

Obtaining citrus fruit essences through the use of home techniques in the town of Villa Serrano

Obtención de esencias de fruta cítrica mediante la utilización de técnicas caseras en la población de Villa Serrano

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Abstract

Essences are odoriferous products that are extracted from a large number of plants by distillation. To prepare the essences of citrus, fruit selection was performed seeing that these are healthy and fresh where the juice was placed in a metal container for the distillation process by scouring through a steam extracted hose to another container. The distillate juice was mixed with sugar at 100 gr. per liter of lime juice and 300 gr. of lemon juice. In this process of getting essences at any time water is added. The product obtained was poured into a bottle cap with wide leaving the mixture in a cool place for a week, uncorking the bottle once to remove the gas that was formed by the process of maceration and packaging of essences was performed in plastic bottles with a content of 30 ml. of essential syrup. Elixirs for fruits are selected seeing that these are healthy, bucking 100g of fruit has to be removed using both the shell and the flesh of the fruit, by soaking for a period of one week in one liter of alcohol for later mix with molasses prepared above with 600 gr. sugar and a liter of water so then this is subjected to distillation and maceration.

Elixir, Distillate, Maceration

Resumen

Estas esencias son productos odoríferos que se extraen de un gran número de vegetales por destilación. Para la elaboración de las esencias de cítricos se realizó la selección de las frutas, viendo que fueran sanas y frescas donde se extrajo el zumo y se depositó en un recipiente metálico para el proceso de destilación arrastrando el vapor a través de una manguera hasta otro recipiente. El zumo destilado se mezcló con azúcar a razón de 100 gr. por litro de zumo de lima y 300 gr. en el de limón, en este proceso de obtención de esencias en ningún momento se añade agua. El producto obtenido se vertió en un frasco con tapa ancha, dejando la mezcla en un lugar fresco durante una semana. En el caso de la obtención de los elixires, se han seleccionado las frutas, viendo que sean sanas, se han picado 100g de fruta a extraer utilizando tanto la cáscara como la pulpa de la fruta, macerando durante un periodo de 1 semana en un litro de alcohol para que posteriormente se mezcle con una melaza previamente preparada con 600 gr. De azúcar en y litro de agua para que posteriormente se someta a destilación y maceración.

Elixir, destilado, macerado

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Introduction

Essences are odoriferous products that are extracted from a large number of vegetables. This essence is the synthesized substance obtained from an infusion. Any perfume, when inspired, produces an instant alchemical effect and each one of the aromas can influence the subtle worlds in different ways. These aromas can be transferred through perfumes, elixirs or spirits, incense, incense, etc.

The essences are extracted from the tissues of the plant organs by various physical and chemical procedures depending on the quantity and stability of the compound to be obtained. The extraction process of the products involves performing a distillation process to obtain a purer product.

The term distill comes from the Latin word "destillare" which is nothing more than the separation of a substance by means of heat, for this operation it is necessary to use an alembic but it can also be extracted in a rustic artisanal way using common kitchen tools. kitchen. Distillation is a physical process since no transformation of substances takes place, but rather a separation of some volatilizable components. From the point of view of physics, distillation is defined as follows: many substances with a very high boiling point, heated together with water pass to the vapor state at its boiling temperature, they are therefore volatile with water vapor and can be obtained and purified by current distillation of that vapour.

The essences extracted by this method of distillation, is the flavoring liquid of some vegetable in a high concentration (the percentage of concentration varies, depending on the amount of distillate, from 15 to 30%) a few drops of this substance is enough to flavor some prepared or that an environment is perfumed. An essence can also be a good flavoring agent to be applied in aromatherapy practices, cosmetology, air fresheners, confectionery, etc. Causing a pleasant feeling to users.

Materials and methodology

Materials

The materials that were used for the production of the essences in a homemade way are:

Pressure cookers, Kitchen, Carafe, Hose, Washer, Wooden pallet, Bottles or glass jars Clean rags, Blender, Manual extractor, Strainer or sieve, Knife, Spoon, Glucometer, Other materials, Plastoform, Self-adhesive paper, Aluminum foil and Plastic bags.

Supplies

Lemon, Lime, Sugar, Alcohol and Water.

Methodology

The methodology that was used in the process of transforming the fruit into essences, in a homemade way, has involved the training of the processors through practical and demonstrative workshops.

The people who participated in the training were students from the fruit growing program, who supported the process of making the essences and elixirs for their presentation at the Science and Technology Innovation fair of the San Francisco Xavier University that takes place in Sucre. For the elaboration of the essences and other spirit extracts, it is necessary to use some materials, tools and supplies that can be easily obtained since they may be the ones that we commonly use every day in our food preparation for our families.

The materials used served to result in a pure liquid substance obtained by distillation. Extraction by steam dragging is the process used to obtain this essence, a volatile compound that can be dragged by means of steam.

