

Making of Candy and jam from *Cassia auriculata*

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Abstract: - *Cassia auriculata* also known as *Avaram*, *Avari panchaga*, *Choornam*, *Kalpa herbal tea*, *Ranawara*, *Sena auriculata*, *Tanners cassia*. *Cassia auriculata* is an evergreen shrub that grows in many parts of India and Asia. The flower, leaves, stem, root and unripe fruits are used for treatment, especially in Ayurvedic medicine. People use *Cassia auriculata* for diabetes, eye infectins, joint and muscle pain, constipation, jaundice, liver disease and urinary tract disorders. We had thought of processing the flower into super finished products. The flower consumption is a very good treatment for the diabetes patients. For the diabetes patients to eat in their everyday life, we had processed jam and candies. This is made by mixing the flower into palm jaggery, since palm jaggery does not affect the sugar patients, and also the jam is made by mixing the flower into pectin rich fruits such as plums and apple and a low content of gelatin. Thus it proves to bring good results among diabetic patients, the process of candy includes the powdering of *Cassia auriculata* flower and then caramelization of the palm jaggery, mixing the solution with the flower and then freezing it about 10-15°C for 6-8 hrs. The processing of jam includes the boiling the flower and then steaming and then cooling and then adding the pectin rich fruits and then freezing which brings the *Cassia auriculata* jam. Thus it proves the best result, and it is used conventionally in our day today life.

Key Words: — *Cassia auriculata*, flower, palm jaggery, candy, pectin rich fruits, jam, healthy life.

I. INTRODUCTION

Cassia auriculata is a common shrub that is found in India and some parts of Asia. *Senna auriculata* is a legume tree in the subfamily Caesalpinioideae. It is commonly known by its local names matura tea tree, avaram or ranawara, (Kannada: ಆವರಿಕೆ āvarike, Telugu: తంకీడు tamgēḍu, Tamil: ஆவாரை āvārai) or the English version avaram senna. It is the State flower of Telangana. [1] It occurs in the dry regions of India and Sri Lanka. It is common along the sea coast and the dry zone in Sri Lanka. Avaram senna is a much branched shrub with smooth cinnamon brown bark and closely pubescent branchlets.



Fig.1. *Cassia auriculata*

The leaves are alternate, stipulate, paripinnate compound, very numerous, closely placed, rachis 8.8-12.5 cm long, narrowly furrowed, slender, pubescent, with an erect linear gland between the leaflets of each pair, leaflets 16-24, very shortly stalked 2-2.5 cm long 1-1.3 cm broad, slightly overlapping, oval oblong, obtuse, at both ends, mucronate, glabrous or minutely downy, dull green, paler beneath, stipules very large, reniform-rotund, produced at base on side of next petiole into a filiform point and persistent.

Its flowers are irregular, bisexual, bright yellow and large (nearly 5 cm across), the pedicels glabrous and 2.5 cm long. The racemes are few-flowered, short, erect, crowded in axils of upper leaves so as to form a large terminal inflorescence stamens barren; the ovary is superior, unilocular, with marginal ovules.

The fruit is a short legume, 7.5–11 cm long, 1.5 cm broad, oblong, obtuse, tipped with long style base, flat, thin, papery, undulately crimped, pilose, pale brown. 12-20 seeds per fruit are carried each in its separate cavity.

A. Uses of *Cassia Auriculata*:

Cassia auriculata is used to treat the following:

- Diabetes.
- Joint and muscle pain (rheumatism).

- Eye infections (conjunctivitis).
- Constipation.
- Liver disease.
- Urinary tract diseases.
- Other conditions.

B. Working:

Cassia auriculata might increase the body's production of insulin.

C. Side Effects:

Pregnancy and breast-feeding: Not enough is known about the use of Cassia auriculata during pregnancy and breast-feeding. Stay on the safe side and avoid use.

Surgery: Cassia auriculata might affect blood sugar levels. There is some concern that it might make blood sugar control difficult during and after surgery. Stop taking Cassia auriculata at least 2 weeks before a scheduled surgery.

D. Interactions:

Carbamazepine (Tegretol) interacts with CASSIA AURICULATA. Cassia auriculata might increase how much carbamazepine (Tegretol) is in the body. Taking Cassia auriculata with carbamazepine (Tegretol) might increase the effects and side effects of carbamazepine (Tegretol).

E. Medications for Diabetes (Antidiabetes Drugs) Interacts with CASSIA AURICULATA

Cassia auriculata might decrease blood sugar. Diabetes medications are also used to lower blood sugar. Taking Cassia auriculata along with diabetes medications might cause your blood sugar to go too low. Monitor your blood sugar closely. The dose of your diabetes medication might need to be changed.

