



# Preparation and Characterization of Protein and Fibre rich instant noodles

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## Abstract

Instant noodles are generally one of the staple food eaten in many Asian countries. Instant noodles have become recognized globally and its global use is growing day by day. The quality attributes of instant noodles such as flavor, texture, convenience, safety and long shelf life make them attractive. In the current research, protein and fiber rich noodles were prepared by incorporation of soy and oats flour. Soya and Oats flour are used in the proportion of 1:1 respectively. Some other ingredients at different concentration like wheat flour, guar gum, maida, gelatin and corn starch at specific proportion were used. The chemical composition of selected noodles showed moisture content 9.2%, fat 0.19%, and ash content of 2.1% which reveals that it is a good source of nutrients in comparison with others. Moreover, the cooking qualities were also evaluated and it showed that cooking time of 8 min, swelling index 1.38 and water absorption 112.18 %. Final product was studied for its sensory evaluation up to 7 days at room temperature. It was found that product retained its sensory properties during the storage period and product was relished very much by panel of judges.

**Keywords: Noodles, Physicochemical properties, Sensory analysis**

## Introduction

For many Asian countries noodles are one of the essential foods eaten. Instant noodles have become recognized globally, and global use is growing. We became famous with the properties of instant noodle products such as flavor, quality, convenience, health and long shelf life. For instant noodles, colour, taste and texture are essential quality considerations, cooking consistency, the rehydration levels during final preparation and presence or absence of rancid taste after lengthy storage (Gulia et al., 2014). Worldwide, China ranks first in the noodle-consumption followed by Indonesia, Japan and Viet Nam. Instant noodles are made with wheat meal, starch, water, salt and alkaline salt-mix of sodium carbonate, potassium carbonate, sodium phosphate, and other texture and taste

enhancing ingredients. Nowadays, because of busy schedule and running time, negligence towards the functional foods leads to many disorders among humans. To compensate these types of glitches, fortified foods can make it possible to improve the healthy status among the population. In this regards, fortified noodles using functional ingredients can be a part of nutritional diets which could be beneficial. Foods such as, oats and whole grains are used to increase the fiber level. However, soya fortification in noodles will add isoflavones, phytosterols and oligosaccharides to the noodles with their nutraceutical properties. In addition, important amino acids, particularly lysine, are balanced in foods. The fundamental dietary fiber in cereals, legumes, fruits and vegetables are cellulose, hemicellulose, pectic compounds, gums, resistant starch, inulin (Udachan, 2018). The emphasis of present research was on the preparation of noodles from different ingredients like soya bean, oats, wheat flour, maida, guar gum, gelatin and corn starch.

