies and associations, has made the Conference a great opportunity for having an update on the impact of palm pests in Europe and in the other continents, suggesting solutions and making recommendations on how to face this kind of problem.

In recent years, palms have been facing a very difficult situation, in consequence of the introduction of new pests, like the red palm weevil *Rhynchophorus ferrugineus* Olivier, the palm moth *Paysandisia archon* Burmeister, the coconut weevil *Diocalandra frumenti* Fabricius, and the fungus *Fusarium oxysporum* f.sp. “albedinis” and f.sp. “canariensis”

The whole European palm patrimony, considered from a biological, cultural, touristic, and economical point of view, is at risk. Both exotic and native palm species are involved. In particular, the native dwarf fan palms in Southern Europe, the Canary Islands date palms in their area of origin, the historical date palm groves in Elche (declared Unesco World Heritage) and Bordighera, the Cretan date palm groves in Greece, the collections of *Arecaceae* in botanical gardens from the whole Europe (Valencia, Barcellona, Palermo, Catania, Villa Thuret, Napoli, Salerno, Roma, etc.) are concerned. Ornamental palms along the Mediterranean coasts, like the Italian Riviera, the Franch Côte d'Azur, Spain and Greece are interested as well.

Because many of these plants are grown in urban settings, pest attacks often lead to the adoption of uncontrolled chemical treatments, representing a serious danger for citizens' health. It is necessary to deepen our knowledge on this subject and evaluate the impact of pesticides on the quality and safety of palm products intended for human and animal nutrition, especially in the case of date palms.

In order to offer a solution to this difficult situation, a “Declaration of Sanremo for the protection of palms” has been formulated as follows:

**1.** We declare that the arrival of these new pests has caused a critical situation for palms in Europe and in the other continents. So far, tens of thousand of palms of various species have already died in Europe (Italy, France, Greece, Portugal, Spain, United Kingdom, Malta, Cyprus), as well as in the Middle East, Asia, Oceania and Africa. As far as we know, about 500,000 date palms in Egypt have been attacked and killed by the red palm weevil. According to the current rate of expansion of the red weevil, the number of palms attacked in Europe is likely to increase in the next few years, and hundred of thousand of palms are likely to be destroyed.

**2.** We are aware that all these pests have been introduced in Europe through the commerce of infested palms from other continents, and have spread in many areas after an initial phase of adaptation. The red palm weevil's arrival coincides with the introduction of adult date palms imported from Egypt. The palm moth was introduced mostly through *Butia* and *Trithrinax* palms

from South America, while the coconut weevil arrived together with *Areca*, *Borassus*, *Cocos*, *Elaeis*, *Nypa* and *Phoenix* individuals and a few more species from India, Indonesia, Canary Islands, Salomon Islands, Malaysia, Australia, New Guinea, Sri Lanka, Tanzania e Thailand. The *Fusarium* fungus arrived together with infected date palms imported from Northwestern Africa.

**3.** Despite the recent laws made in the EU (2007/365/CE) and in the single European countries (decree 9 November 2007 in Italy, ORDEN APA/381/2004 in Spain) did not achieve the expected results, they consider pest control measures as mandatory; so, authorities must comply with legislation. In particular, reporting of infested palms is mandatory, infested areas must be delimited, pest control measures adopted, and relevant information disseminated. According to available data, there are no truly pest-free areas; so, we ask to stop further palm importation into the European territory and stop uncontrolled palm transportation across the EU territory.

**4.** The wide spread of these pests and the number of palms attacked over the last years demonstrates how legal prescriptions, rules and phytosanitary inspections are ineffective, as they couldn't limit the impact of pests. An improvement of the cooperation between countries hosting infested areas is needed, as well as a coordination of control activities. Laws should be uniformed all over the EU territory, making the adoption of control measures mandatory in all countries.

**5.** At the same time, more fundings and human resources are needed, especially to support research activities. In fact, knowledge about invasive pests biology, ecology, behaviour, natural enemies in the areas of origin, and adaptation to temperate climates is still insufficient.

**6.** Integrated pest management. All of the above-mentioned facts highlight the difficulty and uncertainty of the application and effectiveness of chemical, agro-mechanical (dendrosurgery), biological and biotechnological means for pest control, both for prevention and cure, based on scientific evidence. Although some chemicals have been approved for use on palms against the red weevil in Italy, the chemical and biological control treatments to date seem to have proved to be less effective than expected. Nor we can exclude that some of these products could be harmful to human health. At the moment, there are several ongoing studies, and pest control trials still in the testing phase; however, the results obtained so far haven't been satisfactory. Regarding endotherapy, despite its lower environmental impact, such technique involves drilling into the stem, and the same manufacturers of chemicals haven't been able to demonstrate the extent of their effectiveness on palms, so that the scientific community hasn't given its full support to such technique. The mechanism of absorption, translocation, metabolism, effectiveness, persistence, and cytotoxicity, as well as the possible side-effects of chemicals towards the palm and the environment have not been fully understood yet. What we do know is that the damage caused by drilling into the stem to a depth of 15 to 35 cm -necessarily more than once during the year, and probably again in the following year-, could be detrimental to palm biomechanics and, over time, affect the palm stability. Palms have no secondary growth, so they cannot repair stem damages; moreover, the supporting fibers in the damaged part may -in conjunction with other forms of more or less severe injuries frequently found in palms- increase the risk of breakage, with the fall of the crown due to decreased structural resistance.

