

In the summer of 2016, U.S. Company Scott G. Williams, LLC ("SGW") undertook a study to observe the growth, health, and development of Plumeria plants grown from cuttings using applications of SGWs New Phase Elementals (NPE) Formula 442. No other fertilizer or growth promoting inputs were used after planting in order to insure that results were exclusive to the NPE 442 treatments.



The Plumeria tree (also known as frangipani) is a deciduous plant species belonging to the genus Plumeria. When fully grown, Plumerias can reach twenty feet in height with a drip line circumference of 15-25 feet. Plumerias are grown in Hawaii where they produce many fragrant flowers in a variety of colors that are used in making the traditional Hawaiian lei necklaces. These plants are hardy and can withstand drought and high temperature, but frost will kill the plants. The Plumeria is native to Mexico, Central America, Colombia and Venezuela, but is found in many subtropical and tropical climates such as Hawaii, Florida, the Philip-pines, and Indonesia.

## STUDY GOALS

NPE 442 (New Phase Elementals Formula 442) was developed by SGW after 65 years of agricultural product formulation experience. NPE 442 is a unique complete liquid nutrient which combines all of the NPK macronutrients, all the secondary nutrients, and all the micronutrients along with organic carbon contributed from humic and fulvic acids. NPE 442 contains sea plant extract, at least 6 different beneficial bacteria strains, beneficial micro-fungi, 16 different amino acids, as well as 5 different natural growth enhancers. The secondary and micronutrients are chelated using the patent-ed SGW Ultra Chelation™ technology.



**SCOTT G. WILLIAMS, L.L.C.**

2111 General Arts Rd,  
Conyers, GA 30012 U.S.A.

Plant: 770-761-4448  
US Toll-free: 1-800-582-0578

Fernando R. Muñoz  
General Manager  
Cell: 404-323-2813  
Email: sgwillc@aol.com

[www.scottgwilliams.com](http://www.scottgwilliams.com)



Our products are used to create best-in-class growth rates matched with outstanding quality. Above, six year old Jose Muñoz holds on to a 25 pound zucchini squash.

## Philosophy of Scott G Williams LLC:

Philosophy teaches, from very early on, that there are three major divisions in living things: plants, animals, and rational beings. All three levels of life contain a type of soul. The characteristics of the plant soul include growth reproduction and the ability to take in nutrition. The animal soul builds on the characteristics of the plant soul by adding characteristics such as locomotion, communication, and additional sensory functions such as sight. Humans then add on to the characteristics of the animal soul by having a rational thought process that allows for all living things to work together harmoniously.

Interestingly enough, all life appears to require a similar type of nutrition. Plants offer fuel for animals and humans in the form of food. Animals require the basic building blocks of nutrition but also require a series of micronutrients and secondary elements that are added in their feed in the

form of mineral or trace packages. Again, humans achieve their nutritional requirements through the consumption of plants and animals. However, sometimes humans don't get the full range of nutrients that they require. For this reason, humans have taken the approach of augmenting their diets with fortified foods or with mineral and trace elements vitamin pills.

The elements required to fulfill the range of secondary and micronutrient elements are not always found in the soil used in growing plants. These vital elements are combined and added to our products, which help plants reach their maximum potential. When plants reach their maximum potential, this affects the animals that eat these plants, thus affecting humans as well. The products produced in Scott G. Williams L.L.C. help create a chain reaction of better health and better living for all living things.

SCOTT G. WILLIAMS, L.L.C.  
THE  
**MEGA**  
NAME IN  
MICRONUTRIENTS™



**PLUMERIA STUDY  
USING SCOTT G. WILLIAMS NPE 442**



# PLUMERIA STUDY USING SCOTT G. WILLIAMS NPE 442

## THE STUDY PARAMETERS

The Plumeria cuttings or stakes were purchased from an ABC store in Hawaii. See below:



Thirteen (13) cuttings were purchased and transported from Hawaii on March 18, 2016. Each stake was about 9-12 inches in length and green in color but dry on the ends.

Each stake was buried into soil made of 1/3 sand, 1/3 peat moss, and 1/3 topsoil, all purchased from the local LOWE's hardware store. Two tablespoons of 13-13-13 granular were mixed into the growing medium soil. Plants were potted in April 2016 and watered once. At the end of May, the potted plants were taken outside to their location on a sunny patio in Atlanta, Georgia. The instructions on the packaging of the stakes indicated that the stakes would put out leaves the first year and then flowers in the second year. By the time the plant were taken outside, some growth could be observed on some of the plants. See the picture ①:



One week after NPE 442 treatments began

However five of the plants looked immature and not developing properly. On Saturday, June 4, 2016, treatments using SGWs NPE 442 liquid were started. One week later, on June 11, one of the lagging five plants had a full set of leaves. See the picture ②:

## OBSERVATIONS

Beginning on Saturday, June 4, 2016, the potted plants were given ½ cup of a liquid consisting of 50% NPE 442 and 50% ordinary tap water. This treatment was given to the plants, by merely adding the measured liquid to the soil by pouring around the plant, three times per week. By July 11, 2016, the potted Plumerias had achieved leaves, at least a foot of growth, and many had flowered. See the picture ③:

Finally, the picture below (July 28, 2016) demonstrates the growth and development achieved in two months of applying NPE 442 at the rate of ½ cup of a 50%-50% mix of NPE 442 and ordinary tap water. Plants are full of leaves, have grown over a foot, with thick stems, many flowered, and even the slower growing plants managed to catch up to the others.



Day before NPE 442 treatments started



Five weeks after NPE 442 treatments began

## CONCLUSION

Thirteen dry Plumeria stakes were purchased from Hawaii in March 2016. They were potted into a well-drained soil at the end of April. They were watered once in May. By the time they were set outside on a sunny patio in Atlanta, Georgia in May 2016, some growth could be observed.

On Saturday June 4th, a regimen of a new liquid complete fertilizer was initiated. NPE 442 was mixed 50%-50% with ordinary tap water and the resultant mix was added as a treatment to each pot three times a week at the rate of ½ cup per treatment.

By the end of July, two months after the treatments were started, the cuttings had growth, many had flowered and some had grown to two feet in height. Stems were thick in diameter and leaves were plentiful

and dark green. All of this took place in about two months after the recommendations from the tag of the Kanoa Hawaii nursery brand of plants noted that the Plumeria stakes should produce leaves in the first year and flowers in the second year.

SGW's NPE 442 is a powerful addition that promotes growth in an accelerated fashion. The growth produces flowers, strong and thick support structures, dark, healthy leaves, and terrific plant height. NPE 442 can be used as a transplant fluid, as a foliar spray, in fertigation, irrigation, etc. NPE 442 is only available from its U.S.A. manufacturer – Scott G. Williams, LLC – in 2 ½ gallon jugs or 250 gallon totes.



Day before NPE 442 treatments started



Less than two months after NPE 442 treatments began