

# MY COMMUNITY, OUR EARTH

## MIAMI

## FINDING PESTICIDES AND FERTILIZERS

Project Director: Mr. Diony Martinez  
Team Leaders: Karla Carruitero, Arantxa Amaya

**Problem Statement:** What, if any, pesticides and fertilizers are used in farms throughout the rural-farmsteads of southern Miami-Dade County? What is their role?

In this project, researchers explored a variety of different organic and inorganic materials and researched how valuable certain fertilizers and pesticides were in the growing process. Fertilizers are used to strengthen and provide nutrients for the soil and plants in order to grant the farmer healthier, stronger, and often tastier harvests. Fertilizers are very helpful in crop production because it aids the soil and gives it nutrients that are necessary in maintaining soil; and a healthy soil means productive plants. Similarly, pesticides prevent insects and their offspring to consume both the plant and its fruits. Both aspects are vital to the production of food in South Florida.

As our group of investigators were shown around various areas throughout the Redlands of Miami, very few signs of pesticides or insecticides were obvious. After some thorough searching, only two substances were discovered in the

immediate area and in two distinct fashions. It is important to note the difficulties involved in locating such chemicals as pesticides are not a substance landowner's display for all persons to see.

The chemical pesticide used was the substance known as Diatomaceous Earth (DE).

DE is a highly absorbent powder that is applied to the leaves and exterior roots of fruiting plants. This type of powder has the ability to dehydrate insects that come into contact with the plant, leaving them helpless and dead within a few moments. Both of these pesticides are safe and even home friendly, although many disclaimers warn against inhalation.

Lauri Mani, the owner of one of the other farmsteads, has a different approach in her fight against insects. Ms. Mani has been growing her own, organic form of pesticide named neem for many years. Her

neem tree is widely known as the 'wonder plant' because of how valuable it has become in the constant fight against insects and their larvae. "Neem tree is one of nature's great gifts – a wonder plant, all parts of which can be used for valuable economic, health and ecological purposes"



Diatomaceous Earth has proven to be a simple yet efficient pesticide that does not need to be combined by harmful chemicals that could potentially harm the environment and the people surrounding it.

(Awofeso, 2011, 170). This tree has been successful in controlling populations of rodents and helps reduce crop spoilage. It additionally destroys the insects' ability to reproduce and can even force widespread starvation by eliminating their appetites. Most farms around the area require some sort of fertilizer throughout the growing season.

On this same farm, Ms. Mani also demonstrated how her organic farm banned any and all artificial fertilizers. Using a mixture of compost and other naturally rotting vegetation, Ms. Mani and her staff utilized machinery in order to grind these substances down and create a nutritious mulch-like material. This byproduct was later used to fertilize her many acres of crops; ranging from small herbs to large, fruiting trees. This laborious task is repeated several times throughout the week, as the goal is to both increase profit-margins (by not purchasing commercial chemicals) and continue to create organically grown fruits and vegetables.

Here is a mound of dead branches and grass, which would soon be turned into natural fertilizer and plant food.



By being able to ward off insects, pests, fungus, and bacteria, Neem is seen as one of the most beneficial natural pesticides to exist. Not only can it be used as a pesticide, but also for medicinal applications.



## Conclusion

The information concluded from this process has shown that, although some farmers prefer not to use pesticides at all, it is an inevitable key in keeping their crops alive. Although some attempt to use only organic substances in the growing process, often times the cheaper and faster alternative is commercial purchased and utilized.

## Resources

Awofeso N. Neem tree extract *Azadirachta indica* and malaria control in Africa and Asia: prospects and challenges.

Spatula DD. 2011; 1(3): 167-174.doi:10.5455/spatula.20110823031709