Some medications used for diabetes include glimepiride (Amaryl), glyburide (DiaBeta, Glynase PresTab, Micronase), insulin, pioglitazone (Actos), rosiglitazone (Avandia), chlorpropamide (Diabinese), glipizide (Glucotrol), tolbutamide (Orinase), and others.

F. Dosage:

The appropriate dose of Cassia auriculata depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for Cassia auriculata. Keep in mind that natural products are not always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

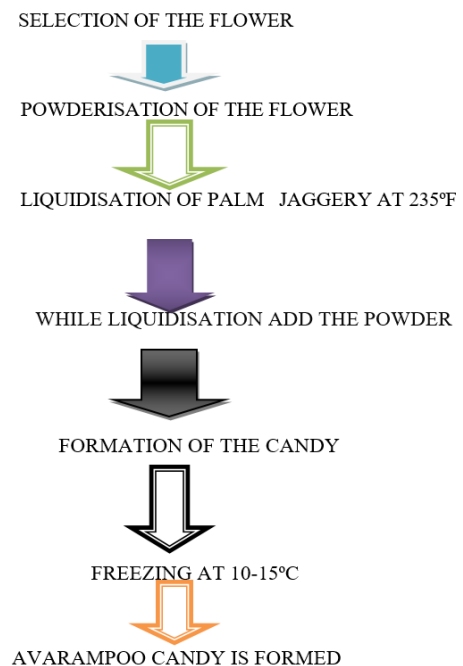
G. Converting It in to Nutritive Products:

The avarampoo is converted into two beneficial nutritive products namely-jam and candy.

II. METHODOLOGY

There are two products being prepared from Cassia auriculata, lets discuss about them separately in the following lines.

A. Flowchart for Making Candy



B. Part Used

The flower is used is in making this candy.



Fig.2. flower of candy

The flower is mainly used for diabetic patients, the diabetic patients can use this candy when they are feeling ill due to diabetes, but it should not take along with their diabetic medications.

C. Powderisation Process:

The process of powderisation includes the washing, drying, dehydration, powderisation.



Fig.3. Cassia Powder

We can also use the already readymade powders given in the markets.

D. Sugar Content

The sugar content used here is PALM JAGGERRY, which is very much beneficial for diabetic patients.



Fig.4. Palm Jaggery

E. Candy Formation

The candy is formed by allowing it to cool and also the candy formed is said to be fresh. After seeing the consistency, we can switch of the pan.



Fig.5. Candy formation

F. Food Preservative and Additive

Food Preservative-Sodium Sorbate. Food Additive-Titanium Oxide. (For Controlling of acids released during candy processing Tio2)



