**Final Program**

**International Meeting:**

**Innovative and Sustainable Approaches for the Control of Red Palm Weevil**

**CIHEAM, Bari-Italy, 23-25 October 2018**

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| **09:00 - 18:15** | **Day 1: Tuesday, 23 October, 2018** |
| **09:00 - 10:00** | **Opening Ceremony (9:00 – 10:00)**   * **Moderator: Khaled Djelouah** *CIHEAM Bari;* * **Maurizio Raeli,** *CIHEAM Bari, Italy;* * **Mohamed Ali Bob,** *AOAD, Khartoum, Sudan;* * **Michael Baum**, *ICARDA, Rabat, Morocco;* * **Thaer Yaseen**, *FAO-RNE. Cairo, Egypt;*   Short presentation on: FAO program for Red Palm Weevil eradication. |
| **10:00 - 10:20 Coffee Break / Announcements** | |
| **10:20 - 11:50** | **Session 1.1: State of the art of the RPW invasion (World situation, Policies)**   * **Chairman: MohamedAli Bob**, *AOAD, Khartoum, Sudan* * **Rapporteur: Noureddine Nasr**, *FAO-SNE, Tunis, Tunisia* |
| **15 min. each** | * State of the art of RPW situation in the date palm.   ***Ferry M****.- Phoenix Research Station, Aspe, Spain;*   * State of the art of the RPW in EU-Med ornamental palms.   ***Djelouah K****.- CIHEAM, Bari, Italy;*   * Current regulatory framework of RPW in EU and Italy.   ***Griffo R.****- Italian Phytosanitary Services, Campania Region, Italy;*   * Policies to control RPW based on the recommendations of the Rome meeting. ***AlDobai S.-*** *IPPCFAO, Rome, Italy;* * Is policy paralysis on quarantine issues in the Near East and North Africa region leading to the build-up and spread of red palm weevil?   ***Balijepall S.B.*** *and Faleiro J.R. - ICAR and FAO, India.* |
|  | **Discussion (15 min.)** |
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| **11:50 - 13:05** | **Session 1.2: *Environmental and socio-economic impact* of RPW Invasions**   * **Chairman: Abdulrahman Aldawood***, King Saud University, Riyadh, Saudi Arabia* * **Rapporteur:Fidaa Rawabdeh***, AOAD, Amman Jordan* |
| **15 min. each** | * Assessing the impact of insecticides use against the red palm weevil (*Rhynchophorus ferrugineus*) using the Quebec risk indicator (IRPeQ).   ***Chihaoui S.,*** *Chaabene H., Abbes K., Bouaggaa A., Nasr N., Chermiti B. - Institut National Agronomique de Tunis, Tunisia;*   * The economic impact of Red Palm Weevil in Egypt.   ***Abbas M.K.*** *ARC, Egypt;*   * Community preferences for the preservation of Canary Palm from Red Palm Weevil infestation in the City of Bari.   ***Sardaro R.****, Grittani R., Scrascia M., Pazzani C., Russo V., Garganese F., Porfido C., Diana L. and Porcelli F. - University of Bari,Italy;*   * Socio-economic analysis and proposals to involve farmers and their cooperatives in the IPM program to control the red palm weevil in Saudi Arabia. ***Abdedaiem S.*** *and Ferry M.****-*** *FAOSA Riyadh, Saudi Arabia and Phoenix Research Station, Aspe, Spain.* |
|  | **Discussion (15min.)** |
| **13:05 - 14:05 Lunch** | |
| **14:05 - 14:50** | **Visit to the facilities of the CIHEAM Bari** |
| **14:50 -16:05** | **Session 1.3: *Ongoing and future activities in the RPW infested countries***   * **Chairman: *Mohamed Ben-Salah****, ICARDA, Muscat, Sultanate of* Oman * **Rapporteur: Mekki Chouibani,** *NEPPO, Rabat, Morocco* |
