UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

CODE: 27/05

TITLE:
Determination of the possible weight loss effect of the product known as **Vermella Slim**, originating from NutraMedix Laboratories, LLC, Florida, United States.

OBJECTIVES:
To study the effectiveness of **Vermella Slim** in producing effects on weight gain in laboratory mice, following techniques described in the literature.

BACKROUND:
The present study has as background the possible weight loss effect of **Vermella Slim** using weight gain in laboratory mice as an indicator of effectiveness.

As discussed in numerous international works, the pharmacological study of the above-mentioned effect is indispensable, and guarantees (within the margin of error associated with the technique) that the potential for producing weight loss effects in humans will be learned.

The basis of this work is the pharmacological effect as a weight loss product, as described in international literature (1, 2).

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

TECHNICAL, SCIENTIFIC AND SOCIOECONOMIC BENEFITS:
Demonstrating that these products possess weight loss effects is important since the product could be added as a new medication, in this case a plant-based medicine with the associated low toxicity, which would further allow us to add it to the Registry of new medicines.

VARIABLES TO MEASURE:
Daily administration of **Vermella Slim** and its effect over body weight for 7 days.

PROCEDURES TO FOLLOW:

TEST MATERIALS:
Vermella Slim the procedure followed was that described by Gerhard Voegel (1997).

CHANGES IN THE CURRICULUM:
Changes did not take place in protocol proposed to the Unity of Quality Guarantee, whose number is referred to on Page 1**.**

DATA FROM THE SAMPLE:
Organization soliciting services: NutraMedix Laboratories, LLC.
Person in charge of the Organization's application: Jose Icaza
Date of application: 4/20/05
Person in charge in the Executor Organization: MSc. Gastón García Simón

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

Organization that carried out the work: University of Guayaquil, Department of Chemical Sciences.
Address: Ciudadela Universitaria "Dr. Salvador Allende"
Form of presentation of the product: Amber glass drop bottle containing 30 milliliters
Storage: The product was maintained at room temperature before and during the experiment, and as indicated was protected from light and kept in a locked cabinet.

INFORMATION WITH RESPECT TO THE HANDLING:
No special handling instructions were needed.

COMPOSITION OF THE PRODUCT:
Vermella leaf extract
Mineral water
Ethanol (20 - 25%)

EXPERIMENTAL PROCEDURE:

INTRODUCTION:
This experiment was carried out with the intention of determining the possible weight loss effect of **Vermella Slim,** utilizing oral administration, given that this is the proposed method for administration to humans.

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

DOSAGE USED IN THE TEST:

In this study 0.5 mL/200 g of animal body weight was utilized, in a daily administration. The product was dissolved in water at a rate of 40 drops per 80 mL of water.

PRINCIPAL TEST:

METHODS AND TECHNIQUES:

Study Material: **Vermella Slim**

Animal Model: A single rodent species (mouse) was utilized, with a minimum of 5 animals of a single sex in each group. In this case, male mice with an average weight within ± 20% (3), belonging to the Wister line and coming from the Chemistry Department of the University of Guayaquil were appropriate and were utilized in the experiment.

The animals were maintained in quarantine conditions and were acclimated according to established procedures (4, 5), said period having a duration of five days minimum.

Access to the water was "ad libitum", but food was given in a controlled form, a quantity measured by noting what was consumed and what was left the next day. (6, 7)

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

The animals were randomly distributed from within the different groups. (8)

Food was denied 4 hours before exposure to the test material.

The experiment lasted 12 days (5 of acclimation and 7 of test).

Each mouse was given the stipulated quantity of food appropriate for the species.

At the end of the experiment all the animals were euthanized, following the procedures of Refinement, to avoid pain and suffering by the animals.

STATISTICAL PROCESS:
The mean animal weight and standard deviation of each day were determined, and at the end of the experiment a one-tailed Analysis of Variance and the Student Newman Keuls test with $p<0.05$ was conducted to see if the groups differed significantly.

METHOD DEVELOPMENT:
The following two groups were constructed for the test:

	TESTING GROUPS
1	**Animals who received no treatment (control group).**
2	**Animals who received Vermella Slim in a volume of 0.5 mL/200g via oral intake and 40 drops dissolved in 80 mL of water.**

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

RESULTS AND DISCUSION:

In the following table one finds the fluctuations in the animal's weights from day 1 to day 7 of the test.