This intervention technique, whose application on palms is considered experimental, should not be offered as a preventive or a safe treatment of common use, at least until the experimental data will prove it, and the scientific community will approve it, so to be officially accepted. At the moment, we discourage any chemical or mechanical treatment on healthy plants, as it may cause imbalance or damages. It was found that the red palm weevil can attack palms in any part, from the crown (leaves, inflorescences and infructescences, spathes, the apical bud) and, especially in

severe cases, even the stem. Integrated pest management should therefore be applied in an organized manner and in compliance with the law. In this regard, official bodies establish, through the phytosanitary services, what has to be done in a given country, according to the law, coordinating the means and methods of pest control. The reporting, removal and destroy of infested palms are mandatory. On the contrary, any treatment (endotherapy, dendrosurgery, sprinkling in foliage, etc., even integrated), must be prescribed and monitored by the local phytosanitary services. In such cases, any private or commercial initiatives should not be allowed, if not authorized by the competent authorities and accepted by the scientific community, in order to avoid any private interest, unfortunately rather common in this kind of field.

**7.** For what concerns treatments and maintenance techniques, like pruning, the cut of green leaves, including petiole and flowers and fruits must be avoided. They should be cut only when dead, in winter time, through preventive disinfection of cutting tools and of any provoked lesion. The use of rammers must also be avoided, as they cause severe damages to the stem, which may become the point of entrance for a number of pathogens.

**8.** According to the published literature, palm species considered to be sensitive to the attack of pests and the fungus are the following:

***Rhynchophorus ferrugineus*** Olivier: *Chamaerops humilis* L., *Cocos nucifera* L., *Elaeis guineensis* N. J. Jacquin., *Phoenix canariensis* Hort. ex Chabaud, *P. dactylifera* L., *P. reclinata* Jacquin., *P. roebelenii* J.O'Brien, *Trachycarpus fortunei* (W. J. Hooker) H.S. Wendland, *Washingtonia filifera* (Lindl. ex André) Wendl., *W. robusta* Wendl., *Livistona* ssp.

***Paysandisia archon*** Burmeister: *Brahea* ssp., *Butia capitata*, *B. Jatai*, *Chamaerops humilis* L., *Livistona* ssp, *Phoenix canariensis* Hort. ex Chabaud, *P. dactylifera* L., *P. roebelenii* J.O'Brien, *Sabal* ssp., *Trachycarpus fortunei* (W. J. Hooker) H.S. Wendland., *Trithrinax campestris* (Burmeister) Drude & Grisebach ex Grisebach, *Washingtonia filifera* (Lindl. ex André) Wendl., *W. robusta* Wendl.

***Diocalandra frumenti*** Fabricius: *Areca* ssp, *Cocos nucifera* L., *Elaeis guineensis* N. J. Jacquin., *Nypa fruticans* Wurmb., *Phoenix canariensis* Hort. ex Chabaud., *P. dactylifera* L.

***Fusarium oxysporum***, f.sp. "albedinis": *Phoenix dactylifera* L.

***Fusarium oxysporum*** f.sp. "canariensis": *Phoenix canariensis* Hort. ex Chabaud

**9.** All efforts, research activities, and trials should be coordinated and cooperatively performed at the local, regional, national and international level, because individual and/or strictly local initiatives have proven to be ineffective. A dedicated commission should be created immediately. It is fundamental to provide sufficient fundings for research, training, spreading information, control, and eradication.

**10.** It is necessary to inform people about risks, about what has been done so far and what is still to be done, spreading the information as widely and as quickly as possible, until the problem is solved. It is strongly recommended to produce palms from seeds.

The present situation is very similar to that of the Argentine ant *Linepithema humile* (Mayr), formerly *Iridomyrmex humilis*, invading Europe at the beginning of the XX century, with the well-known negative ecological and economic effects.

All information and suggestions provided here aim at protecting and conserving palms, palm-related cultures and palm landscapes in the whole Europe. For this reason, we encourage the

spread of available information to large numbers of people through the mass media. Once informed, administrators, professionals and citizens will be able to operate for preserving the remaining palm patrimony.

The next five years will be crucial, so it is fundamental to act quickly and effectively.

Sanremo, June 2008.

**Centro Studi e Ricerche per le Palme - Sanremo**

**Claudio Litardi**, Italy

**Robert Bigel**, France

**José Plumed**, Spain

**Bernabé Moya**, Spain