



Template.1 – Abstract Submission

	<p align="center">CAREED 7th Annual Conference 29th – 30th June 2023</p>	
<p><i>Title of the Paper</i></p>	<p><i>Mango Production and existing economic challenges associated with Fruit fly infestation and management practices in Kenya:A survey</i></p>	
<ul style="list-style-type: none"> • <i>Author(s) Name</i> • <i>Email</i> 	<p>Teresiah Njihia¹, Allan Mweke¹, Elizabeth Kamau¹, Jonathan Richard² MacDougall Thacker², Andrew Hursthouse², Adebisi Adewole², Aloyce³ Wambua, Samuel Muchemi³ and John Struthers²</p> <p>¹ Mount Kenya University, General Kago Road, P.O Box 342-01000, Thika, Kenya ² University of the West of Scotland, Lanarkshire, G72 0LH, Scotland, UK ³ Farmtrack Consulting Ltd, Mwiki Kasarani Road, P.O. Box 16372-00100, Nairobi, Kenya</p> <p>Correspondence: tnyambura@mku.ac.ke , John.Struthers@uws.ac.uk</p>	
<p><i>*Purpose of the paper</i></p>	<p>Mango is a key food and cash crop in Sub-Saharan Africa. In Kenya, it contributes significantly to local and export earnings. However, mango production in the country is greatly affected by the Tephritid fruit fly complex especially, the invasive <i>Bactrocera dorsalis</i> and the native <i>Ceratitidis</i> spp. Losses due to fruitfly infestation can reach up to 80%, and often result in mango export bans to other continents due to phytosanitary restrictions. The current study was conducted to investigate the prevalence of fruitfly infestation in key mango-producing counties in Kenya. The cost burden associated with fruitfly infestation among mango farmers in terms of applied management methods, and associated farm and post-harvest losses was also investigated.</p>	
<p><i>*Design/methodology/ approach</i></p>	<p>Questionnaires were administered to mango producing farmers and agro-dealers in Muranga and Embu counties, Kenya using the Open data Kit (ODK) software. The respondents sample size comprised of 230 farmers and 68 agro-dealers. The questions were both closed and open-ended on general demographics, quantities of mango harvested, investment returns, losses, key pests affecting their crop, and pest management options. Agro-dealers reported on their stocked fruitfly management products, including market preferences between the synthetic chemical pesticides and biological methods. The data was statistically analyzed using R-software and SPSS.</p>	
<p><i>*Findings</i></p>	<p>Fruit fly was reported as a key pest of mango crop by 92% of the mango farmers in the study region. About 34% of the total production costs of mangoes were spent on managing fruit flies. Further, about a third of harvest was lost due to fruitfly infestation. To control the fruit flies, 74% farmers used chemical pesticides which were mostly broad-spectrum-moderately hazardous chemical pesticides. A smaller proportion of farmers used cultural methods, and biological control methods especially pheromones to control the pest. Agro-dealers</p>	

	described chemical pesticides as preferred and fast moving products (68%) as compared to the biological control options (32%). They also explained the different challenges faced in order to improve the market base of biological control approaches which are recommended due to their safety and sustainability. These challenges included lack of enough knowledge of availability and usability of existing biological options by a significant number of farmers and agro-dealers, and a few limitations in functionality of the existing options.
<i>Research limitations/ Implications</i> (if applicable)	The survey was carried out in only 2 counties and there are many more counties that produce mango. The survey was also done only once towards that end of mango production season.
<i>Practical implications</i> (if applicable)	The survey has highlighted the lack of knowledge on biological control options for management of fruit flies in mango. Additionally the perception that biological control products are not as effective as chemical pesticides was also highlighted by the fact that 74% of farmers in the survey areas used chemical pesticides compared to 32% who used biological control options. This points to the need for awareness creation through trainings and increase the uptake of biological control methods which are sustainable and environment friendly and enhance food safety.
<i>Social implications</i> (if applicable)	
<i>*Originality/value of paper</i>	The study provides important and current information from primary players in the mango production chain i.e. farmers and agro-dealers. The data acquired is therefore key in promoting sustainable mango production and profitability in Kenya and, is relevant to different stakeholders in academia, industry, governments, research institutes and NGOs.
<i>**Key Words</i>	Fruit fly, Mango crop, Survey, Sustainable agriculture, Profitability
<i>Paper Type (theoretical or empirical)</i>	

***Sections must be completed: (Purpose, Design, Findings and Value).**

****Max six words**

Abstract should be a maximum length of 350 words and in Times New Roman; font size 12.

For Authors - How to write and submit a structured abstract (Based on Emerald guidance)

<i>*Purpose of this paper</i>	What are the reason(s) for writing the paper or the aims of the research?
<i>*Design/methodology/ approach</i>	How are the objectives achieved? Include the main method(s) used for the research. What is the approach to the topic and what is the theoretical or subject scope of the paper?
<i>*Findings</i>	What was found in the course of the work? This will refer to analysis, discussion, or results.
<i>Research limitations/ Implications</i> i(f applicable)	If research is reported on in the paper this section must be completed and should include suggestions for future research and any identified limitations in the research process.
<i>Practical implications</i> (if applicable)	What outcomes and implications for practice, applications and consequences are identified? Not all papers will have practical implications but most will. What changes to practice should be made as a result of this research/paper?
<i>Social implications</i> (if applicable)	What will be the impact on society of this research? How will it influence public attitudes? How will it influence (corporate) social responsibility or environmental issues? How could it inform public or industry policy? How might it affect quality of life? Not all papers will have social implications.
<i>*What is original/value of paper</i>	What is new in the paper? State the value of the paper and to whom.

***Sections have to be completed: (Purpose, Design. Findings and Value).**