

Banana sap and annatto seeds as ink essay sample



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Ink has always been an essential part of our lives. This primarily used for communication, writing, duplicating or printing and data recording. Ball pens and markers nowadays are greatly used by many people. Almost everyone carry out one on their belongings. Whenever you need to jot down something, just grab it and start writing. For students, it is a must-have because you'll use it every day. But this ball pens and markers are made of commercial inks that contain different chemical compounds such as resins and lubricants that bring harmful effects to the health of the users. This are also made up of mixture of hydrogen peroxide and ammonia.

Thus, a greater risk of ink poisoning may occur. Due to the pollution that is really observable in the world, being environment friendly through basic everyday things that are used is vital. Finding ways on how to reduce the use of toxic compounds in making inks which are harmful to human health is applicable and therefore essential. Available materials like banana sap and annatto seeds were evaluated to determine its effectiveness as ink.

Statement of the Problem

The study seeks to test the effectiveness of banana sap and annatto seeds as ink. More specifically, it sought to answer the following questions: 1. What proportion of the banana sap and annatto seeds will give the best result as ink? 2. Is the banana sap and annatto seeds efficient in terms of :

- a. Color
 - b. Odor
 - c. Resistance to fading
3. Is the ink effective?

4. Is it acceptable?

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Significance of the Study

Nowadays, the prices of certain commodities have been steadily rising. Among the products greatly affected are school and office supplies, which include inks for ball pens and markers. Many people like students are forced to purchase low-quality pens due to budget constraints because it is difficult to buy high-quality pen which is usually priced stiffly.

The findings of this study shall be used by all people especially students, teachers, and office workers.

The results of this study could provide information on natural inks to all people in order to utilize an eco-friendly ink, to give them chance to become more aware of our environment and economy and also to further broaden their minds that every single creation here on earth has its use.

The study benefited the different ink suppliers so that it could lessen the harmful effects of toxic inks that could eventually leads to serious conditions that the society might face in the future. Scope and Limitation

This study will be conducted to make use of banana sap and annatto seeds as ink. This study was limited to the determination of its effectiveness in different mixtures and proportions. Moreover, the study was limited to four treatments and will be conducted at Apayao Science High School from September to October 2014.

Chapter III

Methodology

This chapter presents the methods and procedures which were employed in the study.

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In order to come up with ink you need banana stalk, annatto seeds, ½ tbsp. vinegar, ½ tbsp. salt, 1 cup of water, white handkerchief, mortar and pestle, glove, syringes, bowl, container, knife, beaker, vials, strainer, wooden spoon or stirring rod. Procedure

Remove the innermost core of the banana stalk. It is the palest and stickiest part of the stalk. Cut up into small pieces for easier slicing and put them into the bowl. Get the white handkerchief and place a handful minced stalk in to it. Held the four corners together and twist it to seal the cloth. Using the mortar and pestle, pound the wrapped minced stalk. After pounding, squeezed manually the pounded stalk to extract the sap of the banana stalk and place in as casserole. Set aside.

In order to extract the annatto seeds, soak it in a 1 cup warm of water for 3 minutes. And stir it for 30 seconds after. Using the strainer, separate the extract from the seed. Measure the banana sap and the annatto seed extract according to their respective treatments. Heat the ink solutions in a medium fire until they started to boil and thicken up. Stir and left to boil simultaneously to check the thickness and consistency. Test the inks on a paper to check the hue of it. Let the ink cool enough and transfer it to the syringe.

Chapter II

Review of Related Literature

This chapter discusses the relevant concepts and principles about bananas and annatto seeds. Banana

The word banana may refer to (*musa x paradisiacal*) , or an edible fruit,

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botanically a berry, produced by several kinds of large herbaceous flowering plants in the genus *Musa*. The fruit is variable in size, color and firmness, but is usually elongated and curved, with soft flesh rich in starch covered with a rind which may be green, yellow, red, purple, or brown when ripe. The fruits grow in clusters hanging from the top of the plant. Almost all modern edible parthenocarpic (seedless) bananas come from two wild species – *Musa acuminata* and *Musa balbisiana*. The scientific names of most cultivated bananas are *Musa acuminata*, *Musa balbisiana*, and *Musa ×paradisiaca* for the hybrid *Musa acuminata* × *M. balbisiana*, depending on their genomic constitution. The old scientific name *Musa sapientum* is no longer used.

