

Nutrient Energy Bars Mainly Formulated for Athletes

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Abstract: *The study was conducted in order to develop a Nutrient Bar with low cost ingredients and high in nutritive value from a formulation based on cereals like Cassava, Ragi, Wheat, and Sattu. The consumption of cassava has been reduced due to lack of adjustment to the modern lifestyle. To reverse this trend, new products could be developed specially targeted to high value markets. Cereal bars stand out as fast food high in nutritional value. Cereals bars were prepared using a mixture of Cassava, Ragi, Wheat, and Sattu flour adding with Jaggery and Honey. With the recent awareness on functional foods and nutraceuticals, cereals have a great potential. The beneficial effects of exercise and a healthy diet are well documented in the general population but poorly understood in athletes. A ready to eat, nutrient bar which is rich in carbohydrate and energy was formulated and acceptability tests were done to be supplemented for athletes. Selected nutrients were analysed by standardized methods. The scores obtained for organoleptic evaluation show that the nutrient bar supplement taste, appearance had obtained for overall acceptability and therefore highly acceptable. Nutrient analysis per 100gm of bar revealed- 422 Kcal, 5.79gm protein thus confirming that the developed bar is highly nutritious.*

Keywords: Acceptability, Athletes, Standardized, Formulation

1. Introduction

Nutrition bars have become the food of choice for many people on the run. The bars offer a fast, convenient food source that requires no preparation, a long shelf life and no refrigeration. For this reason many consumers grab them as quick snacks or meal replacements, assuming they are healthy alternatives to other food choices. The first energy bars commercially released for athletes were Power Bars in 1986. Power Bars sparked a whole slew of different kinds of energy bars. These energy bars were advertised towards athletes as a source of high protein, they could also be used as excellent meal replacements for dieters.

Energy bars are supplemental bars containing cereals and other high energy foods targeted at people who require quick energy but do not have time for a meal. They are different from energy drink, which contain caffeine, whereas bars provide food energy. The energy bars offer a fast, convenient food source that requires no preparation, a long shelf life and no refrigeration. The energy bars are used as energy source for athletes concerned with energy depletion associated with long duration training. There are many energy bars which are used as a source of energy such as, high-carbohydrate bars, protein bars, energy bar, breakfast bars, brain-boosting bars, meal-replacement bars, diet bars, and women-only bars.

Energy bars are still best served for the people they were originally designed for, competitive athletes and those with heavy training volumes. They offer convenient, portable calories for individuals in need of energy for workouts.

Cassava - Cassava (*Manihotesculenta Crantz*) is one of the leading food and feed plants in the world. Cassava is the third-largest source of food carbohydrates in the tropics, after rice and maize. Cassava is a good source of minerals

such as calcium, phosphorus, manganese, iron and potassium. Cassava contains high amounts of dietary fiber, which can help prevent constipation. Cassava contains 38 grams of carbohydrates per 100-gram serving. Persons diagnosed with celiac disease and other gluten-based allergies can find relief in consuming foods made using tapioca or cassava flour.

Health Benefits of Cassava Flour

- 1) Boosts Energy and Improves Brain Function.
- 2) Beneficial For Nerve Health.
- 3) Maintains Healthy Muscles.
- 4) Lowers Blood Pressure.

Objectives

- 1) Development Of Nutrient Energy Bar From Low Cost Ingredients.
- 2) To Study The Nutritional Quality Of The Nutrient Bar.

2. Methodology

Nutritional Analysis: In this study, the products were analysed for proximate composition. In this phase it involves nutritional analysis in different parameters.

- Determination of total energy
- Determination of moisture percentage
- Determination of ash percentage
- Determination of fat percentage
- Determination of protein content
- Determination of carbohydrate percentage

Source: following tests were determined at the RFRAC centre (regional food analysis centre) Lucknow.

3. Result and Discussion

Calculated value for composition of Nutrient Bar

Nutrient composition of designed Nutrient Bar was 100g by calculation method using analyzed value for all the ingredients (incorporated) given by **Gopalan et al. (2010)**.

Determination of Nutrient composition

Table 1: Nutrient contents in experimental product

Parameters	Experimental
Fat(g)	13.43
Protein(g)	5.79
Carbohydrate(g)	69.49

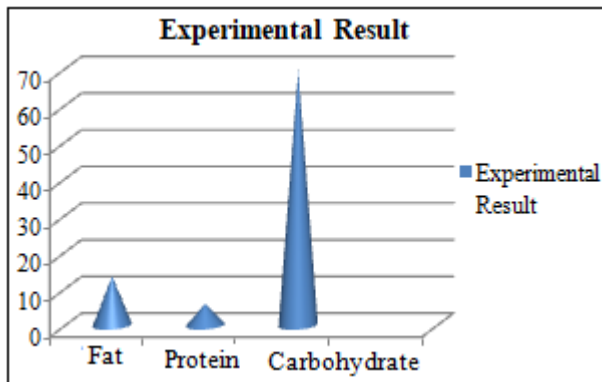


Figure 1: Graphical representation of Fat, Protein, Carbohydrate in Experimental product

Table 2: Energy, Moisture and Ash contents in Nutrient Bars

Parameters	Experimental
ENERGY(Kcal)	422
MOISTURE	9.48
ASH CONTENT	1.81

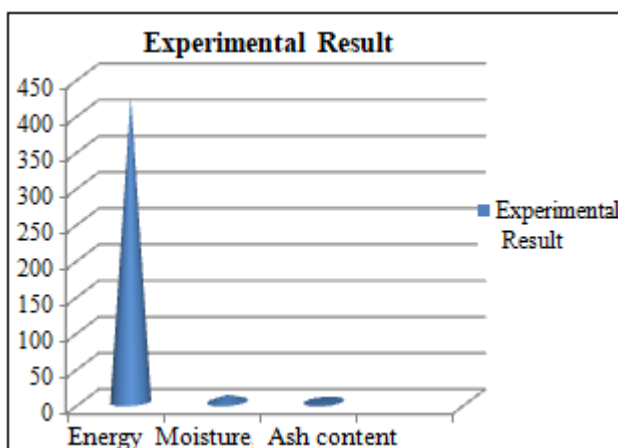


Figure 2: Graphical representation of Energy, Moisture, and Ash content in Experimental product

4. Conclusion

Nutrient bars are versatile food product from the food group of a well balance diet. Nutrient bars provide high carbohydrate to the body which is essential for athletes. These bars are supplemental bars containing cereals and other high energy foods targeted at people who require quick energy but do not have time for a meal like athletes.

Nutritional composition of Nutrient Bars:-The Nutrient bar contains 9.48% moisture, 1.81% ash, 5.79% protein, 13.43% fat, 69.49% carbohydrate, and 422 Kcal energy.

5. Recommendation

- An essential nutrient bars help build & repair muscles, which is why many athletes consider as an essential part of their diet.
- Nutrient bars are the best way to get more energy to the body.
- Easy to carry anywhere.
- By including nutrient bar into your daily diet can help improve cognitive health.

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