

Investigatory project essay sample



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The success of this investigatory project is directly related to the contributions of the ever supportive persons in my aura: To my friends who were there to cheer me up in time of doing this investigatory project, “ Thank you so much!” To my parents who help me in providing significant material contributions, “ Thank you and I love you so much!” To my adviser, Analiza R. Barcarse for her exquisite attention in guiding me, “ Thank you, Ma’am!” To Ms. Estrella B. Acosta, the Science Department Head for her continued encouragement for me in making and developing this study. And above all, to Almighty God for giving me the faith and strength in making this investigatory project successful. Thank You Very Much!!!

-Jan Kevin Strauss G. Balantac

CHAPTER ONE

INTRODUCTION

A. Background of the Study:

Nowadays, people have using different herbal soap that is expensive and less effective. And sometimes they feel itchy after using the product.

The researcher aims to make an effective and cheaper herbal soap. Like Ginger, it contains major antioxidant pigments, carotene and poly phenols giving them high dietary antioxidant value among plant foods.

Ginger has benefits in making herbal soap because it has that properties that can make the skin look good and protects the skin.

B. Objectives of the Study

This study is designed to produce an antimicrobial soap out of Ginger Rhizome.

Specifically, it aims:

1. To evaluate the antimicrobial property of Ginger Rhizome
2. To determine the effect of Ginger Rhizome Soap in washing wounds

C. Statement of the problem:

The researcher aims to answer the following questions:

- 1.) Does Ginger extract effective in making herbal soap?
- 2.) Does Ginger extract effective for washing wounds?

D. Hypothesis:

- 1.) Ginger is effective in making herbal soap.
- 2.) Ginger extract is effective for washing wounds.

E. Significance of the study:

The significance of the study is to have a beneficial usage of ginger. This study also aims to produce an affordable herbal soap by making use of the natural properties of ginger extract. This product is more on natural properties that can cure skin infections like skin allergies, rashes and skin itchiness and does not mix with chemicals that may damaged our skin.

F. Scope and Limitations:

This study needs furthermore improvement, research and also this study is only limited on the use of caustic soda because we all know that too much of caustic soda may cause skin itchiness.

The study was also guided by the following scope and limitations:

1. The study was conducted at Brgy. 1, Sarrat, Ilocos Norte from September 2011-January 2012
2. The extract was obtained from the fresh Ginger Rhizome which is common in our locality

G. Review of Related Literature

Constituents

- Pungent principles, mainly zingerone and shogaol, provides the characteristic taste.
- The most biologically active phenolic compounds, gingerols and shogaols, are found in the root.
- Volatile oil, 1.23 to 3% - gingerol, zingerone, zingiberene, cineol, borneol, phellandrene, citral, zingiberene, linalool, geraniol, chavicol, vanillyl alcohol, camphene; resin.

Properties

- Extracts and active constituents have shown potent antioxidant, antiinflammatory, antimutagenic, antimicrobial and possible anticancer activities.
- Considered adaptogenic, anodyne, anthelmintic, antiallergenic, antibacterial, anticoagulant, anticonvulsant, antidepressant, antifungal, antithrombotic, antitumor, antiulcer, aphrodisiac, carminative, diuretic, rubifacient, anti-platelet aggregation, hypolipidemic, thermoregulatory.
- Pungency is attributed to the pungent principle, zingerone and shogaol, while the aroma is imparted by the volatile oil.
- Considered stomachic, carminative, stimulant, diaphoretic, sialagogue, and digestive.

Terms

Gingerol

* Or sometimes [6]-gingerol, is the active constituent of fresh ginger.

Chemically, gingerol is a relative of capsaicin and piperine, the compounds which give chili peppers and black pepper their respective spiciness. It is normally found as pungent yellow oil, but also can form a low-melting crystalline solid. * Cooking ginger transforms gingerol into zingerone, which is less pungent and has a spicy-sweet aroma. When ginger is dried gingerol undergoes a dehydration reaction forming shogaols, which are about twice as pungent as gingerol. This explains why dried ginger is more pungent than fresh ginger.

Citral

* Is therefore an aroma compound used in perfumery for its citrus effect.

Citral is also used as a flavor and for fortifying lemon oil. It also has strong antimicrobial qualities, and pheromonal effects in insects. * citral is used in the synthesis of vitamin A, ionone, and methylionone, and to mask the smell of smoke. Zingerone

* Also called vanillylacetone, is a key component of the pungency of ginger.

Zingerone is a crystalline solid that is sparingly soluble in water, but soluble in ether. * Zingerone is similar in chemical structure to other flavor chemicals such as vanillin and eugenol. It is used as a flavor additive in spice oils and in perfumery to introduce spicy aromas. * Fresh ginger does not contain zingerone; cooking the ginger transforms gingerol, which is present, into zingerone through a retro-aldol reaction (reversal of aldol addition). *

Ginger compounds have been shown to be active against enterotoxigenic

Escherichia coli heat-labile enterotoxin-induced diarrhea. This type of
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diarrhea is the leading cause of infant death in developing countries.

Zingerone is likely the active constituent responsible for the antidiarrheal efficacy of ginger.

CHAPTER TWO

METHODOLOGY

A. Methodology:

A1. Ginger Decoction

Boil 50 gram of ginger on a casserole for 10 minutes.

* Materials

One-half cup of oil, 3tbsp. caustic soda, and 500mL of water and ginger extract

A2. Preparation of Soap

From the materials gathered; set aside the collected ginger extract. Mix 500mL water and vegetable oil and stir for 30 minutes. Combine the ginger extract to the solution of water and oil, stir for 30 minutes. Add 3 tbsp. caustic soda stir for another 30 minutes. Put in a molder and place in a safe area that can't be exposed in the sun.

A3. Soap Cutting:

Cut the soap according to the size of the molder.

A4. Testing the soap:

After 15 days the soap will be use either preventive or cure. The respondents to this are the people who have skin wounds. It will be apply in the skin when they take a bath.