| **15 min. each** | * Integrated approach for red palm weevil management: Current status and future prospects. * ***Aldawood A.S.****, Rasool K.G. and Tufail M.****-*** *King Saud University, Riyadh, Saudi Arabia;* * Management of the Red Palm Weevil *Rhynchophorus ferrugineus* (Olivier) using sustainable management options. * ***Ali Bob M.****- AOAD, Saudi Arabia;* * An Integrated Management of Red Palm Weevil *Rhynchophorus ferrugineus* Olivier in Date Palm Orchards in Basra City. * ***Abass M.H.*** *and Al-Derawi M.M.*- *Iraq;* * Dates Value Chain Development and the control of red palm weevil in Egypt (FAO Project TCP/EGY/3603). * ***Abbas M. K.*** *and Yaseen T.*–ARC *and FAO RNE Cairo, Egypt.* |
|  | **Discussion (15min.)** |
| **16:05 - 16:25 Coffee break** | |
| **16:25 - 18:10** | **Session 1.4: *Pest-host plant interactions***, **RPW symbionts and associated organisms.**   * **Chairman: Romeno Faleiro*,*** *FAO India* * **Rapporteur: Michael Baum***, ICARDA, Rabat, Morocco* |
| **15 min. each** | * Date palm counter–defense mechanisms as potential tool for future RPW management.   ***El-Shafie, H.A.F.-*** *King Faisal University****,*** Riyadh***,*** *Saudi Arabia;*   * Fungal endophytic communities and palm susceptibility to the red palm weevil in its invaded range.   ***Monroy F.****, Roggero A., Di Silvestro A. and Curir P. - CREA,Italy;*   * Isolation and identification of bacteria from the gut content of *Rhynchophorus ferrugineus* larvae (Coleoptera: Curculionidae).   ***Hashim S.M.-*** *Agricultural Research Centre-Ministry of Agriculture, Giza,Egypt;*   * The RPW and SAPW as vectors of nematodes.   ***Porcelli F.****, Russo V., Salerno M.,Tarasco E., De Luca F., Fanelli E. , Troccoli A., Dalbon A. V., Acevedo J. P. - University of Bari, Italy;*   * Characterization of CRISPR-Cas systems in *Serratia marcescens* isolated from *Rhynchophorus ferrugineus* (Olivier, 1790) (Coleoptera: Curculionidae).   ***Scrascia M.****, D’Addabbo P., Roberto R., Porcelli F., Oliva M., Calia C. and Pazzani C.- University of Bari, Italy.* |
|  | **Discussion (15min.)** |
| **18:10 - 18:30** | **Poster session**   * Welfare loss and social costs for the damage by Red Palm Weevil to Canary Palms in the City of Bari.   ***Sardaro R.,*** *Grittani R., Scrascia M., Pazzani C., Russo V., Garganese F., Porfido C., Diana L. and Porcelli F. - University of Bari, Italy;*   * Use of entomopathogenic nematodes against adults of Rhynchophorus palmarum as potential tool for biological control of Rhynchophorus ferrugineus for Tropical America.   ***Dalbon V.A.,*** *Sabino A.R., Menezes K.O., Acevedo J. P.M, Negrisoli Jr. A.S., Santana A.E.G., Porcelli, F. - University Federal of Alagoas, Brazil;*   * Monitoring and control of red weevil at Biskra oasis, Algeria.   ***Tarai N.,*** *and Reggani A.–University of Biskra, Algeria;*   * Automatic localization of Phoenix by satellite image analysis.   ***Cousin R.*** *and Ferry M. -* *Non Profit association, France and Phoenix Research Station, Aspe, Spain.* |
| **19:30 Social dinner** | |
| **08:30 - 18:00** | **Day 2: Wednesday, 24 October, 2018** |
| **8:30 - 10:45** | **Session 2.1: Environmentally safe and sustainable tools for RPW management**   * **Chairman: Salim Ali Al Khatri***, Ministry of Agriculture and Fisheries, Muscat, Sultanate of Oman* * **Rapporteur: Vincenzo Verrastro,** *CIHEAM, Bari, Italy* |