Fig.6. Tio2

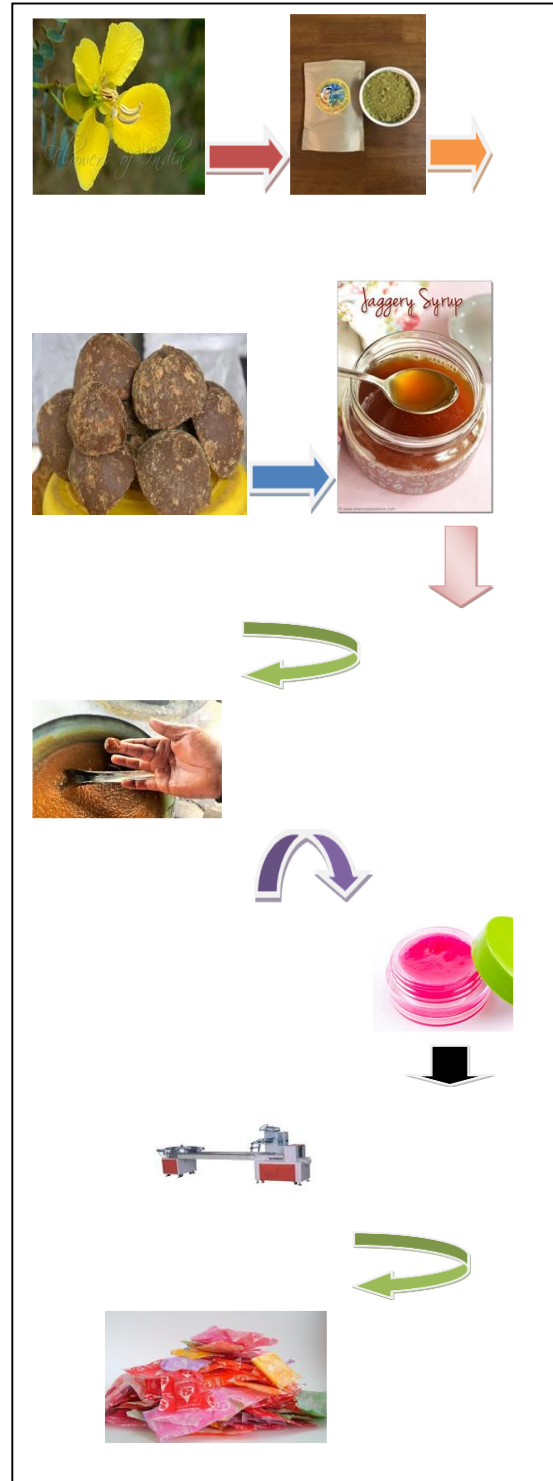
G. Packing and grading

After all this process the candy is being packed and it is graded candy packing machine.

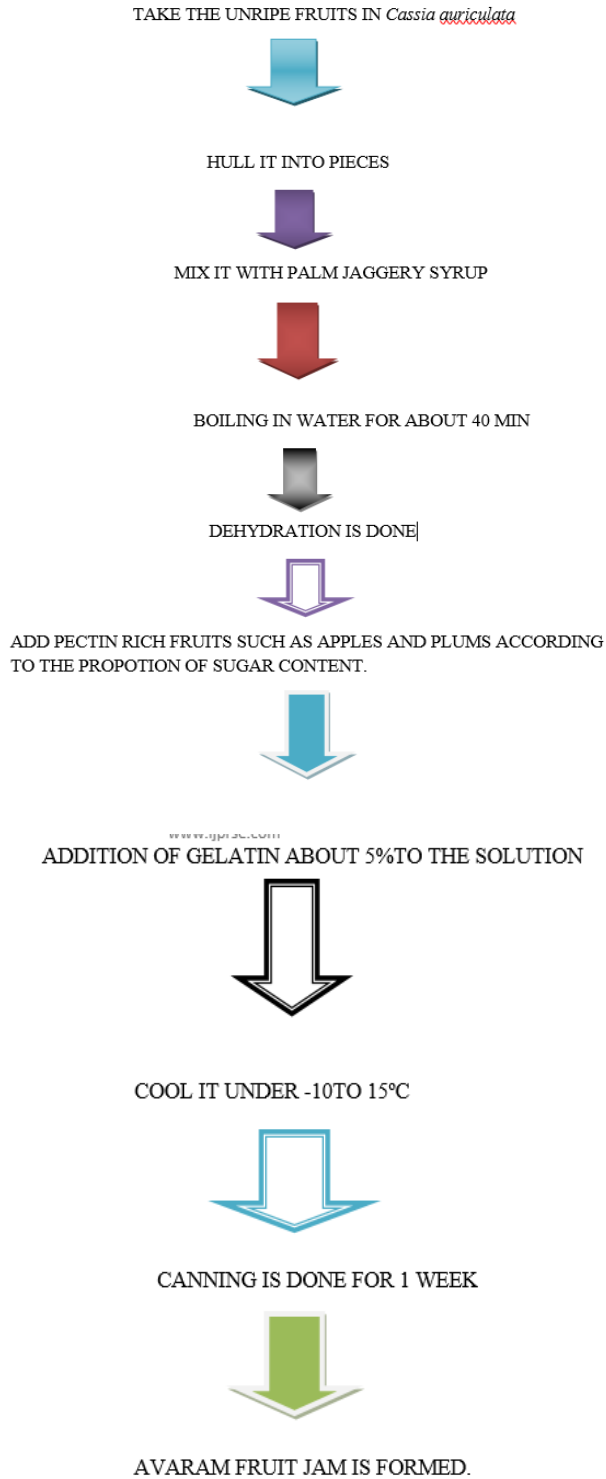


Fig.7. Candy packing machine.

H. Over All Diagram



I. Flowchart for Making Jam:



J. Equipment's Used



K. Selection of Fruits:

The fruit being selected for making jam is unripened fruit because the ripened one has some poison in it and also the seed must be removed by using the process of **hulling**



L. sugar content:

The sugar content being used here is palm jaggery syrup



Which is very much beneficial for diabetic patients, it increases the production of insulin which lowers the blood glucose level.

Dehydration Process:

Boiling the syrup with the fruit reduces the water content in the fruit and it increases the juicy form of the syrup with the fruit. Thus the process is known as the dehydration of the fruit and inducing of sugar into the fruit.