The term “ banana” is also used as the common name for the plants which produce the fruit. Banana plant is the largest herbaceous flowering plant. All the above-ground parts of a banana plant grow from a structure usually called a “ corm”. Plants are normally tall and fairly sturdy, and are often mistaken for trees, but what appears to be a trunk is actually a “ false stem” or pseudostem. Bananas grow in a wide variety of soils, as long as the soil is at least 60 cm deep, has good drainage and is not compacted.[The leaves of banana plants are composed of a “ stalk” (petiole) and a blade (lamina).

The base of the petiole widens to form a sheath; the tightly packed sheaths make up the pseudostem, which is all that supports the plant. The edges of the sheath meet when it is first produced, making it tubular. As new growth occurs in the centre of the pseudostem the edges are forced apart.

Cultivated banana plants vary in height depending on the variety and growing conditions. Most are around 5 m (16 ft) tall, with a range from ‘

Dwarf Cavendish’ plants at around 3 m (10 ft) to ‘ Gros Michel’ at 7 m (23 ft)
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or more. Leaves are spirally arranged and may grow 2.7 metres (8.9 ft) long and 60 cm (2.0 ft) wide. They are easily torn by the wind, resulting in the familiar frond look.

Bananas are thought to have originated in Malaysia around 4,000 years ago. From there, they spread throughout the Philippines and India, where in 327 B. C. Alexander the Great's army recorded them being grown. Bananas were introduced to Africa by Arabian traders and discovered there in 1482 A. D. by Portuguese explorers who took them to the Americas, the place where the majority of bananas are now produced. Bananas were not brought to the United States for sale in markets until the latter part of the 19th century and were initially only enjoyed by people in the seacoast towns where the banana schooners docked; because of the fruit's fragility, they were unable to be transported far.

Since the development of refrigeration and rapid transport in the 20th century, bananas have become widely available. Today, bananas grow in most tropical and subtropical regions with the main commercial producers including Costa Rica, Mexico, Ecuador and Brazil. Banana paper is made from two different parts: the bark of the banana plant, mainly used for artistic purposes, or from the fibers of the stem and non-usable fruits. The paper is either hand-made or by industrial process. Banana sap from the pseudostem, peelings or flesh may be sufficiently sticky for adhesive uses. The large leaves may be used as umbrellas. Banana peel may have capability to extract heavy metal contamination from river water, similar to other purification materials. Banana peel has displayed antioxidant activity in vitro, especially from unripe extracts.

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Annatto seeds

Annatto, sometimes called roucou or achiote, is derived from the seeds of the achiote trees of tropical and subtropical regions around the world. The seeds are sourced to produce a carotenoid-based yellow to orange food coloring and flavor. Its scent is described as “slightly peppery with a hint of nutmeg” and flavor as “slightly nutty, sweet and peppery.” Annatto, or Achiote, as it is usually called in Latin American countries, is a relatively tropical shrub that can grow up to about 20 meters. The pinkish white flowers develop into bright red heart shaped, exceedingly bristly fruit, which is inedible. When ripe the fruit capsule breaks open and reveals an abundance of seeds embedded in orange-red pulp. Annatto is commonly used in Latin American and Caribbean cuisines as both a coloring and flavoring agent.

Central and South American natives use the seeds to make body paint and lipstick. For this reason, the achiote is sometimes called the “lipstick tree”. Achiote originated in South America and has spread in popularity to many parts of Asia. It is also grown in other tropical or subtropical regions of the world, including Central America, Africa and Asia. Annatto is believed to originate from Brazil where it is known as urucum. It was probably not initially used as a food additive, but for other reasons, such as body painting, treatment for heartburn and stomach distress, sunscreen, repelling insects, and to ward off evil. It has long been used by indigenous Caribbean and South American cultures where both fruit and tree are popularly called achiote or bija. The ancient Aztecs called it achiotl, and it was used for Mexican manuscript painting in the sixteenth century.

In India, annatto is known as “sindoor” and is considered auspicious for married women. Applying annatto to the forehead next to the hairline indicates that a woman is married. In the Philippines, it is called atsüete and is used as food coloring in traditional dishes. Annatto is a natural colorant and therefore can be included as an ingredient in foods labeled “all natural”. Despite being all natural, annatto can not be labeled as “organic” unless the plants from which it is derived are grown under certified organic conditions. Because annatto is plant derived, it is an acceptable ingredient for vegetarians. As with all ingredients, natural or synthetic, it is possible for some people to develop allergies or adverse reactions to this ingredient. Although a few cases have been reported, wide spread allergies or adverse reactions to annatto have not been noted.

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