The Use of Sweet Basil Plants to Prevent Mosquitoes

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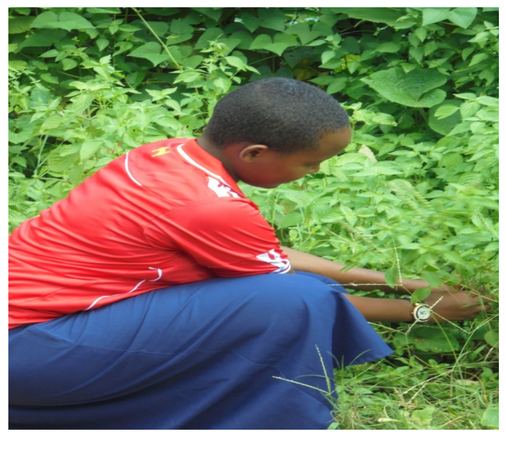
43. Ndwika

Introduction:

Mosquitoes are the vectors which spread variety of diseases such as Malaria, Yellow fever and dengue. Mosquitoes have been reported to be one of the chronic problems in Tanzania societies for instance, in 2014 there was on outbreak of dengue disease spread by mosquitoes

Since most people do not afford to buy industrial mosquitocide, Local people in Lulindi village uses sweet basil plants to control mosquitoes. In Lulindi the plant is called nchenjema in Yao language which means the mosquito plant, it is believed that these plant help to keep away mosquitoes. This study aim at observing weather these plants repels or kills mosquitoes



Method:

The study was conducted in two different locations within Lulindi ward. These locations are Ndwika girls' secondary school and Ndwika Chini village. All these locations lie within tropical climatic area found at Masasi district in Mtwara region.

Oral interview method (due to large number of illiteracy) and experimental methods were used in the study. An oral interview was conducted with villagers about the use of sweet basil plants in relation to mosquitoes were by 44 people aged 40 and above were contacted because thaey lived during the time where the industrial repellents were not present. Health professional at Lulindi dispensary which is located at Lulindi village, were interviewed about the preference of malaria disease in the society. The interview method was used to obtain prior information about the topic.

The collection of sweet basil plants was done at Ndwika chini village and the experiment and observation was done at Ndwika Girl's secondary school. Two rooms were selected for investigation. The first room had a box with a mosquito trap inside it, the mosquito trap contained the mixture of water, sugar and yeast. The mixture produced carbon dioxide which attracted mosquitoes inside the room.

Results:

The data analysis was done through tables to determine whether there were differences in repellent activities when the leaves are crushed, burned or left without being crushed.

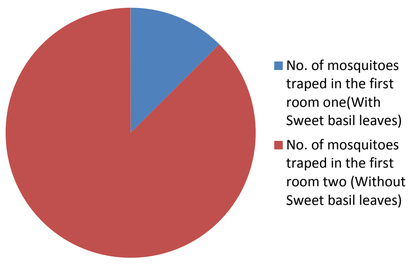
14 people out of 19 people (73.68) aged 60 years and above interviewed used the leaves at some times during their life time to repel mosquitoes the rest 5(26.32%) have not used but they know that it is used for that purposes. 12 people out of 25 (48%) aged 40 to 59 have used the leaves and the rest 13 (52%) have not used but they had about the use of the plants to prevent mosquitoes.

We did an experiment to observe the repellant activities of sweet basil plants and the results were as follows; The percentage for the repellency of uncrushed sweet basils ranged from 80% to 87.5% and its overall percentage repellency was 83.33%.

Setting 1. We used uncrushed sweet basil leaves.

Experiment 1.0: Uncrushed leaves

Room 1 (With sweet basil leaves)					Room 2 (Without sweet basil leaves)			
DAYS	Number of mosquito entered	Live	Dead	Total	Number of mosquito entered	Live	Dead	Total
1	0	0	0	0	6	6	0	6
2	0	0	0	0	1	4	3	7
3	2	1	1	2	1	4	4	8



Experiment 1.1: Uncrushed leaves

Room 1 (With sweet basil leaves)					Room 2 (Without sweet basil leaves)			
DAYS	Number of mosquito entered	Live	Dead	Total	Number of mosquito entered	Live	Dead	Total
1	0	0	0	0	5	4	1	5
2	1	0	1	1	0	2	3	5
3	0	0	1	1	2	4	3	7

Setting 2.0: With crushed leaves.

Experiment 2.1

Room 1 (With sweet basil leaves)					Room 2 (Without sweet basil leaves)			
DAYS	Number of mosquito entered	Live	Dead	Total	Number of mosquito entered	Live	Dead	Total
1	0	0	0	0	3	2	1	3
2	0	0	0	0	1	1	2	4
3	0	0	0	0	0	0	4	4

Conclusions

From the results obtained above it is revealed that the leaves of Sweet basil plants has aroma which repel mosquitoes but do not kill it. These findings will provide the chances for further investigation on the effective use of the plat to control mosquitoes. Further research should be carried out to determine the chemical compounds present in sweet basil responsible for the repellency.

Acknowledgments

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