

Distribution, Damage and Preliminary Biology of the Fall Armyworm in Kenya

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Supervisors:

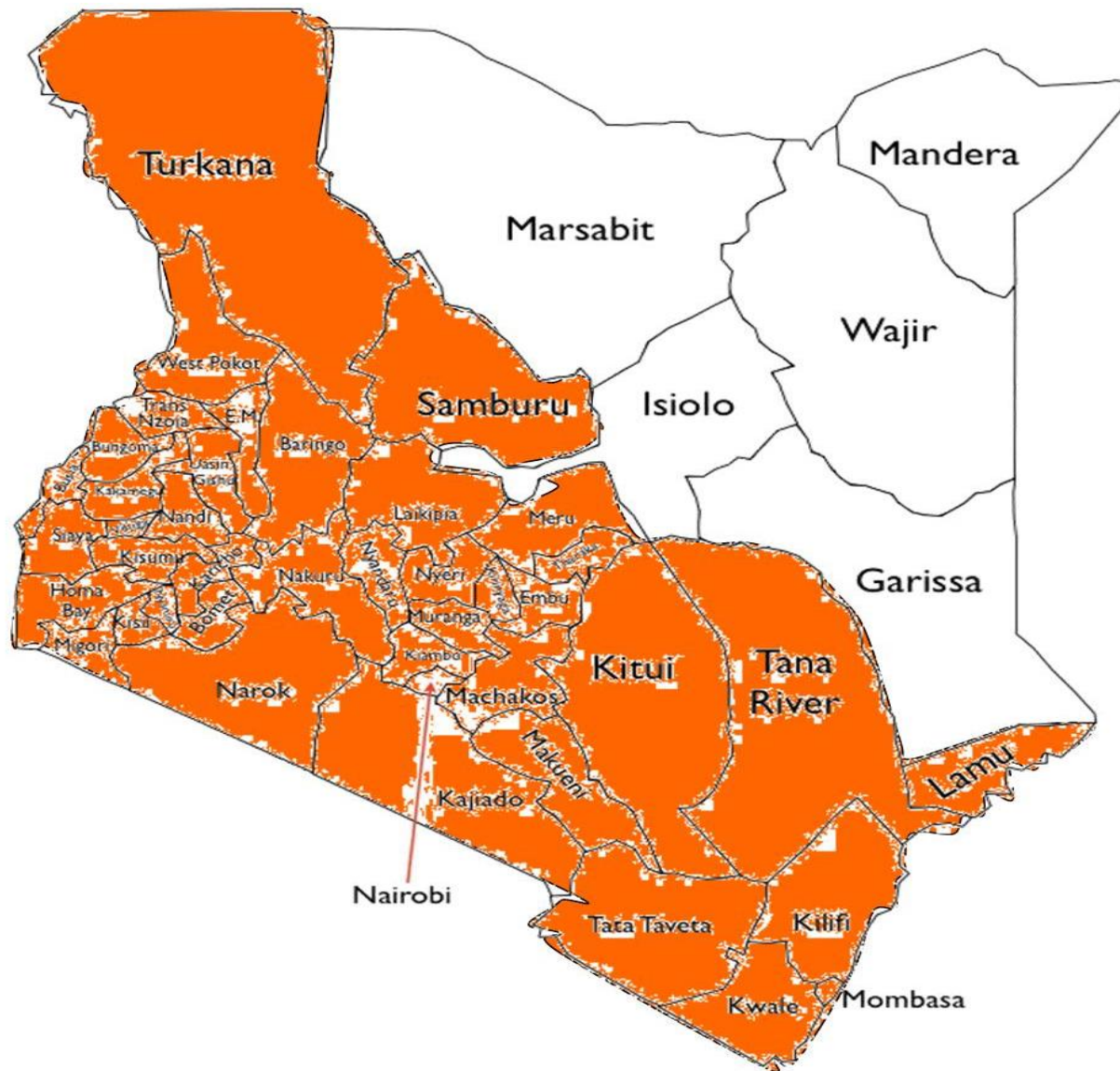
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Introduction

- ❖ FAW is invasive and new in Kenya
- ❖ First reported in **Trans Nzoia County** in Kenya in **March 2017**
- ❖ Since spread to **42 counties** in Kenya
- ❖ The pest attacks **maize** in Kenya
- ❖ Extent of damage not known
- ❖ Lifecycle in Kenyan context is not known



Counties with FAW infestation



Objectives

1. To determine the extent of occurrence and damage of FAW to maize
2. To establish the life cycle of FAW on different host food crops

Methodology: Crop damage assessment

- ❖ Survey on **60 farms** randomly selected from 5 sub counties in Kenya
- ❖ **3 quadrants** (2mx 2m) in every farm selected
- ❖ **20 plants** randomly selected and **scored**.
- ❖ Leaf damage scored on a **scale of 0 – 9**; where 0=no visible leaf damage and 9=long lesion and complete defoliation observed on most leaves.(Davis and Williams 1992)



Scoring of damaged leaves

Methodology: Life Cycle



- ❖ Maize
- ❖ Common bean
- ❖ Laboratory at ICIPE Kenya



- ❖ Crops were planted in pots in greenhouse
- ❖ Larvae from field were reared in the laboratory until oviposition
- ❖ Upon hatching two neonates were inoculated per plant
- ❖ Duration for larval development, prepupal, pupal and adult longevity was observed.



