

## **INSECT REPELLANT USING NATURAL CONTENTS!**

**Mrs.Manasi V. Ghamande<sup>1</sup>, Omkar Borate<sup>2</sup>, Miss.Aishwarya Zambare<sup>3</sup>,  
Amey Shelke<sup>4</sup>, Shivam Lohar<sup>5</sup>, Sagar Shirudkar<sup>6</sup>**

*Department of Engineering Sciences and humanities, VIT, SP Pune, University, (India)*

### **ABSTRACT**

Lack of cleanliness due to garbage, defecation of animals and even humans has become a normal scene on Indian roads nowadays. Due to the wet garbage and the excretory products, favourable conditions are produced on the roadsides for breeding of mosquitoes, flies, cockroaches, bugs and other insects. These insects are a reason behind the spread of diseases. So thinking of these conditions a research of the things that attract such insects to the waste products was conducted. And to find a solution to this problem we have made a eco-friendly solution that acts as a repellent against such insects and effectively repels or distracts them from the waste without killing them.

***Keywords: Defecation, Garbage***

### **I. INTRODUCTION**

In India people usually throw garbage on the roads, of which the wet garbage is a major part .Even in the slum areas in the city or the in the villages people defecate on the roads or open spaces. These waste products attract the insects due to their smell and provide them a favorable condition for breeding. Such insects like mosquitoes or flies or cockroaches spread diseases like food poisoning.

To solve this problem we approached it by first understanding the reason behind attraction of insects-Smell .Many different insecticides or mosquitoes repellants are available in the market which are actually based on chemicals and also have a very strong and pungent smell. Hence they are harmful to both humans as well as insects. Hence we found different natural substances whose smell distracts specific insects. As well as such substances are available easily .Hence we prepared a simple intermediately concentrated solution that will repel insects without harming the environment by using natural ingredients.

### **II. CONCEPT**

The main motive of the paper is to provide a eco-friendly and cost effective repellent solution against insects. With this purpose we discussed with our project guide in the outline of the preparation of solution. Our project guide suggested to use substances that are easily available. Thus we used some kitchen ingredients and some leaves to prepare the solution.

### **III.THEORY**

#### **3.1. Ingredients**

To minimize the chemical usage in the solution we used following natural substances :

1. Laurus nobilis/Lauraceous (Bay leaves)
2. Mentha/Mentheae (Mint)
3. Alliums Sativum (Garlic)
4. Azadirachta indica (Neem leaves)
5. Aqua (Water)
6. Liquid soap.

The Mentha, a natural substance has properties to repel mosquitoes ,has a pleasant smell and is safe to use since it is harmless to humans and animals. Alliums Sativum a organic substances that has a very strong smell ,which actually overwhelms the sense of smell of mosquitoes and flies and thus very effectively keeps them away for almost a duration of 30 days. Laurus nobilis another substance that is even used in cooking has a characteristic smell that repels the cockroaches, bugs, flies, earwigs, mosquitoes,etc . The leaves of this substance whether fresh or dried give the same results. Whereas the Azadirachta-indica leaves have a very strong and characteristics which the mosquitoes hate! Hence, it is a proven natural substance against mosquitoes as well as friendly for the humans since it is harmless. Liquid soap for humans has a very nice smell but the same smell acts as repellent against mosquitoes and flies .Hence , using it as a ingredient is harmless and friendly for humans but at the same time has significant effect against the insects.

#### **3.2. Procedure:**

The following steps are involved in the preparation.

- 1) Addition of 2 teaspoons of semi-solid paste of mint leaves.
- 2) Addition of semi-solid paste of 4-5 peeled allium Sativum heads.
- 3) Addition of 2 teaspoons of powdered laurus nobilis.
- 4) Addition of 2 teaspoons of powder of dry Neem leaves.
- 5) Addition of 2 tablespoons of liquid soap.
- 6) For dilution add 2 cups (approx. 420 ml) of tap water.

### **IV. FIGURES**

Following are some photos of the preparation of the solution:-



#### **IV. CONCLUSION**

This paper gives elaborate information on a natural, eco-friendly and easy to produce all-in-one insect repellent.

The solution that we have prepared is highly cost effective to produce and easy to use solution since it harmless for humans. Since we have used the ingredients by using their pastes , the solution will act effectively up to a period of 20-30 days of time.

#### **V. ACKNOWLEDGEMENTS**

We thank Sir Dr. Rajesh Jalnekar, Director, B.R.A.C.T.'s Vishwakarma Institute of Technology, for introducing the concept of course project so that we could apply the theory that we have learnt in day to day life. Also we thank Sir Prof. Dr. C. M. Mahajan, Head Of First Year Engineering Department, for inspiring us. And at the end we express our very sincere and heartiest gratitude towards our Chemistry faculty, Mrs. Manasi Ghamande Madam for helping and guiding us throughout the project and also without her help this project would not have been successful.

#### **REFERENCES**

##### **A.) Websites-**

1. [www.theherbalacademy.com](http://www.theherbalacademy.com)
2. [www.roadelsorganiclife.com](http://www.roadelsorganiclife.com)
3. [www.pinterest.com](http://www.pinterest.com)
4. [www.books.google.com](http://www.books.google.com)

##### **B) Books-**

1. <https://www.crcpress.com/Insect-Repellents-Handbook.../p/book/978146655355>
2. Herbal Strategi Mosquito **Repellent** Vaporizer
3. Plant Constituents and Their Mechanism of Action as Pesticide
4. The Complete Book of Essential Oils and Aromatherapy, By Valerie Ann Wormwood