

COMPOSITION, DISTRIBUTION AND ABUNDANCE OF BANANA THRIPS (*Hercinothrips bicinctus*) AND THEIR MANAGEMENT IN EMBU COUNTY, KENYA.

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Objectives

Overall Objective

- The main objective of the study is to reduce poverty and increase food security through improved banana marketability and acceptability amongst consumers by thrips management in Embu County.

Specific Objectives

- To determine the abundance and diversity of banana thrips and identify predisposing factors influencing banana thrips abundance in Embu County.
- To estimate the loss attributed to banana thrips damage at field and market level based on responses from farmers and traders in Embu County
- To determine a cost effective management strategy for thrips in Embu County.

Symptoms of thrips infestation



- **Determination of the Abundance and Distribution of Banana Thrips in Embu County**
- The thrips samples were taken in already existing banana orchards in Embu County. Ten farms were randomly selected in three agro-ecological zones. In every farm, 10 male buds were randomly selected and opened to collect the thrips. This was replicated in all the zones.
- Thrips were collected using carmel brush and preserved in 70% ethanol and labeled per farm. The samples were taken to Kabete entomological laboratory for identification. The further identification species wise to be done by museums of Kenya.

- The number of thrips collected in each male bud will be pooled species wise separately and means of each species of thrips/farm/zone will be calculated. Farm catches of total thrips irrespective of species will also be pooled. The data will be subjected to statistical analysis.

- **Estimation of the Losses Associated with Banana Thrips at the Farm and Market Level**
- A survey was conducted by use of a structured questionnaire which was administered to 60 banana farmers in Embu County. 20 farmers were randomly selected in each zone and questionnaire administered.
- 30 traders were also be randomly selected two buying centres within the county Gikuuri and Kyeni.

- This was to estimate the loss attributed to banana thrips damage at field and market level based on responses from farmers and traders in Embu County. The data was analysed using SPSS.

- Results;
- Thrips identification – samples delivered at Kabete laboratory, further identification to be done at museums of Kenya
- **Estimation of the Losses Associated with Thrips**

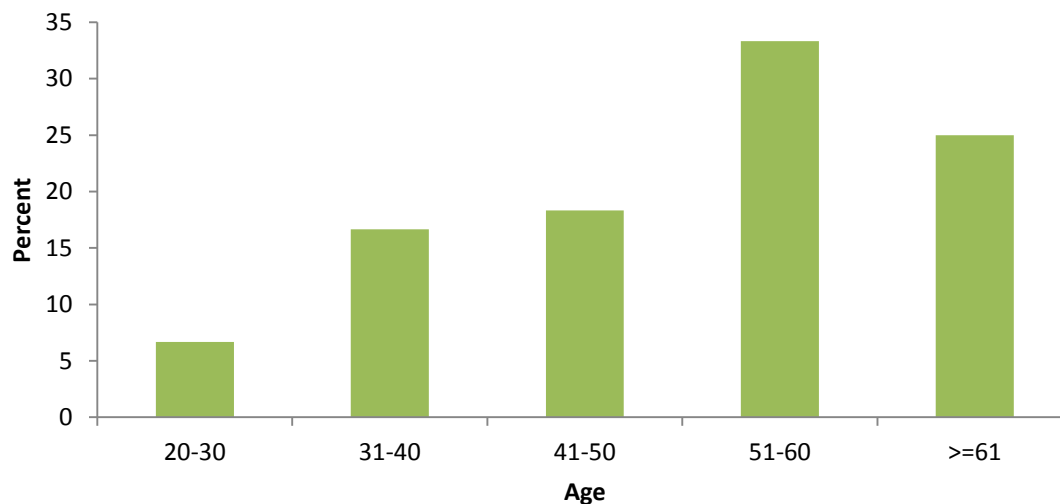


Fig 1; Age of banana farmers in Embu County

Table 1; highest level of education of the family head for banana farmers in Embu County

		Frequency	Percent
Education level	Primary	23	38.3
	Secondary	20	33.3
	Tertiary	15	25.0
	University	2	3.3
	Total	60	100.0

Table 2; Percentage of farmers who notice attack by thrips on banana

		Frequency	Percent
	yes	58	96.7
	no	1	1.7
	Total	59	98.3

Table 3; proportion of banana affected by thrips

	Frequency	Percent
less than 10%	26	43.3
up to 25%	12	20.0
up to 50%	10	16.7
up to 75%	10	16.7
Total	58	96.7

Table 4; Pest ranking according to importance

	very important	important	slightly important	Weighted mean	Rank
Thrips	24	16	18	40.7	1
Nematodes	10	15	11	23.7	2
Banana weevil	3	13	11	15.3	3

Table 5; Season when the damage is most severe

	Frequency	Percent
dry and hot	24	40.0
cool and dry	11	18.3
cool and wet	23	38.3
warm and wet	1	1.7
Total	59	98.3

Table 6; loss of marketability due to attack by thrips

	Severity	Frequency	Percentage
Thrips Damage	0% loss	22	38.6
	10% of fingers lost	14	24.6
	25% of the fingers lost	18	31.6
	50% of the fingers lost	2	3.5
	more than 50% of the fingers lost	1	1.8

Degree Completion plan

- November 2013, wide up on thrips identification
- November 2013 to January 2014, Lay experiments on thrips management and collect data(Third objective).
- February to June 2014, Thesis writing
- June 2014, Thesis submission
- August 2014, Graduation