Fecundity

- ❖ observed on 10 mated pairs.
- ❖ Preoviposition, oviposition and hatchability was determined.



Oviposition cages



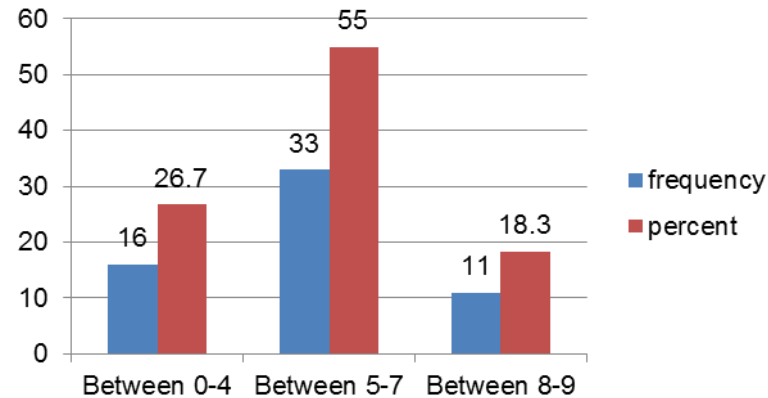
Egg counting



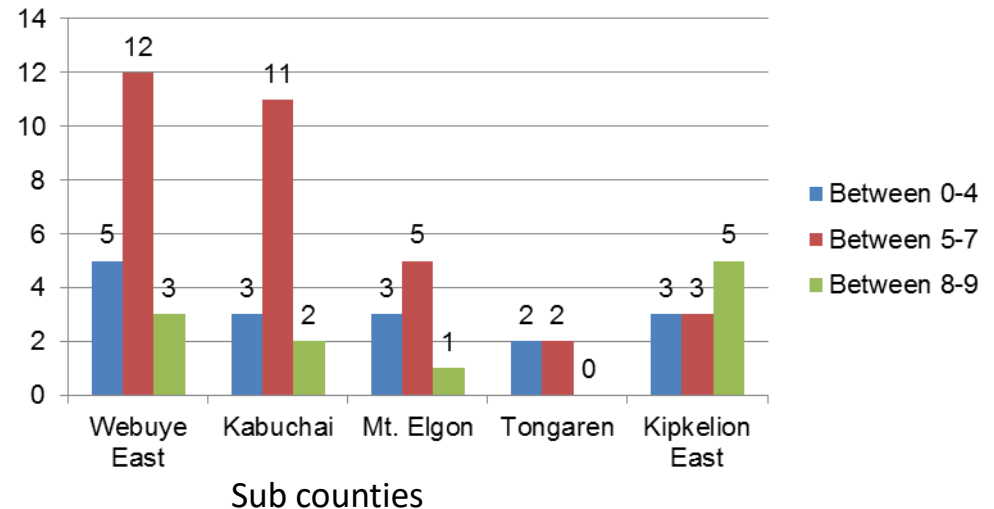
Hatching jars

Results: Crop Damage

❖ 16(26.7%) farms had minimal visible leaf damage, 33(55%) had marginal leaf damage, 11(18.3%) had extensive leaf damage



❖ Kipkelion sub county had the highest crop damage (45%) of farms sampled had extensive leaf damage.



Results: Life Cycle

- ❖ Larval development period was shorter on maize(15-23d) than on beans (16-25d)
- ❖ No significant difference in prepupal period between maize and beans
- ❖ Pupal stage, adult longevity and total development period was determined on maize alone.
- ❖ The cycle was not complete on beans



Table 1 Development of FAW on Maize and Beans at 26

Crop	Larval stage (days)	Prepupal (days)	Pupal (days)	Adult Longevity (days)	Total Development period (days)
Maize	16.65	3	11	7.9	38.5
Beans	18.35	3.45	-	-	-

Fecundity of FAW

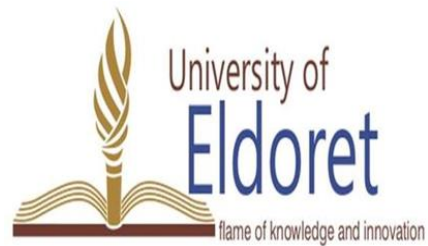
- ❖ Eggs were laid in masses. Some were covered by down others not.
- ❖ Highest no. of egg mass was 9 while the least was 4
- ❖ Smallest egg mass had 45 eggs
- ❖ Largest mass had 195 eggs.
- ❖ Eggs hatched after 2-4 days



Plan for 2018/2019

	ACTIVITY	
1.	FAW lifecycle determination	
2.	Screening of Kenyan maize genotypes against FAW	
3.	Data analysis	
4.	Thesis writing, correction and submission	

Acknowledgment



Thank You

