Available Online at http://www.journalajst.com

ASIAN JOURNAL OF SCIENCE AND TECHNOLOGY

ISSN: 0976-3376

Asian Journal of Science and Technology
Vol. 09, Issue, 10, pp.8842-8844, October, 2018

RESEARCH ARTICLE

OPTIMIZATION OF ALOEVERA AND CURRY LEAVES POWDER

***Anubhuti Maurya and Neetu Singh**

Department of Food and Nutrition, School for Home Science, BBAU, Lucknow, India

ARTICLE INFO

Article History:
Received 15th July, 2018
Received in revised form
20th August, 2018
Accepted 24th September, 2018
Published online 30th October, 2018

Key words:
Distribution,
Hanto,
Menelik'sbushbuck,
Population status

ABSTRACT

Aloe vera and Curry leaves is a consequences of a medical treatment of any kind, the results of which are judged to desirable and beneficial. Aloe vera leaves has been proven one of the best edible and biological antimicrobial actions, biodegradability and biochemical properties. Curry leaves are rich in medicinal, nutraceutical properties and have even cosmetic uses. The study was carried out to conducted in the research laboratory of the department of food science and technology, BBAU, Lucknow and in the analysis laboratory of RFRAC (Regional Research and Analysis Centre) situated in the Lucknow. The study conducted during the period of 1 year 2017 – 2018. It is a experimental research design and it is obtain sample to research. There are used different parameters and the test method used IS : 5886: 1970 RA 2010 (Vit. C), IS : 5886 : 1970 RA 2010 (Vit.A) and AOAC 19th EDICTION. 999.11.2012 (Iron). Result the Vitamins and minerals content is higher in Aloe vera and curry leaves powder per 100 gm of the sample weight. Iron is 20 percent and Vitamin C (Ascorbic Acid) of Aloe vera and Curry leaves powder is 77.26 percent. The higher percentage of Aloe vera and Curry leaves is 99.5 %.

Citation: ***Anubhuti Maurya and Neetu Singh*, 2018.** "Optimization of Aloevera and Curry Leaves powder", *Asian Journal of Science and Technology*, 09, (10), 8842-8844.

INTRODUCTION

In recent years, the use of aloe vera in the formulation of different cosmetic and food products has increased considerably. Aloe vera (*Aloe barbadens 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. The main purpose of drying products is to allow longer periods of storage, minimise packaging requirements and reduce shipping weights (Okos, Narasimhan, Singh and Weitnauer, 1992). 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. The plant matures when it is about 4 years old and has a life span of about 12 years. The leaves are up to 0.5 m long and 8 – 10 cm across at the base, tapering to a point, with saw-like teeth along their margins. 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.

Corresponding author:* **Anubhuti Maurya
Department of Food and Nutrition, School for Home Science, BBAU, Lucknow, India.

The flower stalk grows up to 1.5 m in height. There are as many as 200 different types of molecules in aloe vera (Davis 1997). The aloe vera leaf gel contains about 98% water (Bozzi *et al.,* 2007). The total solid content of aloe vera gel is 0.66% and soluble solids are 0.56% with some seasonal fluctuation. On dry matter basis aloe gel consists of polysaccharides (55%), sugars (17%), minerals (16%), proteins (7%), lipids (4%). India is the second largest producer of vegetables in the world and contributes about 13 per cent of the world's production. The green leafy vegetables are rich sources of vitamins as well as minerals and fiber (Fathima *et al.,* 2001). The leafy vegetables are highly perishable in nature and therefore have very short shelf life. However, the post harvest and nutritional losses occur during handling, transportation, processing and storage, which have gone up to 40 per cent annually. 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. The demand for fresh and dehydrated curry leaves has considerably increased over the last two decades. Dehydration is one of the feasible methods of preservation. 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. A comprehensive review (Prakash, 1990) on leafy spices, including curry leaf, is worth citing here, which deals with various aspects, such as botany, chemistry and health benefits. Curry leaf, at the 1% level, gave better protection to ghee than did butylated hydroxy anisole (BHA) or butylated hydroxy toluene (BHT) at

0.02%, as specified by the Prevention of Food Adulteration act (PFA). Fresh curry leaves are used to a greater extent in Indian culinary practices. There is a potential demand for export of this leafy spice if a suitable viable method for preparation of isolates having antioxidant activity is provided. In this context, we have undertaken a chemical investigation on the preparation of curry leaf extracts, antioxidant and radical-scavenging activity studies, isolation, and characterization of active compounds, employing instrumental analysis.

MATERIALS AND METHODS

Methodology is a systematic method or process dealing with identifying problem, collecting facts or data, analyzing these data and reaching at certain conclusion either in the form of solution towards the problems concerned or certain generalization for some theoretical formulation. Moreover, research methodology describes the methods used to collect the data and analyses it by following research designs, sampling techniques, measurement and instrumentation.

- **Study Area**: The study was conducted in the research laboratory of the Department of Food Science and Technology, BBAU, Lucknow and in the analysis Laboratory of RFRAC (Regional Food Research and Analysis Centre) situated in Lucknow.
- **Period of the study**: The present study conducted during the period of 2017 – 2018 session in the whole work comprising period of July 2017 – May 2018.
- **Sampling research design**: Research design is a coherent plan in conducting research which deals with investigation so conceived to obtain sample to research. Research design is used to conducted research with objectively of accuracy. The research design followed in the present study.
- **Study sample**: The present study carried out with the experimental Research Design. Phases are incorporated to finish the research work.

