

Utilization of Standardize Dehydrated Aloe Vera & Curry Leaves Recipe in Indian Kitchen

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Abstract: *Aloe vera has gained more attention over the last decade due to its reputable medicinal, pharmaceutical & food properties. Aloe vera rich in micronutrients like oryzanols, tocopherols, tocotrienols, phytosterols & dietary fibres. Curry leaf are aromatic deciduous tree is a perennial leaf vegetable. The leaves of the plant are used extensively for seasoning & flavouring dishes. While considering the nutritional management dressing recipe are important role in day to day in daily life. Now a days there are so many product of Aloe vera & Curry leaves are available in market but dressing recipe are not available in market. Further, demand of supply needed more experiment to fulfill the requirement of people of the present study is noble steps to meet out of the problem & also provide better utilization or for improving health hazards. Medicinal plant is developed by the mixing of dehydrated aloe vera & curry leaves powder & spices in different ratio & prepares a chat masala. So better result obtained in the ratio (s) of aloe vera & curry leaves & spices in 10: 10: 90 in the development of vitamins & minerals rich in medicinal plant. Which is further supported by the hedonic scale. Develop product was characterized by sensory evaluation & nutritional analysis.*

Keywords: Aloe vera, Curry leaves & Spices

1. Introduction

In recent years, the use of aloe vera in the formulation of different cosmetic and food products has increased considerably. Aloe vera (*Aloe barbadensis* is miller) a member of the Liliaceae family. The parenchymatic tissue of aloe vera leaves contains over 98±99% of water and more than 60% of the dry matter (dm) is made up of polysaccharides. Aloe vera and their advantages in to improve sensory, functional and even nutritional properties. The shelf life quality of the final product is better with such treatment due to the increase in the sugar acid ratio, the improvement in texture and the stability of the colour pigment during storage. Aloe vera is a spiky cactus like xerophytes. It is a clump forming perennial plant with thick fibrous root which produces large basal leaves, usually 12 – 16 per plant, weighing up to 1.5 kg when mature.

Botany of aloe vera

Aloe vera is a spiky cactus like xerophytes. It is a clump forming perennial plant with thick fibrous root which produces large basal leaves, usually 12–16 per plant, weighing up to 1.5 kg when mature. The plant matures when it is about 4 years old and has a life span of about 12 years. The plant can be harvested every 6–8 weeks by removing 3–4 leaves per plant. Red, yellow, purple or pale stripped flowers are present most of the year growing in a long raceme at the top of the flower stalk which originates from the centre of the basal leaves. The flower stalk grows up to 1.5 m in height. The fruit is a triangular capsule containing numerous seeds.

Curry leaf (*Murraya koenigii* Spreng) is an aromatic small tree, belonging to the citrus family, Rutaceae that grows widely in East Asia. Its leaves have a slightly pungent, bitter and feebly acidulous taste and these characteristics are retained after drying. The curry leaves, a green leafy vegetable provides health benefit by providing the much needed dietary fibers, several essentials minerals and

vitamins to the human diet. 100gm of curry leaves provide 108 kcal energy. Curry leaves are a popular leaf-spice used in very small quantities for their distinct aroma due to the presence of volatile oil and their ability to improve digestion. “Let food be your medicine and let medicine be your food.” Herbal and natural products of folk medicine have been used for centuries in every culture throughout the world. Scientists and medical professionals have shown increased interest in this field as they recognize the true health benefits of these remedies.

Organoleptic properties or Sensory evaluation is a scientific discipline that applies principles of experimental design and statistical **analysis** to the use of human **senses** (sight, smell, taste, touch and hearing) for the purposes of **evaluating** consumer products.

