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## **MINTY OATS CRUNCH**

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### **ABSTRACT**

The purpose of this study was innovation of a product with the help of oats which will help in reducing obesity as it is an epidemic in the recent scenario of health and a major underlying cause for a number of other diseases. Oats in this case is a group of food that play a major role in reducing obesity with its high fibre content and the property to blend in with other foods. In the product prepared oats are blended with mint leaves give the taste, the fibre, the nutrients and are modified by roasting and baking it like crunch chips to prevent oil consumption. A sensory evaluation was carried out for this product by which changes were made based on the suggestion given and was modified to suit the palatability of the product; also the product was microbiologically tested which proved that it had a good shelf life and can be preserved for a long period of time.

**Key words:** Obesity, Oats, Fibre, Baking, Oil, Microbiological study.

### **INTRODUCTION**

Minty oats crunch are a type of crunch chips which are basically prepared from the point of view of preparing a snack that will help in reducing obesity and at the same time is a modification of the normally eaten chips which are fried; these chips on the other hand are completely prepared by roasting and baking. Oats are the major ingredient that is used in this preparation. Oats contain  $\beta$  glucan which has cholesterol lowering properties (1) Also when oats are compared to other cereal products have effect on lowering the VLDL products and LDL and also they have significant cardio protective effect (2). The high fibre of oats also helps the diabetes by improving the glucose and insulin responses in men and women (3).

### **MATERIALS AND METHODS**

#### **SOURCES OF MATERIAL**

The oats, green chilli, ginger, lemon, salt, canola oil and mint leaves are ingredients which are procured from the local market.

#### **STANDARDIZATION OF THE PRODUCT**

The product was prepared by the addition of til seeds along with a 5:3 proportion of oats and mint leaves as these were the major ingredients of the product but the taste, feel and texture of the product was not up to the mark of the product.

### **STANDARDISED RECIPE**

| <b>Ingredients</b> | <b>Amount (g)</b> |
|--------------------|-------------------|
| Oats               | 60                |
| Mint leaves        | 40                |
| Green chilly       | 7                 |
| Ginger             | 5                 |
| Lemon              | 5                 |
| Salt               | 5                 |
| Canola oil         | 5                 |

### **METHOD**

1. Take the oats flour and add it with the mint chutney and prepare dough.
2. Then roll out the dough on a rolling base with plastic below it so that it does not stick to the dough.
3. The thickness should not be more than 0.2 cm and should be levelled equally.
4. Cut the levelled dough into equal pieces of square and then roast it for 15-20 seconds and then bake it for 10 min at 200° C.
5. Any new type of accompaniment can be used with the oats.

### **PROXIMATE ANALYSIS**

The proximate composition such as energy, carbohydrate, protein, fat and fibre content were analyzed. All the estimation were done triplicate.

### **SENSORY EVALUATION**

The sensory evaluation that was carries out on the product was on the basis of their taste, appearance, flavour,

texture using a composite scoring method and to find the acceptability of the product, sensory evaluation was conducted with the help of naive panel comprising of 18 students, periodically for 3 weeks. These comments of the evaluation helped us significantly for bringing about the changes that were required and further making the product more acceptable.

### MICROBIAL STUDY

The main aim of this microbial study was to find the shelf life of the product. For the microbial study, the apparatus such as test tube, 10ml pipet, petri dish, burner, conical flask, sterilised water, agar, cotton and funnel were used. Pour plating method was used as a source to conduct the experiment and nutrient agar was the culture medium. Dilution factor was 3 and 5 gm of powdered sample was mixed in 10 ml of distilled water in a test tube. Then 3 test tube were filled with 9 ml of distilled water then 1 ml of sample was pipette out from 1<sup>st</sup> test tube and put in 2<sup>nd</sup> test tube. Same procedure was followed for next 2 test tubes. In a petri dish nutrient agar was taken in the 1 ml sample from the 4<sup>th</sup> test tube was added to it. Then the petri dish was kept in an incubator for 24 hour and the result was seen.

### RESULT AND DISCUSSION

The product was thereafter prepared several times and there after came to a conclusion that the proportion of the oats and mint leaves was in a ratio of 3:2 along with the required amount of seasoning and negligible amount of oil which gave the desired amount of taste and visual appeal to the product.

### PROXIMATE ANALYSIS

The proximate analysis of the developed product was shown in table-1.

**Table-1-Proximate composition of the Minty Oats Crunch**

| Nutrients        | Amount |
|------------------|--------|
| Energy (kcal)    | 389    |
| Carbohydrate (g) | 44.5   |
| Protein (g)      | 16.4   |
| Fat (g)          | 11.3   |
| Fibre (g)        | 8      |

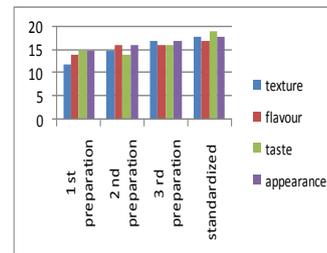
The energy content of the developed product was 389kcal, carbohydrate 44.5g, protein 16.4g, fat 11.3g and fibre 8g respectively.

### SENSORY EVALUATION

The sensory evaluation graph above shows the changes that have happen over the time in the process of making the product as the 1<sup>st</sup> and 2<sup>nd</sup> preparation there wasn't any changes in the appearance and the texture changed significantly and over the time in the preparation

the taste changed and the flavour improved. However in the 3<sup>rd</sup> and 4<sup>th</sup> preparation there was a significant improvement in all the attributed qualities as a result of which the product that was finalised was up to the mark.

**Figure-1-Sensory evaluation of the developed product**



### MICROBIAL STUDY

The result seen was that there were only 3 colonies in the product and it a non-perishable product and has a good shelf life.

### CONCLUSION

Oats contain  $\beta$  glucan and fibre which help in cholesterol excretion and also helps reduce the fat content of the person (4). Also oats have a property of blending in with other food as a result can be used in various preparations. The oats also is useful for cardiovascular functions and also for diabetes population hence it is considered very useful. There is an epidemic of obesity that has been prevalent in the present scenario which is a predisposing factor that leads to the major causes of cardiovascular problem, diabetes and underlying arthritis as a result of which oats crunch were prepared to help reduce these complications.

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