| **15 min. each** | * Pathogenicity of entomopathogenic nematodes against immature stages of *Rhynchophurus palmarum* as potential tool for biological control of *Rhynchophorus ferrugineus* for Tropical America.   ***Acevedo J.P.M.,*** *Negrisoli Jr.A.S., Lohr B.L., Junior V.A.S., Santos P.S., Da Silva E. T., Ferreira N.T.S. and Cuesta R.R.- Agrosavia Colombia &Embrapa, Brazil;*   * Effect of Different Concentrations of M2I TM Pheromone Dispensers and the Impact of Water and Paraffin in Pheromone Traps for *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae) Management in Tunisia.   ***Dhouibi M.H.,*** *Haouari, W., Khrissi I., Guerret O., Chaar H.and De Cozar K. –Tunisia;*   * A simple and low cost injection technique to protect efficiently ornamental Phoenix against the red palm weevil during one year.   ***Gomez S.*** *and Ferry, M. - Phoenix Research Station, Aspe, Spain;*   * Effect of entomopathogenic fungi on mortality, fertility and fecundity of red palm weevil.   ***Wakil W.****, Usman M., and Gulzar S. - University of Agriculture, Faisalabad, Pakistan;*   * Microwave heating: a promising and eco-compatible solution to fight the spread of Red palm Weevil.   ***Massa R.,*** *Panariello G., Migliore M.D., Pinchera D., Schettino F., Caprio E. and R. Griffo R.,– University of Naples Federico II, Naples, Italy;*   * *Is the use of entomopathogenic fungi a viable option for the control of Red Palm Weevil?*   ***El Bouhssini M****., Trissi A.N. and Kadour Z. – ICARDA, Rabat, Morocco;*   * Direct and indirect manipulation of the fungal endophytic communities of *Phoenix dactylifera* and its associated effect on leaf chemistry.   ***Monroy F.,*** *Graniglia C., Batiz E. and Vigh D. -CREA, Italy;*   * Importance of field operations for reducing RPW infestation on date palm.   ***Ben Salah M.*** *- ICARDA, Oman Muscat, Sultanate of Oman.* |
|  | **Discussion (15 min.)** |
| **10:45 - 11:05 Coffee break** | |
| **11:05 - 13:05** | **Session 2.2: Monitoring, surveillance and phytosanitary measures**   * **Chairman: Mustapha El-Bouhssini***, ICARDA, Rabat, Morocco* * **Rapporteur: Abdulrahman Aldawood***, King Saud University, Riyadh, Saudi Arabia* |
| **15 min. each** | * Comparison between dry traps efficiency in Napoli and Bari (Italy) urban areas.   ***Nugnes F.****,Russo E., Massa R., Griffo R., Picciotti U., Dalbon V., Russo V., Bernardo U. and Porcelli F*. *– CNR, Portici,Italy;*   * A study to assess the influence of periodic visual inspection of date palms in area-wide control of red palm weevil *Rhynchophorus ferrugineus* Olivier.***Al-Shawaf A. M.****, Al-Fuhaid Y., Al-Abdullah I., Al-Awad B., Al-Dandan A. M., Al-Asfour Z. and Al-Khalifa A. – Ministry of Environment, Water and Agriculture, Centre of Date Palm and Dates****,*** *Saudi Arabia;* * Early detection and warning by ferrugineol combined with other volatile compounds for the biocontrol of *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae): a quarantine pest in Brazil.   ***Dalbon V.A.****, Santana A. E. G., Acevedo J. P.M., Riffel A., Goulart H. F. and Porcelli F*. – *University Federal of Alagoas,Brazil;*   * “RED ALERT” - How Brazil and Colombia are preparing themselves for the potential arrival of the Red Palm Weevil *Rhynchophorus ferrugineus* (Olivier) (Coleoptera: Curculionidae).   ***Guzzo E. C.****, Negrisoli Jr. A. S., Riffel A., Acevedo J. P. M. and Löhr B.L.- Embrapa Tabuleiros Costeiros, Brazil;*   * Spatiotemporal dynamics and range expansion of the red palm weevil. ***Goldshtein E.****, Yafitush C., Amots H., Yhyuvalc C., and Soroker V. - The Volcani Center, Israel;* * Efficiency of food baits, synthetic attractants and trap type on *Rhynchophorus ferrugineus* (Olivier) trapping in palm Plantations of Ismailia, Egypt by aggregation pheromone traps.   ***Abbas M.K.*** *Plant Protection Research Institute, Egypt;*   * Red Palm Weevil monitoring and early warning system.   ***Cressman, K.*** *-FAO/AGP, Rome, Italy.* |
|  | **Discussion (15min.)** |
| **13:05 - 14:05 Lunch** | |