2. Methodology

- 1) **Collection of Ingredients** - Aloe vera & curry leaves was collected from local market of Lucknow. Aloe vera powder, Curry leaves & Masala were taken for nutritional enrichment of chat masala. Aloe vera were washed, cut into small pieces & sun dehydration. Curry leaves were washed & sun dehydration. Masala (coriander seed, cumin powder, thymol seed, garam masala, black rock salt, black paper) roasted in a heavy pan til dark brown & put all ingredients and powder fine in a processor.
- 2) **Preparation of Classified Samples** – This phase involved the processing of sample of aloe vera & curry leaves which is collect from local market of Lucknow. All of these products are cleaned and pure. All ingredients are purchases in spencers which is located in Lucknow.
- 3) **Product Development** - The phase involved the whole idea of development of chat masala by using different ratio of aloe vera powder, curry leaves powder & spices.

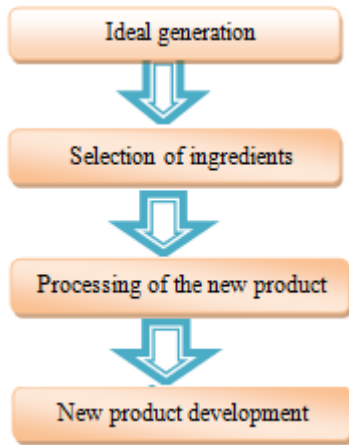


Figure 1: Development of a new product

Chat Masala value added products:

- 1) Aloe vera powder
- 2) Curry leaves powder

The techniques used for the development of chat masala described below as flow chart:

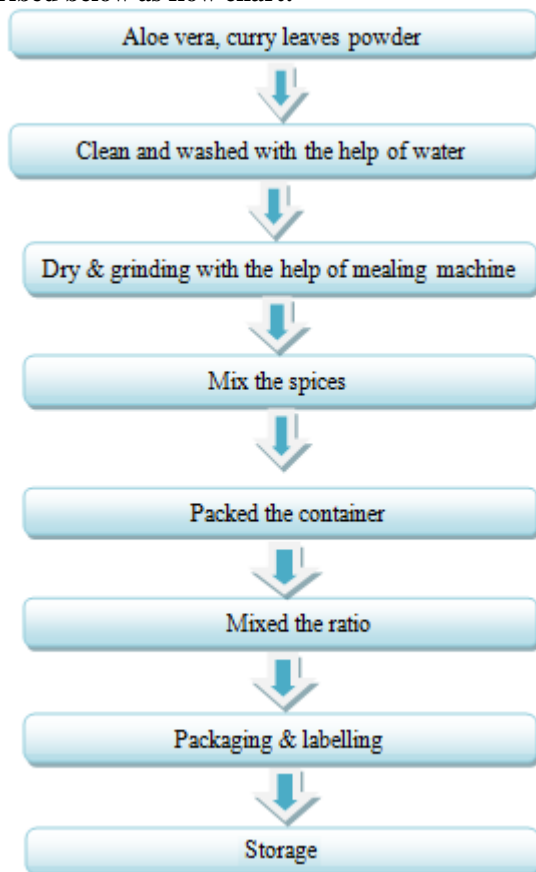


Figure 3: Flow chart for the manufacturing chat masala.

Preparation of Recepte

This phase mainly deals with preparation of three different variant of chat masala products experiment by aloe vera, curry leaves & spices.

Product development

Treatment for the preparation of raita with chat masala.
 T1 - Spices + 5% curry leaves powder + 10% aloe vera powder
 T2 - Spices+5% aloe vera +10% curry leaves

T3 - curry leaves powder + aloe vera (control)

Raita with chat masala procedure - flow chart

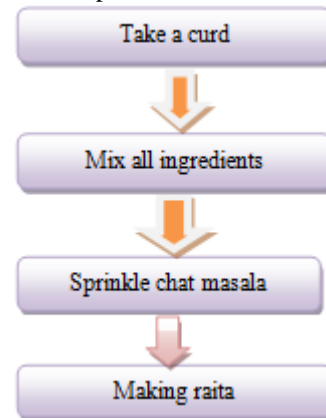


Figure 4: Flow chart making raita with chat masala

3. Result and Discussion

Sensory evaluation

Sensory evaluation of therapeutic flour was done by the 5 member panelist.

