Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; 8(1): 1619-1621
Received: 07-11-2018
Accepted: 09-12-2018

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Organoleptic properties and the utilization of carrot and beetroot

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Abstract
Jelly: a food preparation of a soft, elastic consistency due to the presence of gelatine, pectin, etc., especially fruit juice boiled down with sugar and used as a sweet spread for bread and toast, as a filling for cakes or doughnuts, etc. Most commonly available Jelly flavours are Strawberry, Cherry and grape.bt the vegetables jellies are not available in the market while the vegetable jellies have more nutrient content which is beneficial for health. Carrots are rich sources of carotene, ascorbic acid and are known as vitaminized food with moisture protein, fat, carbohydrates, sugars and fibre. The red variety of the carrot root has been reported to contain higher concentrations of lycopene (10 mg/100g) even higher than tomatoes. Beetroot juice contains a high level of biologically accessible antioxidants as well as many other health promoting compounds such as Potassium, magnesium, folic acid, iron, zinc, calcium, phosphorus, Sodium, niacin, biotin, B6 and soluble fibre. Beetroot helps lower blood pressure, Improves exercise stamina, improve muscle power in people with heart failure.

Keywords: Organoleptic properties, carrot, beetroot, fruit juice

Introduction
Jelly: a food preparation of a soft, elastic consistency due to the presence of gelatine, pectin, etc., especially fruit juice boiled down with sugar and used as a sweet spread for bread and toast, as a filling for cakes or doughnuts, etc.

Carrot
Carrots are rich sources of carotene, ascorbic acid and are known as vitaminized food with moisture protein, fat, carbohydrates, sugars and fibre.The carrots are the unique roots rich in carotenoids and have a characteristic flavour due to the presence of terpenoids and polyacetylenes. The monoterpenoids and sesquiterpenoids are the dominantterpenes and the falcarinol compounds constitute polyacetylenes. Carrots are consumed either raw or cooked and processed into value added products *viz*. canned carrots, chips, candy, kheer, halwa, powder, juice, beverages, preserve and intermediate moisture products.

Beetroot
The beetroot is the taproot portion of the beet plant, usually known in North America as the beet, also table beet, garden beet, red beet, or golden beet. It is one of several of the cultivated Jelly: a food preparation of a soft, elastic consistency due to the presence of gelatine, pectin, etc. Beetroot juice contains a high level of biologically accessible antioxidants as well as many other health promoting compounds such as Potassium, magnesium, folic acid, iron, zinc, calcium, phosphorus, Sodium, niacin, biotin, B6 and soluble fibre. Beetroot helps lower blood pressure, Improves exercise stamina, improve muscle power in people with the progression of dementia, Helps to maintain a healthy weight. Reduce cholesterol etc.

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

Study Area
The study was conducted in the laboratories of the Department of Food and Nutrition, Babasaheb Bhimrao Ambedkar University, Lucknow and in the analysis laboratory of

Regional food Analysis and Research Centre (RFRAC), Lucknow. The different tools and techniques used during experimental process were broadly describe in this chapter.

Period of the study: The present study conducted during the period of 2016-2017 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 conduct 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 prepare Jellies by using carrot and other beetroot & its utilization
- To know nutritional profile of vegetable jellies
- To evaluate developed product by using sensory characteristics

Preparation of Beetroot and Carrot Jelly

Carrot juice, Beetroot juice, Gelatin, Sugar, Water, Lemon juice.

The flow chart describe the technique used for the development of beetroot and carrot jelly.

Fig 1: Processing of beetroot and carrot jelly

Nutritional Value of the developed carrot and beetroot jelly are assessed in the Food Analysis Laboratory with different specific equipments for each nutritional parameters like: Vitamin c, Vitamin a and Iron.

Table 1: Nutritional Value of the developed carrot and beetroot jelly

Nutritional Value	Beetroot & Carrot Jelly Result	Test Method
Vitamin A-IU	336	IS 5886:1970(RA 2010)
Calcium mg/100gm	3	AOAC 19th Edition 975.03 2012
Iron mg/100gm	400	AOAC 19th Edition 999.11 2012

***Source*:** R-frac Lucknow

Conclusion

The vitamins and minerals content is higher in beetroot & carrot jelly per 100 g of the sample weight. Vitamin A of carrot jelly is 336 percent. The percentage of Iron of beetroot jelly is 400 percent.

Recommendation and suggestion

- Vegetable jelly should be advertised among community.
- The Vegetable jelly product should be given to all age group especially it should be given to children's
- It is also good for brain health and it contains good amount of vitamin A, Iron, Vitamin C, Antioxidants.
- The Vegetable jelly should be used as a maintaining the haemoglobin.
- It should be also helpful for improving vision.

Result 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 beetroot jelly

Table 1: Distribution of beetroot jelly on the basis of Nutritional value

Nutritional valueBeetroot	Amount (per100 gm)
Protein	1.61 g
Fat(Total Lipids)	0.17 g
Carbohydrate, Total(by difference)	9.56 g
Calories(Energy)	43 Kcal
Moisture	87.58 g
Energy(kilojoules)	180 kj
Sugar, Total	6.76 gm
Fiber, Total Dietary	1.91 gm
Saturated Fat ,Total	0.027

***Source*:** Nutrient data for this listing was provided by USDA

Table 2: Distribution of Carrot Jelly on the basis of Nutritional Value

Nutritional value	Carrot Amount (Per 100gm)
Vitamin A	1019.07 mcg RAE
Biotin6.10 mcg	
Vitamin k	16.10 mcg
Fiber	3.42 g
Molybdenum	6.10 mcg
Potassium	390.10 mg
Vitamin B6	0.17 mg
Vitamin C	7.20 mg
Manganese	0.17 mg
Vitamin B3	1.20 mg
Vitamin B1	0.08 mg
Pantothenic acid	0.33 mg
Phosphorus	42.70 mg
Folate	23.18 mcg
Copper 0.05 mg	

***Source*:** Nutrient data for this listing was provided by USDA

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