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ABSTRACTS

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Oral Presentations
Fruit Flies

O FF 1

Risk ranking of importation pathways using fruit flies hierarchy - Reunion Island case study

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Question: Transfers of fresh fruits and vegetables between countries *via* passengers or commercial trade enables insects such as Tephritidae (Diptera commonly named 'fruit flies') to colonize new areas, causing crop losses as well as displacement of indigenous species. Islands are very sensitive areas to alien species introductions, making application of import regulations important to protect local agriculture. In Réunion Island (Indian Ocean), 309 import pathways of fruits and vegetables have been identified using data registered between 2007 and 2012. The question, raised by the French Ministry of Agriculture to Anses (Agency for Food, Environmental and Occupational Health & Safety), was to rank the pathways representing a potential infestation risk by some of the 224 fruit flies species considered as the most threatening.
Methods: Two methods were developed: an information system, gathering information collected in databases, websites and publications, helped to identify the potentially infested pathways. A decision support system enabled pathways ranking according to the fruit flies hierarchy established using Promethée multi-criteria method[a].
Results: 55 risky import pathways were ranked, linked with potential infestation by 16 fruit fly species belonging to the genera *Anastrepha*, *Bactrocera*, *Ceratitis*, *Dacus* and *Rhagoletis*. Because of their high probability of entry and establishment, the threatening species would be, in order of importance, *B. invadens, C. rosa* (the African strain)*, B. dorsalis* (separated from *B. invadens*), *B. tryoni* and *D. vertebratus.* The most risky pathways would be, in order of importance, fresh fruits from the genus *Citrus*, *Prunus*, as well as *Cucumis melo* and *Cucumis sativus*, all coming from South Africa, then *Citrus* imported from Madagascar and peaches from Zambia[b].
Conclusion: The ranking of pathways allowed by our method enables the customs risk manager to better define border management measures and to adapt the control of each pathway according to the threat linked to the fruit flies potentially conveyed.
References:
[a]Martin P. & Silvie P., 2014. Computer Techniques To Assist Health Risk Manager. Invasive and Developing Pests and Insects Conf., Montpellier (France), 13p.
[b]Anses, 2014. Opinion. https://www.anses.fr/fr/documents/SVEG2012sa0162Ra-01.pdf

O FF 2

The Opportunities and Challenges: Review of the Invasion, Prevention and Control of Tephritid Fruit Flies in China

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In the trends of economic globalization and integration, Tephritid fruit flies are spread more quickly and widely in the world, which are causing significant economic and biological losing. Therefore, China has attached great importance to Tephritid invasion, prevention and control. Continuing efforts have being made not only in the area of the management, but also scientific research and higher education in the last decade. On the base of summarizing the Tephritid invasion and official control, this paper reviewed the main research developments in China during the last 10 years, such as quantitative risk assessment, species molecular identification, quarantine treatment, fields control, national monitoring of fruit flies. With that, the potential opportunities and challenges are analyzed for Tephritid prevention and control in China against the backdrop of quickly inter-connecting of China's economy with the rest world. To properly deal with the challenges and seize the opportunities, it is proposed to further streamline the prevention and control system, to strengthen the researches of scientific theory problems and applied techniques, and to enhance the classified management of Tephritid fruit flies in China.