Ratio of ingredients for three samples are taken in different ways-

Table 1: Ratio of Ingredients

Treatments	Sample preparation	Ratio of Ingredients
T ₁	Curry leaves powder + aloe vera powder + spices	10 : 10 : 90
T ₂	aloe vera powder + Curry leaves powder + spices	10 : 5 : 85
T ₃	Curry leaves powder + aloe vera powder + spices	5 : 10 : 90

3.1 Parameter 1- Flavour and Taste

Table 2: Individual markings for flavour and taste

Members	T1	T2	T3
1	8	7	6
2	8	6	5
3	9	6	5
4	8	7	6
5	7	6	6
Total	40	32	28

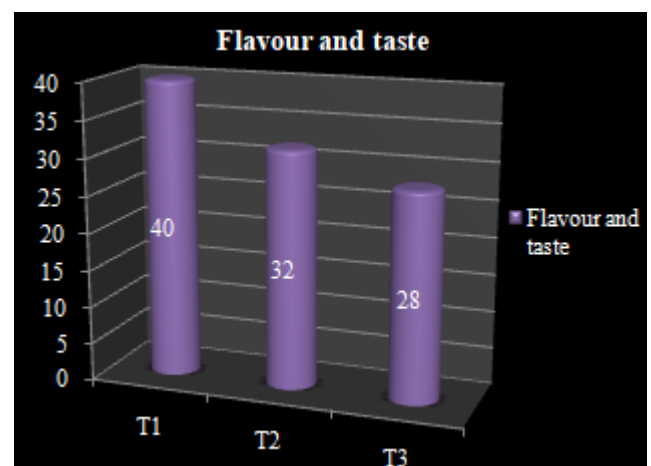


Figure 2: Graphical Representation- Flavour and Taste

The sample T1 is most accepted among the panalist members and it gets highest scoring, then after sample T2 and sample T3 respectively.

Parameter 2: Body and Texture

Table 3: Individual Markings- Body and Texture

Members	T1	T2	T3
1	8	7	6
2	7	6	6
3	6	6	7
4	8	6	6
5	8	5	6
Total	37	30	31

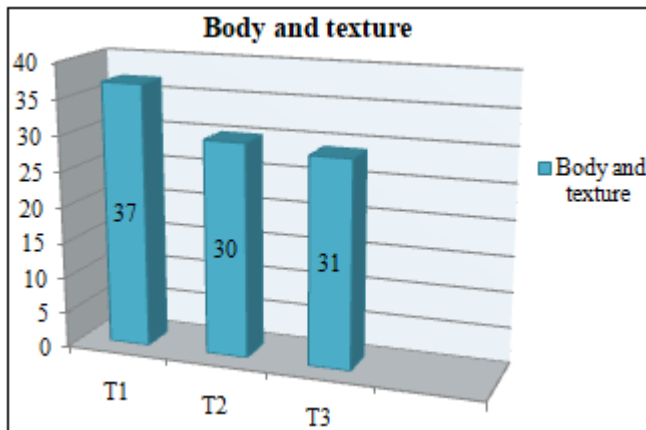


Figure 3: Graphical Representation- Body and texture

The Sample T1 is most accepted among the panalist members and it gets highest scoring, then after sample T2 and sample T3 respectively.

Parameter 3: Colour and Appearance

Table 4: Individual markings- Colour and Appearance

Members	T1	T2	T3
1	7	6	5
2	8	7	8
3	8	7	7
4	7	6	7
5	8	6	6
Total	38	32	33

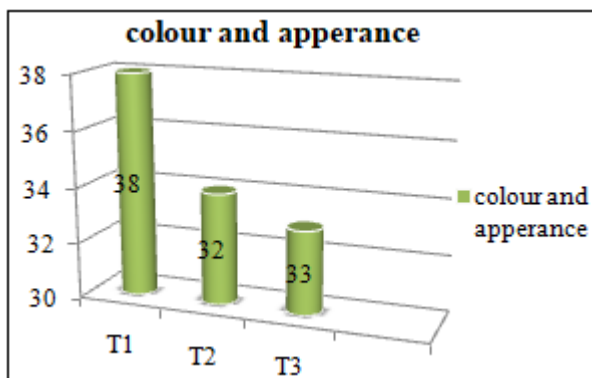


Figure 4: Graphical Representation- Colour and appearance

From the above graph it shows that the sample T1 is most accepted in terms of colour and appearance among the

sensory panelist members and it gets highest scoring, then after sample T1 and T2 respectively.