ELIXIRES elaboration process

The process of making and obtaining citrus fruit elixirs using traditional techniques is described below.

Selection of fruits

For the elaboration of the citrus fruit elixirs, the selection of the fruits was made, seeing that they are healthy and fresh so as not to have faults in the elaboration.

Chopped and macerated

With the help of a knife and a clean dish, 100g of fruit to be extracted have been cut into pieces using both the peel and the pulp of the fruit.

When the fruit has already been prepared, it is made to macerate for a period of 1 week in an alcoholic medium, later it is mixed with a previously prepared molasses so that it is then subjected to a high temperature and can proceed to distillation to obtain a smooth and fine product.

Second maceration for pregnant

The product previously obtained by steam distillation of the fruit juice was poured into a bottle with a wide lid to leave the mixture in a cool place for a week, uncovering the bottle once to remove the gas that was formed by the maceration process.

Preparation of the bottles for shipping

The bottles used to pack the already macerated distilled elixirs are recycled beer bottles that, prior to their use, underwent a sterilization process using water baths, which consists of placing the bottles in a source of hot water. This procedure helps remove impurities from the bottles.

Pregnant

The filling of the elixirs was carried out with the help of a funnel, pouring the contents of the jars with the macerated distilled juices into each of the bottles. Each bottle contains a quantity of 250 ml., of elixirs.

Tagged

In order for the product to have a good presentation and attract the attention of consumers, each of the bottles was labeled with the respective name of the product, as well as some indications for use and its medicinal properties.

Each label also refers to the processing entity, in this case it mentions the Medium Technical Fruit Growing program of the Sanfrancisco Xavier University of Chuquisaca.

Stored

The product in its final sample was stored in a cool place, until the day of its presentation at the Fair of Technology and Scientific Innovation that takes place in the city of Sucre.

Process of elaboration of ESSENCES

The process of elaboration and obtaining the essences of citrus fruit using artisanal techniques is described below.

Selection of fruits

For the elaboration of the essences of citrus fruit, the selection of the fruits was made, seeing that they are healthy and fresh in order to obtain the greatest amount of juice and have no faults in the elaboration to obtain essences.

Fruit juice extraction

With the help of a knife, the fruits were cut in half, in a clean source, all the split fruits were placed, which were squeezed, using a manual fruit juicer.

Subsequently, the juice that has been obtained is mixed with sugar at a rate of 100 gr. Per liter of fruit juice.

Distilled from fruit juice by evaporation

The fruit juice obtained above was placed in a metal container, this being a pressure cooker. In a burner stove at low heat, the pressure cooker was heated with the juice of the fruit mixed with sugar. The broth used to heat the liquid at first is high to force the rapid heating of the medium to evaporate, when the medium begins to give off steam, this broth was reduced by half to control evaporation and obtain a better product.

The vapor of the juice formed by the effect of heating is dragged through a hose to another container. In order for the steam to reach the other containers in liquid form, a condensation process was forced by making the hose that carried the steam pass through a source with cold water, thus turning the steam into a liquid. In this process of obtaining essences through evaporation at no time is water added, as this can make the duration of the essence shorter.

Second maceration for pregnant

The product previously obtained by steam distillation of the fruit juice was poured into a bottle with a wide lid to leave the mixture in a cool place for a week, uncovering the bottle once to remove the gas that was formed by the maceration process.

Preparation of bottles for packing essences

The bottles used to pack the essences are plastic bottles that, despite being new, underwent a sterilization process using water baths. This procedure helps remove impurities from the jars.

Pregnant

The packaging of the essences was carried out with the help of a small funnel, pouring the essences into each of the bottles. Each bottle contains a quantity of 30 ml., of essential syrup.

Tagged

As in the elixirs, so that the essences have a good presentation, each of the bottles was labeled with the respective name of the product.

Stored

The product in its final sample was stored in a cool place, until the day of its presentation at the Fair of Technology and Scientific Innovation that takes place in the city of Sucre.

Recipes used for extracts

The recipes used both in the elaboration of the Essences and the elixirs are the following:

Essences

Essences of two varieties of citrus fruit, lime and lemon, were prepared.

Essence obtained from lime

1 liter lime juice
100g sugar.

Steps:

The lime juice is extracted, then the juice is mixed with the sugar. Pour the blended juice into a pressure cooker for distillate.

Applications:

In confectionery Flavors Liquor Store Soft drinks

Steps:

The lime juice is extracted, then the juice is mixed with the sugar. Pour the blended juice into a pressure cooker for distillate.

Applications:

Extends the conservation period in the preparation of jams In confectionery
Flavors Liquor Store Soft Drinks

Elixirs or medicinal drinks

Elixirs are pharmaceutical preparations in liquid, hydro-alcoholized, sweetened form that contain some medicinal active ingredients that are consumed orally. The Elixir is the result of the carefully controlled extraction of the active ingredients that the fruits possess; working in synergy (joint work of the active ingredients), mutually enhancing their effects.

