ASSESSMENT OF FRUIT FLY BACTROCERA INVADENS (DIPTERA: TEPHRITIDAE) PRESENCE IN EASTERN PROVINCE OF RWANDA

1Harelimana Anastase, 2Le Goff Guillaume Jean, 3Rukazambuga Daniel, 4Ngamata M.Olivier & 2Hance Thierry,

1National Agriculture Export Development Board, P. O. Box 104 Kigali, Rwanda
2Université catholique de Louvain, Earth and Life Institute, 1348, Louvain la Neuve, Belgique
3National University of Rwanda, Faculty of Agriculture, P. O. Box 117 Huye, Rwanda
4University of Lay Adventists of Kigali, P.O. Box 6392 Kigali
*e-mail: haranast@yahoo.fr

Abstract

Fruit flies are one of the world’s most devastating crop pests, causing millions of Dollars in production loss each year. In Africa there are several species that attack fruits, vegetables and native hosts. Among these are two species that have recently invaded Africa: Bactrocera invadens and B. cucurbitae (Diptera: Tephritidae family). These two species attack a wide variety of crops including mango, guava and tomato. B. invadens, an invasive fruit fly from Asia, also infests citrus and cashew nuts. Since its first detection in Kenya in 2003, B. invadens has spread to 26 countries in Africa and is known to infest at least 31 host plants. Both B. invadens and B. cucurbitae are devastating pests that can have a severe impact on sustainable agriculture and rural livelihoods, as well as export markets. No serious fruit fly surveys had ever been undertaken in Rwanda and it was not known whether B. invadens occurred in that country, nor were there any inventories of Tephritidae available for Rwanda.

Scouting and monitoring of fruit flies was carried out in Rwanda regions where fruits are more produced using artificial pheromones (Methyl Eugenol, Cue lure, Trimed lure and 3-Components lure) combined with Vapona strip tablet to kill insects. The main objectives were to survey for the presence of the invasive fruit fly species, Bactrocera invadens and to confirm the results of 2009 from United States Department of Agriculture/South Africa indicating that Bactrocera invadens is present in Rwanda. The results from this work reveal that Bactrocera invadens and other fruit flies are already well established in Eastern Province of Rwanda on different kind of fruits.

Yet, the fruit fly surveillance system should be extended to cover all fruit production areas throughout the territory of Rwanda for risk assessment and to determine which areas of Rwanda will be pest free for B. invadens. Training on fruit fly identification, control measures, and field management should be given to horticultural crops producing farmers as well as extension officers.

Keys words: Fruit fly, Para pheromones, Bactrocera invadens, Rwanda