

**CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
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A Manufacturing Process for Multigrain Waffle

INTRODUCTION

The process covers know-how for ready formulation and production of multigrain waffle. Waffles are wheat based baked product which can be taken as a bread variant for breakfast, snack or as desserts with variety of toppings. It is popular among children, adolescents and young adults. Generally, waffles are made from refined wheat flour with high contents of sugar and fat. They often have high calorie with low dietary fiber and essential minerals. In order to improve the nutritional quality, the multigrain waffle has been formulated using whole wheat, pearl millet and finger millet flours with optimal amount of sugar and fat. It is produced by baking the batter in the waffle machine. The multigrain waffle has higher dietary fiber, minerals and lower calorie value as compared to the commonly available waffles in the market.

MARKET POTENTIAL

Waffles can be marketed as a quick snack or desserts through bakeries, departmental stores and restaurants. The popularity of bread variants such as waffles is increasing. Attempts are being made to formulate multigrain waffle from locally available ingredients. It is higher in fiber and mineral contents as compared to commonly available waffles in the market. It will serve the growing consumer demand for healthy and convenient foods. The technology can cater to the domestic sector for home baking as well as commercial sectors.

MATERIALS AND PROCESS

Process parameters

- i. Scaling of ingredients
- ii. Blending of the dry ingredients
- iii. Mixing of all the ingredients with water to obtain a batter
- iv. Fermentation of the batter
- v. Baking of the batter in pre-heated waffle machine
- vi. Cooking, packing and storing

The pearl millet and finger millet grains with moisture content not more than 16.0 % by weight, free from extraneous material, damaged grains, weevilled grains and aflatoxin were ground to flour of 200-250 µm particle size using hammer mill.

RAW MATERIALS

Whole wheat flour, Finger millet flour, Pearl millet flour, Butter, Sugar, Yeast, Baking powder, Skimmed milk powder, Salt, Essence.

PLANTS AND MACHINERY

Principal equipments: Planetary mixer, Commercial waffle maker.

Auxiliary equipments: Weighing balance, Heat sealing machine, Plastic containers.

PROJECT COST – FIXED COST – WORKING CAPITAL (in ‘000) (Estimate for a model project)

Total Project Cost –	735.595
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