Steps:

- The lime is washed well.
- Grate or chop the peel of the lime.
- The lime peel is macerated in alcohol for 1 week.
- Mix the sugar in the liter of water.
- Lime alcohol is strained.
- Mix the sugar water with the lime alcohol.
- It is left to macerate for 1 week.
- If you want to consume it in a more concentrated way, the lemon alcohol is distilled.

Applications:

Flavoring of Alcoholic beverages and Natural Medicine.

The elixir stimulates intellectual potential and analytical reasoning. Useful in learning problems; In periods of tiredness and exhaustion; Lack of concentration and is a Tonic for all ages.

Properties:

This elixir contains Vitamin C. Citric acids. B-complex vitamins (B1, B2, B3, B5, B6).

Lemon elixir

Lemon peel and pulp 8 lemons
 Sugar 600 gr.
 Alcohol 1 Lt.
 Mineral water 1 Lt.

Applications:

For those who are reserved, insecure, lacking humor, with little mental energy to make decisions and study. The elixir stimulates intellectual potential and analytical reasoning. Useful in learning problems. This elixir is antiscorbutic, astringent, powerful blood purifier, nervous relaxant, rheumatism, anti-arteriosclerotic. anticarcinogenic. Curative of tuberculosis and syphilis.

Propretores:

This elixir contains Vitamin C. Citric acids. Potassium, Magnesium, Calcium and Phosphorus (also Sodium, Iron and Fluorine). B-complex vitamins (B1, B2, B3, B5, B6).

No.	Detail	unit	Quantity	cost unit.	cost total Bs.	Source financing	
						USFX	Own
	Materials						
1	pressure cookers	Part	1	150	150		150
2	cooker burner	freight	1	20	20		20
3	hose	meters	10	2	20		20
4	washer	Part	2	12	24		24
5	wooden pallet	Part	2	9	18		18
6	glass bottles	bottle	200	20	40		40
7	30 ml plastic bottles.	bottle	100	0.30	30		30
8	clean rags	Part	4	35	14		14
9	Extractor	Part	1	6	12		12
10	Strainer or sieve	Part	5	5	25		25
11	Knife	Part	1	10	20		20
12	spoon	dozen	1	25	25		25
13	1 liter juice	Part	2	10	20		20
	Subtotal materials				418		418
	diffusion material						
14	User information	Global	1	50	50		fifty
15	Banner	Global	1	500	500		500
16	pasted	Part	2	40	80		80
	Sub Total diffusion material				630		630
	Supplies						
15	Sugar	Kilo	2	8	16		16
16	Alcohol	liter	3	10	30		30
17	lime	hundreds	1	45	45		45
18	Lemon	unit	2	25	5		5
19	mineral water	liter	3	3	9		9
	Sub Total Inputs				105		105
	Equipment						
20	Phmeter	Part	1	1200	1240	1240	
21	Printer	Print	20	32	25		25
	Sub. Total teams				1265	1240	25
	Total				2418	1240	1178
	%				100	51	49

Table 10 Production Costs

Results and Discussion

Through the project, it was possible to obtain 1.5 liters of lime essence as a final product using common kitchen utensils.

1 liter of lemon essence was obtained for use as a flavoring agent for domestic use.

New knowledge was formed that encourages new initiatives to develop new techniques for the extraction of juices and essential oils.

Thanks to the project, the fruit processing cabinet of the Villa Serrano Medium Technical Fruit Growing program has been strengthened by the purchase of materials and equipment.

16 third-semester students of the Intermediate technical fruit growing program trained in artisanal fruit processing.

Income was generated for the Villa Serrano Medium Technical Fruit Growing program from the marketing of processed fruit.

Products derived from citrus fruit are accepted by the consumer, thus opening a window for fruit transformation enterprises for the local market.

Findings

The elaboration of elixirs and essences economically is a better way of generating income for families since these can be made by hand, lowering production costs.

The transformation of fruit trees is a better form of commercialization, giving it added value.

Despite the fact that the project was more demonstrative, it was possible to generate some income for the Villa Serrano Medium Technical Fruit Growing program from the commercialization of processed fruit.

Products derived from citrus fruits are well accepted by consumers for their nutritional and medicinal properties.

The essences find application in numerous industries, some examples are the following:

Cosmetic and pharmaceutical industry: used as perfumes, preservatives, flavorings, active ingredients, etc.

Food and derivative industry: as flavorings for all kinds of drinks, ice cream, cookies, candies, dairy products, etc.

Cleaning products industry: such as fragrances for soaps, detergents, disinfectants, products for hospital use, etc.

Pesticide industry: as spraying agents, insect attractants and repellents, Work experience shows that the pot should be heated until no more vapors are released, but be careful not to allow the entire content to evaporate, as it can smoke and damage the product, giving it an odor burned.

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