| **14:05 - 15.40** | **Session 2.3: Innovative and emerging technologies in RPW control strategy**   * **Chairman: *Hassan Al Ayedh****, KACST, Riyadh, Saudi Arabia* * **Rapporteur: Khaled Djelouah***, CIHEAM Bari* |
| **15 min. each** | * Novaluron, a potent IGR suppressing the growth and disturbing the antioxidant defense mechanism of *Rhynchophorus ferrugineus* (Olivier).   ***AlJabr A.M.****, Hussain A. and Rizwan-ul-haq M.*- *King Faisal University, Saudi Arabia;*   * Studies on curative treatment of Red Palm Weevil, *Rhynchophorus ferrugineus* Olivier infested date palms based on an innovative fumigation technique.   ***Al Ballaa S.R.****and Faleiro J.R. – King Faisal University, Saudi Arabia/FAO, India;*   * Investigating the immunocompetence in Red Palm Weevil developmental stages and sexes.   ***Cappa F.****,Torrini G., Mazza G., Inghilesi A.F., Benvenuti C., Viliani L., Cervo R. and Roversi P.F. – University of Florence, Italy;*   * Studies on service free semiochemical mediated technologies to control red palm weevil *Rhynchophorus ferrugineus* Olivier based on trials in Saudi Arabia and India.   ***Faleiro J.R.*** *- FAO, India;*   * Innovative and emerging technologies in RPW control strategy.   ***Löhr B.****, Negrisoli, A. and Moura J. –Colombia;*   * Innovative formulations of pheromone for RPW mass trapping: components, concentrations, longer controlled release.   ***Guerret O.****, Dhouib, M.A., Haouari W., Khrissi I., Chaar H. and Cozar K de. –M2i Biocontrol, France;*   * Geo-ICTs applications for monitoring and management of Red Palm Weevil.   ***Biradar C.****–ICARDA, Egypt.* |
| **15:40 - 16:00 Coffee break** | |
| **16:00 - 17:15**  **15 min. each** | * Sensors for early detection of Red Palm Weevil in palm trees.   ***Lipman E.***–*Agrint, USA;*   * CEO Artificial intelligence and internet of things to tackle Red Palm Weevil.   ***Whalil M.*** , *- United Arab Emirates;*   * Biorational control strategies for sustainable management of Red Palm Weevil, *Rhynchophorus ferrugineus.*   ***Hassan N.****, Ali A.I., Usmani S. and Al Zaidi S. – UK;*   * Cloud based RPW Integrated Management System.   ***Al Zaidi S.****, Hassan N., -Russell IPM, UK.* |
|  | **Discussion (15min.)** |
| **17:15 - 18:00** | **Poster session/ Demonstration**   * Environmentally safe preventive and curative control measures for *Rhynchophorus ferrugineus* Oliv. (Coleoptera: Curculionidae) in palm orchards in Egypt.   ***Hashim S.M.****, and Abbas M.K.- Agricultural Research Centre-Ministry of Agriculture, Giza Egypt;*   * The use of microwaves in the control of the red date palm weevil *Rhynchophorus ferrugineus* oliv. (Coleoptera: Curculionidae): effects on ovary and testis.   ***Martano M.,*** *Massa R., Restucci B., Power K., Caprio E., Griffo R., Ilsami R. and Maiolino P. - University of Naples Federico II, Italy;*   * Monitoring *Rhynchophorus ferrugineus* (Olivier) in ornamental palm tree plantations in the north western coast of Egypt.   ***Hashim S.M. -*** *Agricultural Research Centre-Ministry of Agriculture, Giza Egypt;*   * The effect of preventive measures in reducing red palm weevil infestation.   ***Abbas M.K****.–* *ARC, Giza, Egypt;*   * Nanomatrix powder dispenser for control red date palm weevil.   ***El Mahy H****., Crop IQ Technology Ltd, UK;*   * New biopesticide against RPW based on *Beauveriabassiana* strain 203.   ***López-Follana R.****, López-Llorca, L.V.; Asensio-Berbegal, L.; Barranco, P.; Güerri-Agulló, B.; Serna-Sarriás, M.J.; Anza-Gómez, L. – Glen Biotech S.L., Spain;*   * Semiochemical Mediated Technologies against Red Palm Weevil.   ***Altunbay S.G.*** *- Sugar Institute, Plant Breeding Department, Etimesgut, Ankara, Turkey.* |