Addition of Pectin:

Addition of pectin thickens the mixture where the pectin rich fruits are added such as apple and plums which thickens the mixture. And it is also very beneficial for the diabetic patients.



Fig.8. Pectin

Thus these two serve as a **THICKENING AGENT**. Cutting and mixing it to the mixture will thicken the mixture even more. It is used as a food additive.

Addition of gelatin:

Adding gelatin in a very small amount such as about 3-6% thickens the jam even more and it also helps in coloring of jam.

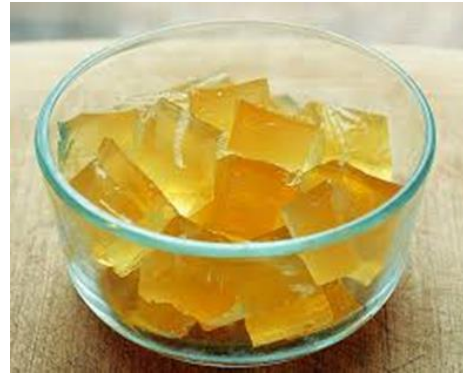


Fig.9. Gelatin

Jam Formation:

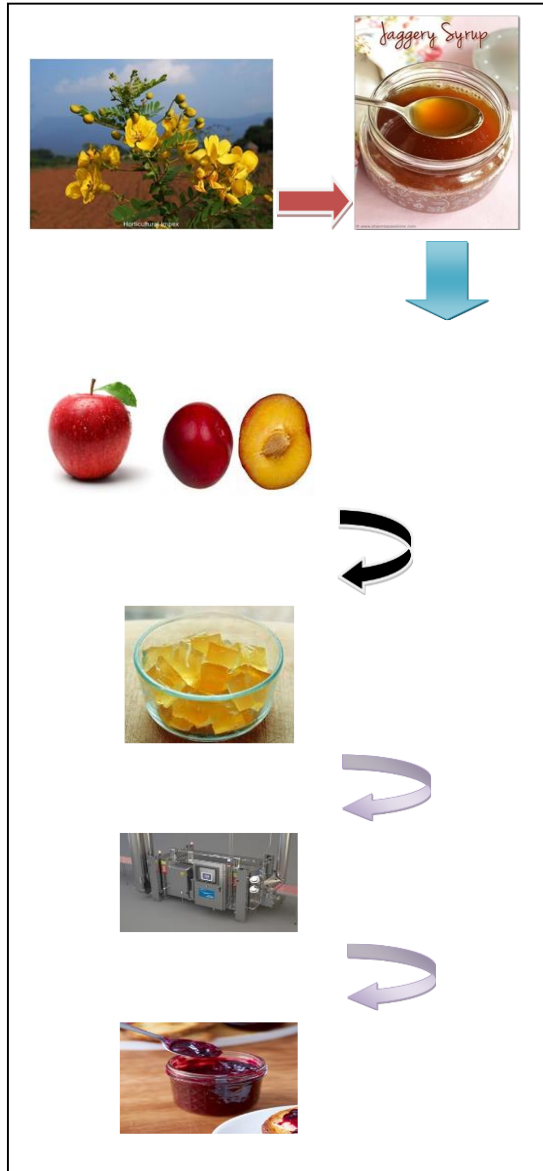
After the addition of the above mentioned things then the mixture is freeze for about 24 hrs. and then the jam is formed. But do not consume it immediately.

SODIUM BENZOATE- JAM PRESERVATIVE (Benzoic acid absorbed into the cell that reduces the intracellular ph



Fig.10. Jam

M. Over All Diagram:



III. RESULT AND DISCUSSION

A. Advantages:

- This has proved to be the best for diabetic patients

- It doesn't have any harmful effects. Not only diabetics it also cures the eye infections and rheumatism.
- Its availability is widespread.
- The diabetic patients can use the jam for chappatis and bread.
- The candies can also be consumed for the patients who are found with hyperglycemia.

B. Disadvantages:

- For patients those who are taking medications cannot use this because this some interactions with the medicines for diabetics.
- The patient should either use this or medicines, simultaneous use might cause severe problems.
- Overconsumption might lead to hypoglycaemia.
- Persons found with hypoglycemia should not use this as it may lead to coma.

IV. CONCLUSION

Today the world is filled with diabetic patients, many patients are found to be the prey to this disease, therefore in order to cure this disease the people are wandering here and there for medications, here it proves to be the best product for the people with diabetics where it does not need much cost, in which the people can use it in their day today life. It does not include any chemicals as we are mixing everything organically. Therefore, it is known as the **BEST PRODUCT FOR THE WORST PATIENTS.**

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