### Materials and Methods

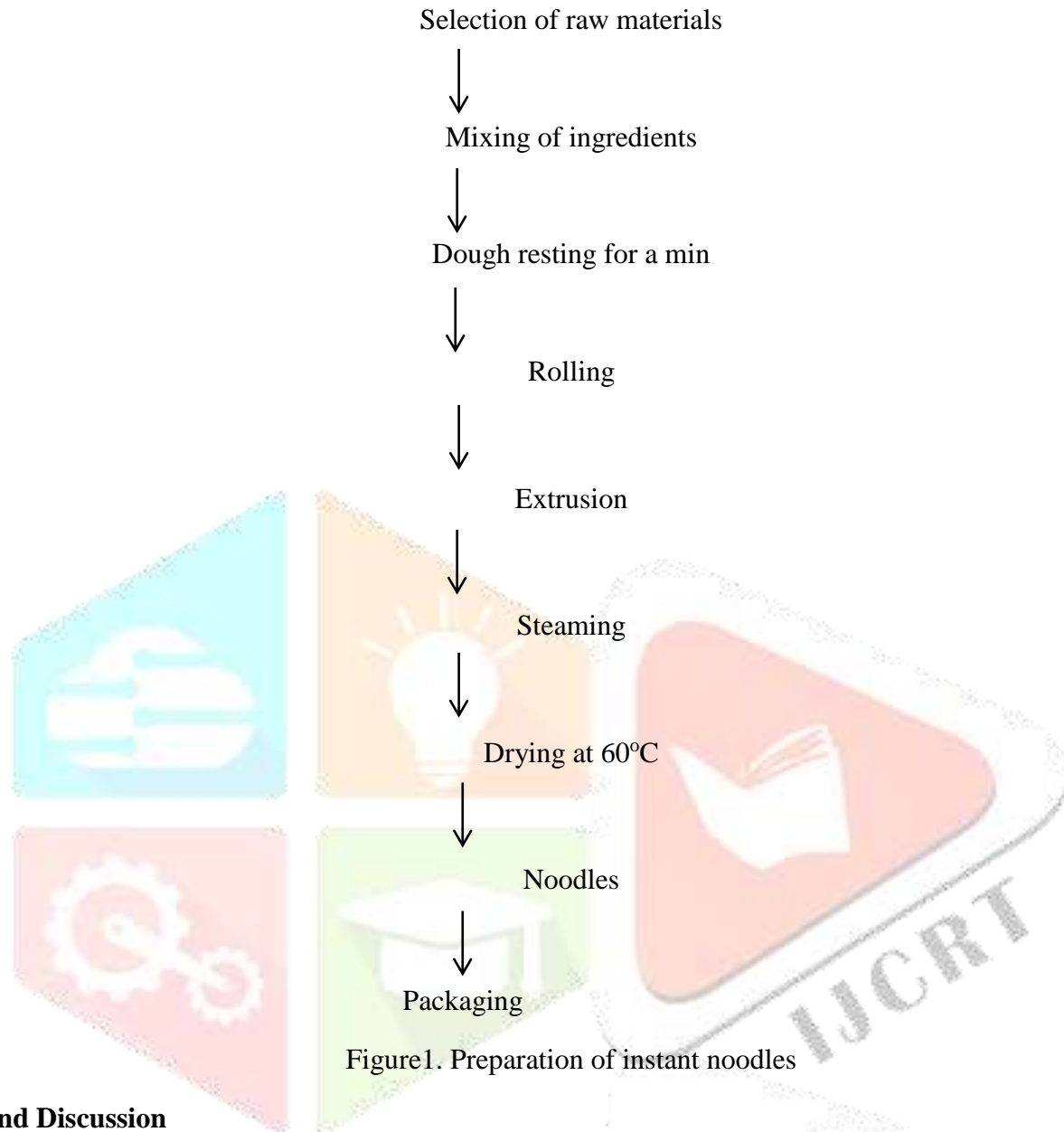
All materials needed for the preparation of noodles were purchased from local market of baramati. Ingredients required for the noodles preparation were soya bean, oats, wheat flour, maida, guar gum, gelatin, corn starch in different concentration.

**Table 1. Formulation for the noodles preparation**

<b>Trials</b>	<b>Soya</b>	<b>Oats</b>	<b>Wheat Flour</b>	<b>Maida</b>	<b>Gum</b>	<b>Gelatin</b>	<b>Corn starch</b>
T1	40	40	30	-	0.5	-	
T2	40	40	30	-	0.5	3.3	-
T3	40	40	30	-	0.5	5.5	5
T4	50	50	-	50	0.5	0.5	5.5
T5	50	50	50	25	0.5	0.5	5.5

(Note- Ingredients were in %)

The preparation of noodles using the ingredients was carried out by using the process given in figure 1.



## Result and Discussion

The chemical analysis of all trails were carried out of which T1 showed better results among all trails.

**Table2. Chemical analysis of the selected product (T1)**

Sr No	Chemical Properties	(%)
1	Ash	2.109
2	Moisture	9.2
3	Swelling Index	1.384
4	Water Absorption	112.18
5	Fat	0.19

Table 2 revealed that the chemical attributes of noodles which showed ash content of 2.1%, Moisture content of 9.2%, swelling index of 1.38 % , fat content of 0.19% and swelling index of 112.18%. Furthermore, the product was kept up to 7 days at ambient temperature.

### Sensory Evaluation

Sensory analysis of the product undertaken by the Judges Committee for various properties. Sensory testing of colour, taste, texture and overall acceptance of mixed flour noodles was carried out. Formulation T1 which showed better chemical properties among all, has been formulated using different flours selected for sensory analysis after 7 days.

**Table3. Sensory analysis of the final product**

Product	Color	Taste	Appearance	Flavor	Consistency	Overall Acceptance	Total
T1	9	7	8	8	9	9	50

The panel examined the sensory properties of product (T1) and found that product retained its sensory properties during the storage period and product was relished very much by panel of judges.

### Conclusion

Mixed flour noodles were made from soya, oats, wheat, and maida by mixing guar gum, corn starch, gelatin, oil salt and hot water. Noodles were dried in tray dryer at 65°C, and it was packed in plastic bags and stored at ambient temp. Chemical analysis was carried out and T1 showed better results among all. It is further kept for 7 days and analyzed for sensory attributes afterwards. It was found that product period retained its sensory properties, during storage and it was liked very much by the panel. Therefore, it was concluded that the fortified noodles can delightful to the consumers.

## References

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