Overall Acceptability

Table 5: Individual Markings- Overall Acceptability

Members	T1	T2	T3
1	8	7	5
2	8	8	7
3	8	8	8
4	7	5	5
5	8	7	6
Total	39	35	31

Figure 5: Graphical Representation- Overall acceptability

From the above graph it shows that the sample T1 is most accepted overall among the sensory panelist members and it gets highest scoring, then after sample T2 and T3 respectively.

The overall quality of therapeutic flour with 10% Cury leaves & 10% aloe vera & 80% spices was the most acceptable in all the parameters of quality.

Overall Calculation

Overall calculation are done to know most acceptability of the product in all terms of quality by sensory evaluation scoring given by the panelist members, in this all scoring of texture, colour, flavour and taste are calculated in the table, by this we get do statistical analysis and obtained standard deviation, average and other calculations.

Table 5: Overall Calculation

Parameters	T1	T2	T3
1	40	31	28
2	37	30	29
3	37	34	33
4	39	35	31
Total	153	130	121
Average	38.25	32.5	30.25
Standard Deviation	1.5	2.38	2.21

In this table of overall calculation we got the average of T1, T2 and T3 as 1.5, 2..38 and 2..21 respectively.

Sample T1 with highest average and low standard deviation is most accepted statically, hence T1 is most accepted.

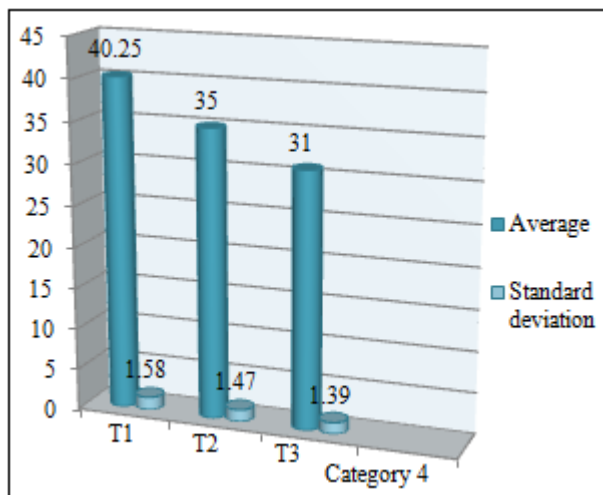


Figure 5: Graphical Representation- Overall calculation

Nutritional value of the developed chat masala are assessed in the Food Analysis Laboratory with different specific equipments for each nutritional parameters like: Vitamin c, Vitamin a & Iron.

Table 6: Nutritional value of chat masala

Nutritional Value	Curry leaves & aloe vera powder	Test Method
	Result	
Vitamin C, mg / 100 gm	77.26	IS: 5886 : 1970 RA 2010
Vitamin A, IU	99.5	IS: 5886 : 1970 RA 2010
Iron, mg / 100 gm	20	AOAC 19 TH EDITION.999.11.2012

Source – R-frac Lucknow

4. Conclusion

Result & Discussion chapter in any research work must be compiling with summarization & conclusion section. So, keeping this point this chapter showed every table value with highlighting point.

1) Product development

Four samples were prepared by using Aloe vera, Curry leaves and other Ingredients in different ratio.

2) Sensory quality value added products of aloe vera & curry leaves.

The sensory evaluation of the value added products of aloe vera & curry leaves was done by using 9 – point hedonic scale by a panel of 5 members. The scoring of each of the samples of products by various parameter i.e. flavour, taste, texture, colour, appearance and overall acceptability. There were 4 samples of different percentage of ingredients but by sensory evaluation card the samples T1 with (10 % aloe vera, 10 % curry leaves & 90 % other raw ingredients) T1 sample was most accepted among the two.

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