Sampling Techniques: Sampling techniques was carried by according to objective wise

- To develop an Aloe vera powder.
- To develop a Curry leaves powder.
- To evaluate nutritional profiles.

Preparation of raw material

Aloe vera leaves, Curry leaves, Dehydrator and Grinder

The flow chart describe the technique used for the development of aloe vera powder

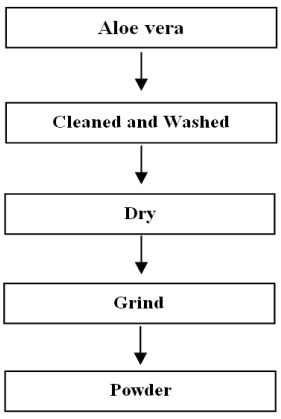

Fig. 1. Processing of Aloe vera powder

The flow chart describe the technique used for the development of curry leaves powder

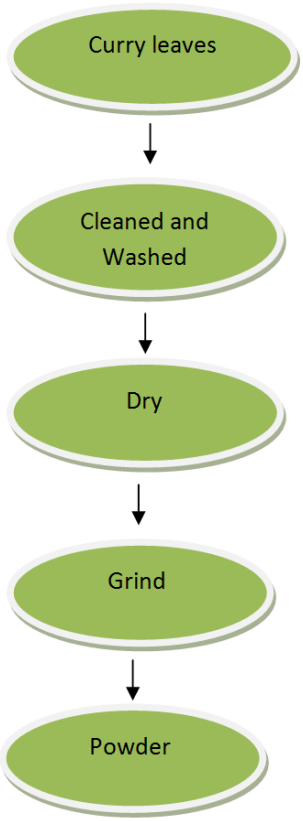

Fig. 2. Processing of Curry leaves powder

RESULTS AND DISCUSSION

The result and discussion chapter is divided into various parts for the result obtained in various stages

Nutritional composition of raw ingredients

Nutritional composition of Aloe vera and curry leaves powder

Table 1. Distribution of aloe vera on the basis of Nutritional value

Nutritional Value	Aloe vera
	Amount (per 100 gm)
Protein	7 %
Minerals	16 %
Phenolic compounds	1 %
Lipids	4 %
Sugar	17 %
Polysaccharides	55 %
Vitamin A	62 %
Vitamin C	50 %
Iron	33 %

Source: Nutrient data for this listing was provided by USDA

Table 2. Distribution of curry leaves on the basis of Nutritional value

Nutritional Value	Aloe vera
	Amount (per 100 gm)
Protein	20 %
Energy (kcal)	8 %
Iron	5.5 mg
Ascorbic acid	68.8 mg
Vitamin a	44.2
Calcium	73 mg

Source: Nutrient data for this listing was provided by USDA

Nutritional value of the developed Aloe vera and Curry leaves powder are assessed in the Food Analysis Laboratory with different specific equipments for each nutritional parameters like: Vitamin c, Vitamin a and Iron.

Table 3. Nutritional value of Aloe vera & Curry leaves powder

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 19TH EDITION.999.11.2012

Source – R-frac Lucknow

Conclusion

The vitamins and minerals content is higher in aloe vera and curry leaves per 100 g of the sample weight. Vitamin C (Ascorbic acid) of aloe vera and curry leaves chat masala is 77.26 percent. The higher percentage of Vitamin A of loe vera and curry leaves chat masala is 99.5 percent.

Recommendation and suggestion

- Value added product of Aloe vera and curry leaves should be advertised among community.
- The curry leaves and aloe vera products should be given to women, children and old persons to see health benefit from it.
- It is also good for many types of disease and it contains good amount of Vitamin A, C, E and iron.
- The Aloe vera and curry leaves products should be used as a daily diet in anytime.
- It should be used daily to overcome deficiency of nutrients.

REFERENCES

Alemdar, S. and Agaoglu, S. 2009. Investigations of in-vitro antimicrobial activity of aloe vera juice. J Anim Vet Adv 8(1):99–102

Bozzi, A., Perrin, C., Austin, S. and Arce Vera, F. 2007. Quality and authenticity of commercial aloe vera gel powders. *Food Chem.,* 103(1):22–30

Fathima, A., Begum, K. and Rajalakshmi D. 2001. Microwave Drying of selected greens and their sensory characteristics. *Plant food for Human Nutrition,* 56: 303-311

Goplalan, C., Ramasastri, B.V., Balasubramanian, S.C., Rao N.B.S., Deosthale, Y.G. and Pant, K.C. Nutritive value of Indian Foods. NIN, Hyderabad pp 48, 60.

Goyal, Madhu, Gupta, Archana, and Methew, 1991.. Quality evaluation of Carrot, Spinach and Tomato dried by different methods for preparation of soups. *The Ind. J. Nutr. Dietet.,* 28(12): 329-333

Lee, C.K., 2006. Immunomodulatory activity. In: Park, Y.I., Lee, S.K. (Eds.), New Perspectives on Aloe. Springer Science, NY, pp. 155–167.

Lenart, A. 1996. Osmo-convective drying of fruits and vegetables: technology and application. *Drying Technology,* 14, 391–413.

Lombard, G.E., Oliveira, J.C., Fito, P., Andrés, A. 2008. Osmotic dehydration of pineapple as a pre-treatment for further drying. *Journal of Food Engineering,* 85, 277.

Madson, H. L., and Bertelsen, G. 1995. Spices as antioxidants. *Trends in Food Science and Technology,* 6, 271–277.

Nakatani, N. 2000. Phenolic antioxidants from herbs and spices. *Bio Factors,* 13, 141–146.284.

****