| **08:30 - 15:00** | **Day 3: Thursday, 25 October, 2018** |
| **08:30 - 10:15** | **Session 2.4: Innovative integrated approaches and technology transfer to control RPW**   * **Chairman: Keith Cressman,** *FAO/AGPM* * **Rapporteur: Michel Ferry,** *Phoenix Research Station, Aspe, Spain* |
| **15 min. each** | * Recent advances in palm weevil trap and lure design and A&K techniques for RPW.   ***Kharrat S.****, Gonzalez F., Rodriguez C., Calvo C. and Oehlschlager A.C. University of Carthage, Bizerte, – Tunisia;*   * Red Palm Weevil (*Rhynchophorus ferrugineus*) small scale laboratory rearing for its evaluation in a SIT program.   ***Cristofaro M.****, Arnone S., Musmeci S. and Sasso R. – ENEA, Italy;*   * An effective strategy to obtain very rapidly the red palm weevil decline in an area planted with ornamental palms.   ***Ferry M.****, Cousin R., Chabernaud D. and Ferrero F.* – *Phoenix Research Station, Aspe, Spain;*   * Next generation of feeding inhibition to control tree borers, particularly the Red Palm Weevil.   ***Sermani S.****, Scarola L. and Bruno G.L.- Ministry of Agriculture, Damascus, Syria;*   * Effects of two natural mix oils on the larval and adult stages of RPW.   ***Metwaly N.****, Di Ilio V., Fiorillo A., Colla G., Saccardo F.and Caprio E.****–*** *Green World Consulting S.a.s., Italy;*   * The technical peculiarity of FIRST (Future Innovation Right Solutions Technologies Ajman FZ|UAE) Electrap™.   ***Russo V.,*** *Picciotti U., Diana F., Diana L., Porcella L. –University of Bari, Italy.* |
|  | **Discussion (15min.)** |
| **10:15 - 11:00** **Coffee break** | |
| **11:00 - 11:45** | **Session 3.1: RPW management: gaps, challenges and prospects**   * **Chairman: Ibrahim Al Jboory,** *ASPP, Amman, Jordan* * **Rapporteur: Romeno Faleiro,** *FAO, Goa, India* |
| **15 min. each** | * Controversial aspects about Red date palm weevil.   ***Al Ayedh H.*** *and Aljabr A. – King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia;*   * The Red Palm Weevil management in ornamental palms protection: overview of the gaps, challenges and perspectives.   *Porcelli F.,* ***Djelouah K.*** *and Jboory I. –CIHEAM Bari, Italy;*   * Overview of the gaps, challenges and prospects of red palm weevil management.   ***Faleiro R.****, Ferry M., Yaseen T., and AlDobai S.- FAO,India.* |
| **11:45 - 12:15** | **o Session 3.2: Recommendation & Discussion**   * **Chairman: Thaer Yaseen,** *FAO-RNE, Cairo, Egypt* * **Rapporteur: Romeno Faleiro,** *FAO, Goa, India* |
| **12:15 - 12:45** | **Session 3.3: Future actions and suggestions**   * **Chairman: Shoki AlDobai,** *FAO, Rome, Italy* * **Rapporteur: Khaled Djelouah,** *CIHEAM, Bari, Italy* |
| **12:45 -13:00** | **o Session 3.4: Conclusions & Closing ceremony:**   * + **Maurizio Raeli,** *CIHEAM, Bari Italy*   + **Ibrahim Jboory** *ASPP*   + **Thaer Yaseen,** *FAO-RNE, Cairo, Egypt*   + **Khaled Djelouah,** *CIHEAM, Bari, Italy* |
| **13:00 – 14:00 Lunch** | |
| **14:00 -15:00** | ***Side meeting of the organizing and scientific committees***   * *Discussion of the international meeting outcomes* * *Elaboration and signing of an official declaration by the representatives of the relevant organizations attending the event.* * *Selection of the most promising technologies/innovative tools to control RPW and proposal for field validation trials in the main palm growing areas.* |