Development of Ready-to-Cook Instant Kheer Mix

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ABSTRACT
Kheer, also known as Payasam is one of the most famous and authentic milk based dessert in India. Kheer is prepared by the partial dehydration of whole milk usually with sugar and rice and is prepared only on auspicious and special days because of its lengthy and tedious method of preparation. For preparation of 1 kg Kheer mix required ingredients were maida (1400g), refined oil (90 ml or 6 tbs) and water (350 ml). The instant Kheer mix was prepared by adding 6 tbs of refined oil to 1400g of refined flour (maida) and mixed properly followed by adding of 350 ml of cold water to make the dough manually. The prepared dough was shaped manually into approximately 0.8 cm long and 0.2 cm thick structures, sun dried for 2 – 3d by spreading in a thin layer over a cloth and covering with a transparent plastic sheet. The mix prepared were packed in airtight polypropylene bags and stored as ready-to-use Kheer mix. Study revealed that the innovative technologies include the preparation of base material from refined flour and oil and is preservative free and does not require soaking for long time. It was observed that 70 per cent of the members liked extremely, 25 per cent of the members liked very much and 5 per cent of the members liked moderately.

Key Word: Innovation, Instant Kheer Mix, Ready-to-Cook, Sensory evaluation.

INTRODUCTION
Kheer is an authentic milk based dessert, also known as Payasam is one of the most famous dessert in India and prepared by the partial dehydration of whole milk usually with sugar and rice (Sukumar, 1991). It is a traditional dish of the district and is prepared on auspicious and special occasions. Containing total milk solids plus additional sugar and dry fruits, the food and nutritive value of Kheer is fairly high (Manay and Shadaksharaswami, 2001). It is prepared only on auspicious and special days because of its lengthy and tedious method of preparation. The process requires long time soaking of base (rice), constant stirring-cum-scraping as well as attention for long period of time. To combat with these problems a farm woman has developed an innovative technology of instant Kheer preparation. Farmer’s innovation is a novel idea emerged out of vast practical experience and technical wisdom (Gogoi et al, 2012). Such innovations are generally based on locally accessible and available natural resources and gaining more and more significance day by day for its sustainability. Therefore, a pioneering effort was made to identify the innovative technology practiced by the farm women and sharing those with researches, policy makers, extension functionaries, agri entrepreneurs etc. for large scale application and further improvisation.

MATERIALS AND METHODS
The study was conducted among the farmers/farm women of Hailakandi district during the year 2013-14. A total number of 40 randomly selected respondents from 4 different blocks were interviewed informally to collect the information on their technology in relation to Kheer preparation. Sensory acceptability of Kheer prepared was also carried out. It was carried out with 20 non-trained panelist (19-50 yr old). The tests were conducted in terms of taste, texture, external appearance, flavour,
colour and overall acceptability by adopting 9 point hedonic scale (Amerine et al, 1965). These were like extremely ((9), like very much (8), like moderately (7),like slightly (6), neither like nor dislike (5),dislike slightly(4), dislike moderately (3), dislike so much (2) and dislike extremely (1).

RESULTS AND DISCUSSION

The study revealed that 4 different type of Kheer preparation technologies were practiced by the farmers/ farm woman, out of which the use of instant Kheer mix (an innovative Kheer base) was found to be best and effective in terms of time and fuel consumption during Kheer preparation. The Kheer prepared also attained acceptability as per sensory analysis.

Preparation of instant Kheer mix

**Ingredients required:** For preparation of 1 kg Kheer mix required ingredients were maida (1400 g), refined oil (90 ml or 6 tbs) and water (350 ml).

**Instant Kheer Mix (base) preparation procedure:** The instant Kheer mix was prepared by adding 6 tbs of refined oil to 1400g of refined flour (maida) and mixed properly followed by adding of 350ml of cold water to make the dough manually. The prepared dough was shaped manually into approximately 0.8 cm long and 0.2 cm thick structures, sun dried for 2 – 3d by spreading in a thin layer over a cloth and covering with a transparent plastic sheet. The mix prepared were packed in airtight polypropylene bags and stored as ready-to-use Kheer mix.

**Flow chart for instant Kheer mix (base) preparation**

- Refined flour / Maida ↓
- Sieved ↓
- Add refined oil ↓
- Mixed ↓
- Add water ↓

Prepared dough ↓
Shaped manually ↓
Spreaded into thin layer over a plastic ↓
Sun dried for 2-3 days ↓
Sealed (airtight) ↓
Labeled ↓
Stored

**Time required**

It was observed that time required to prepare Kheer with Kheer mix was found to be comparatively less (15 – 20 minutes) than other Kheer bases (boiled rice: 35 - 40 minutes, soaked rice: 40 - 45 minutes and rice: 60 - 65 minutes) when prepared in powdered milk (Fig. 1)

![Fig. 1 Time required for preparing 1 kg of Kheer with different Kheer base](image)

The above analysis also implies that the fuel consumption in the process of making Kheer with Kheer mix was considerably lower than the Kheer preparation technologies with different bases as the amount of fuel consumption was directly proportional to the length of cooking period.

**Sensory evaluation**

From the sensory evaluation of the Kheer prepared using instant Kheer mix, it was observed that 70 per cent of the members liked extremely, 25 per cent of the members liked very much and
5 per cent of the members liked moderately and is depicted below in the graph (Fig. 2).

CONCLUSION

It can be concluded that the Kheer mix is an innovative technology developed by a farm woman that reduces drudgery as well as saves time and fuel in Kheer preparation. Farmer’s innovation is a novel idea emerged out of vast practical experience and technical wisdom. Such technologies are generally location specific and utilize easily accessible and available resources. Though, these technologies are gaining more and more significance day by day for its sustainability and resource conservation but documentation and proper scientific intervention is an utmost requirement. It is felt that there is a need of its in-depth scientific evaluation (like nutritional analysis) and process standardization, so that this technology can be popularized.

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REFERENCES


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