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TACKLING INVASIVE SPECIES IN AFRICA A STAKEHOLDERS WORKSHOP

The workshop was held Feb 22-23, 2018, at icipe, Nairobi Kenya, and brought together over 100 participants from across the world, including researchers, policymakers, as well as representatives of national institutions, pan-African institutions and regional economic communities and the private sector. The forum discussed the strengths and challenges, made recommendations and assigned tasks, towards creating and instituting a strategy for tackling invasive species in Africa.

The workshop was co-organised by the International Centre of Insect Physiology and Ecology (icipe), the International Institute of Tropical Agriculture (IITA) and CABI, with support from the Swiss Development Cooperation (SDC).



The objectives of the workshop included i) the development of strategies to minimize the spread and impact of invasive species, through high-level scientific and policy dialogue between relevant authorities and stakeholders; ii) raising awareness of the economic impact of invasive species; iii) strengthening coordination, collaborative financial resource mobilization and establishment of programmes and policies; iv) strengthening national capacities; and v) developing and

implementing science-led programmes that will reduce the impact of invasive pests on human, animal, crop and environment.

The recommendations from the workshop included:

- Need to strengthen existing co-ordination structures, strategies, involving all stakeholders at continental and regional level, with effective linkages with country level organizations. “More regional coordinated action needed, rather than coordination itself”.
- Holistic economic impact assessments to guide clear directions for invasive pest management are essential
- Need to deploy biological control and other sustainable management options very early in the invasion cycle to maximize benefits
- Focus on prevention mechanisms such as assessment of invasion pathways, strengthening quarantine/border security;/surveillance is likely to be highly viable economically
- Strengthened communication mechanisms to pass reliable economic impact assessment outcomes to stakeholders from growers to policy makers
- Pan African institutions e.g. the African Union’s Inter-African Phytosanitary Council (IAPSC) and African Union Inter-African Bureau for Animal Resources (IBAR) should be taking a greater role, leading such multidisciplinary and multi-stakeholders’ organizations
- Regional platforms for sharing of reliable information on invasive in a timely manner, communication should be strongly embedded in Invasive species projects
- Rapid responses should be driven by emergency/disaster response funds and other funding mechanisms at national/regional level than external donor funding
- However, external donor response should be engaged for a more systems-driven approach rather than emergency responses
- Agro-ecological innovations targeting small scale farmers that are long lasting and sustainable should be in focus such as resistant varieties and use of biological control based on previous successful successes
- More research is required to improve and enhance: data quality and quantity; breeding; Predictive modelling and analysis of risk; biocontrol and biopesticides; diagnostic tools; digital surveillance for real time monitoring; smart solutions through mobile phones
- Better understanding of interactions between invasive species with plants and ecological variables in Africa, more detailed epidemiological studies are critical
- Capacity building should focus both on human and infrastructural capacity

Dr. Tadele Tefera

IAPPS Coordinator Region V: East Africa

E-mail: ttefera@icipe.org

IPM INNOVATION LAB PRESENTS WEBINARS ON NEEM AND *TRICHODERMA*

Over the past year, the Feed the Future IPM Innovation Lab at Virginia Tech has conducted two successful webinars: one on the subject of neem, a ubiquitous tree in Asia, Africa, and Central America with natural insecticidal properties, and the other on *Trichoderma*, a genus of fungi,

present in all soils, that is an antagonist to harmful fungal species. On October 18, 2017, the IPM IL launched the neem webinar, focusing specifically on utilizing neem as a botanical pesticide and the potential for farmers and entrepreneurs to develop local neem production, marketing and utilization opportunities. Dr. Murray B. Isman of the University of British Columbia, Vancouver discussed the chemistry and biological activity of neem. Dr. Philip C. Stevenson of the University of Greenwich, London discussed botanical pesticides in IPM with a special emphasis on neem. Dr. Ramesh C. Saxena, Founder and Chairman of the Neem Foundation in India, discussed neem as a tactic for ecological pest and vector management, and environmental conservation. The webinar emphasized the high value of neem, but also its challenges, potential, and the many ways in which it is used as a combatant against crop pests.

On February 28, 2018, the *Trichoderma* webinar similarly gathered experts to discuss the “fighting fungus”. Dr. S. Nakkeeran, Tamil Nadu Agricultural University, India made a presentation on the popularization of *Trichoderma* technology, Dr. Yousuf Mian, an IPM Innovation Lab Coordinator in Bangladesh, presented on Tricho-compost and plant disease management, and Mr. Rabin Adhikari, Director of Agricare in Nepal, discussed the commercialization of *Trichoderma*. The webinar on *Trichoderma* highlighted the fungi’s unique properties, stories of its success, and its contribution to local economies. With each webinar, and with more to come in the future, the IPM IL team is able to contextualize the management and implementation of IPM technologies as well as extrapolate upon their performance and impact while reaching both local and global audiences interested in the subjects.

Prof. R. Muniappan

Director, IPM Innovation Lab

IAPPS Coordinator Region XIII: North America

E-mail: rmuni@vt.edu

FRUIT DROP, AN EMERGING DISEASE OF MANDARIN ORANGE

Pre-harvest fruit drop is a complex disease caused by several fungal pathogens including *Colletotrichum gloesporioides*, *Colletotrichum limeticola* and *Diplodia natalensis*, and is one of the newly emerging problems of mandarin orange. Its local name is ‘kinnow’ in Jammu and Kashmir, India. Farmer’s orchard from Kathua district reported infected orchard exhibiting primary infection like black dot, fruiting bodies of the fungus on the dead twigs, leaves and fruit stalks, which increased in severity during December 2017 with high rainfall that favors the development of the disease. These symptoms have been causing 80% crop damage during the December 2017 and February 2018 in the Kathua and Samba districts causing huge financial losses to farmer’s community.

In Samba districts village Raya, symptoms of fruit drop first appeared in the month of December when



fruits matured, started to rot, and number of black spots appeared on the fruit. In the month of December, 50% of the fruit were destroyed.

The mandarin trees, however, recovered with the application of fungicides and biorationals at different period resulting in the reduction of pathogen population. Here some recommendations:

- After harvesting of fruit prune and burn infected twigs in January- February.
- Apply Bordeaux paste on the infected twigs
- Spray the tree with Ziram 27 + 2,4D sodium salt
- Spray the fruit tree with Propiconazole or bavistin 50WP in mid-April, August and September
- Additional in the month of end July and September spray the fruit tree Bavistin 50WP @500g in 500lt of water per acre.

For more information:

Dr. Sonika Jamwal

Advanced Centre for Rainfed Agriculture, Jammu, India

E-mail: Sonikajamwal@gmail.com

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IAPPS Mission: to provide a global forum for the purpose of identifying, evaluating, integrating, and promoting plant protection concepts, technologies, and policies that are economically, environmentally, and socially acceptable.

It seeks to provide a global umbrella for the plant protection sciences to facilitate and promote the application of the Integrated Pest Management (IPM) approach to the world's crop and forest ecosystems.

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**Manuele Tamò
Editor, IAPPS Newsletter
IITA-Benin
08 B.P. 0932 Tri Postal, Cotonou, Republic of Benin
E-mail: m.tamo@cgiar.org**