12. Jangwani

Pests Which Affect Vegetable Production In DSM

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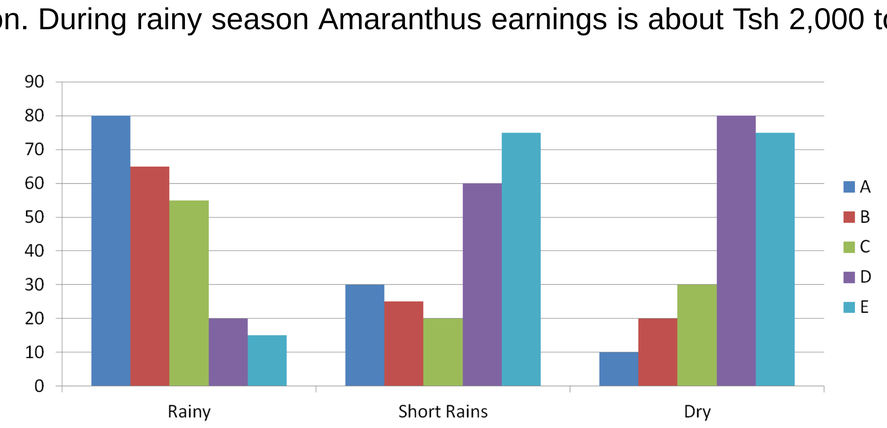
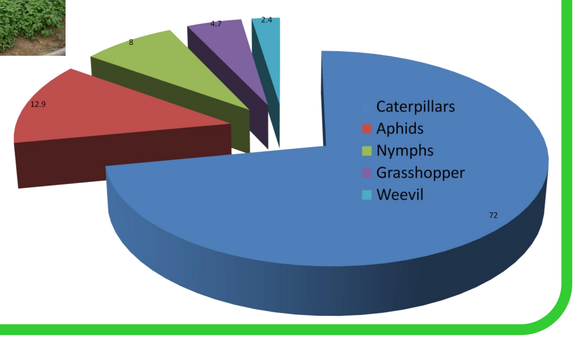
Introduction:
Vegetable provide vitamins A, C and K for our health. Vegetable production is done by male and female individuals with families and who are not employed in government or private sectors. The earning from vegetable selling enable cultivars to buy food, clothes for the family, also for medical services, renting rooms, and school uniform for their children.
Types of vegetables include “Mchicha” ie. Amaranthus, Chinese cabbage, “Matembele” ie long thin-leaved sweet potato species, “figiri” ie swisschard “Sukuma wiki” ie collard.
Vegetable farming is done yearly and in all seasons, posts infestation is extreme in heavy rainy season when leafy vegetable are damage in such a way that infested vegetables cannot be eaten by man, consequently no or little earnings for farmer from vegetables whose income totally depends on vegetable production.

Earnings from vegatables production:
From observation earnings from vegatable selling helps farmers to sustain their life and meet other family demands. Most of our respondants especially from Mkwajuni and Kigogo area the earnings from a small plot of 5m X 5m is Tsh 30,000 per month for Amaranthus. Most farmers have 2 or 3 plots and this data was collected during short rainy season. During rainy season Amaranthus earnings is about Tsh 2,000 to 5,000 after 3 weeks for the same plot.





Results:
According to research findings type of pest which infest vegwetables are: (1) caterpillars of while bullarflies of brown moth, adult and nymphs of green grass hoper, Aphids,weevils and Ants as shown inpie chart below.
Infestation styles:
1.laying egg on leaves of vegetable accamponied with feeding habit of larvae of white-brown buttefly as shown in.
Eg.photograph (a) and (e)
Minute egg are laid on young leaves, wchich of amarantha which appear as brownish grey spot. These eggs watch into larvae or eaterpillars which resping start cutting and eating the leaves hence drstroying the quality vegetable (photograph (b)
2.Feeding habits seach as aphids which suck sap from young tender leaves of vegetable as amur. Green grasshopper cut and chew leafy vegetables, red pumkin beethe fed by the grups bore inside the roots of pumkin

% of Plants Infested

Areas	Kigogo			Tabata			Buguruni			Sahara		Mkwajuni
Plots	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P
Amaranthus	10	5	22	25	19		12	23		29	19	20
Chinese Cabbage	19	4	2	8	4	2		4	10	4	5	
Pumkin leaves		40		47	40			62		61	50	
Matembele	56		33				85			83	57	
Collard		5	2	12	9		7	10		2	5	

Pest	Vegetable type	Part of vegetable preferred
Caterpillar of white biterfly	Amarathus Chince	Young leaves Young leaves
Caterpillar brain moth	Amaranthus	Bore young shoot
Red pumbins Beethus	Punkins plant	Grabs bore inside the root of plants
Aphids	Your beans team	Tenderstem
Ants	Yoing stem of Amal a this and been speus	Young stemu

Conclusions:
Pest infestation is a serious problem in production of leafy vegatables. Infestation causes great economic loss of vegatables for most farmers in DSM. Our research revels that pest especially insect pest infestation reduces production during rainy season through caterpillars, beetles, aphids and ants.
The government has put forward a plan and according to the the slogos: **Kilinio Kwanza.** The government has to provide knowledge by:

1. **Encourageing cultivation of other vegatables during rains**
2. **Agricultural officers to be more visable and offer advice especially on the use of insecticide**
3. **Encourage crop rotation to control pests**
4. **Provide advice on irrigiation as this is most time consuming**

References:
1. Fenemore P. G and prakash A (2006) 2nd edition Applied Entomology, New Age international
2. Crullan P. J and Granston P. S (1994) The Insects an outline of Entomology 1st Edition Published by Chapmau and Hall, New York
3. Hickey M and King C (1997) Common Families of Flowering Plants 1st Edition Cambridge University Press, New York
4. Hickman-Roberts-Larson (2000) Animal Diversity 2nd Edition McCrraw-Hill Higher Education, New Delhi

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Further information:
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