TABLE # 1. CHANGE IN THE BODY WEIGHT OF MICE THAT INGESTED VERMELLA SLIM IN DRINKING WATER AND BY INTRAGASTRIC CANULA

Groups		Days						
		1	2	3	4	5	6	7
No treatment (control)	X	131.8 a	139.4 Ab	144.0 bc	151.2 c	156.2 C	159.4 c	171.6 d
	s.d	8.17	4.67	4.30	4.21	4.0	4.9	7.16
Vermella Slim	Xs	136.4 a	136.0 a	136.6 A	139.4 a	140 A	142.6 a	146.6 a
	s.d.	7.37	8.66	8.96	7.4	7.81	7.47	5.06

One can see from the table that by the third day of the experiment, statistically significant differences existed between the days for the control group.

UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

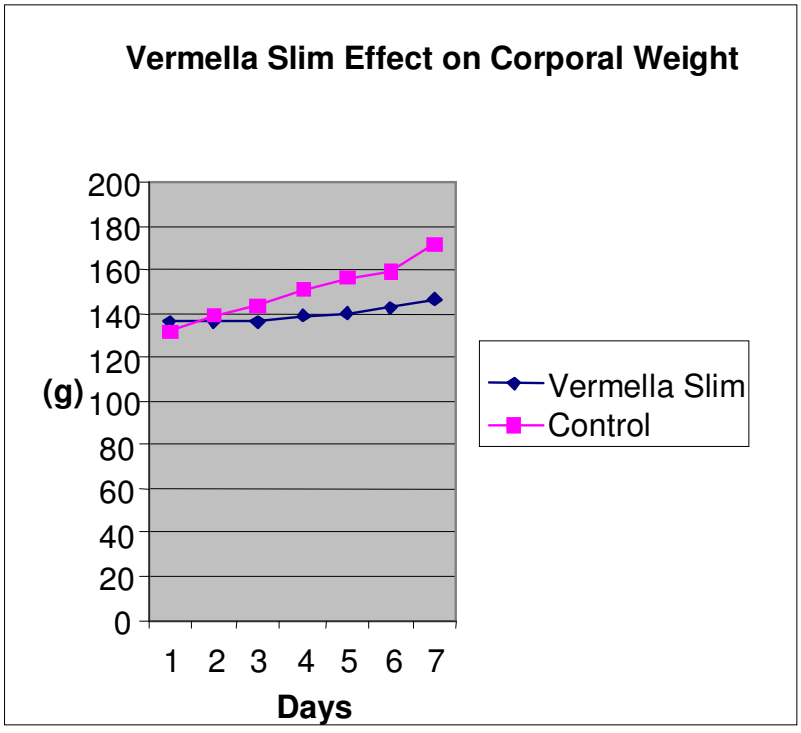
Guayaquil, Ecuador

FINAL REPORT

One can further note that on the first day the groups were similar, but from the third day on, differences between the two groups appear, such that by the seventh day there were differences both between days and between groups

Those who received the medication stopped eating, such that there was no difference between days for this group.

On the other hand, one should observe how the difference between the first and the seventh day is notable for the control group (25 grams within two days).



UNIVERSIDAD DE GUAYAQUIL

DEPARTMENT OF CHEMICAL SCIENCES

Ciudadela Universitaria ¨Dr. Salvador Allende¨

Telephone: 2293680, E-mail: fcquimic@ug.edu.ec

Guayaquil, Ecuador

FINAL REPORT

From the graph one can appreciate how those animals in the control group gained weight as compared to those who received treatment.

CONCLUSIONS:

Vermella Slim had a weight loss effect on laboratory rodents during the week of the experiment.

PERSONNEL RESPONSIBLE FOR THE STUDY:

Responsible Professional: **Signature:**

MSc. Gastón García Simón

Date: 08/05/05

BIBLIOGRAPHY:

1. CYTED course for Researchers in the Discovery of new medicines, Lima November 1996
2. Drugs Discovery, Gerhard Voegel (1997).
3. Procedure. Bodily weight of mice
4. Procedure. Guide for the care of laboratory animals
5. Procedure. Quarantine
6. Procedure. Sub-minister of Water, Usage Manual.
7. Procedure. Random Allocation of rodent species
8. Procedure. Euthanasia
9. Pink W. “Statistics for toxicology,” in *Principles and methods of Toxicology*, W. Hayes, ed. Raven Press, N:Y: 1994