

FACULTY PROFILE



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Current Research Areas:

- Shelf life extension of foods through combined factor preservation
- UHT processing
- Functional foods
- Membrane processing
- Artificial neural network applications in food processing

Future Research Interests:

- Digital imaging for characterization of foods
- Nutrition bars
- Dairy foods with enhanced health attributes
- Glass transition in dehydrated traditional dairy foods

Ongoing projects:

- Network project on R&D support for process upgradation of indigenous milk products for industrial application

- Process development for extended life Paneer with enhanced health attributes

People at my lab/group/student:

Principal Scientist and lab-in-charge

Dr. A. A. Patel

Ph.D Scholars

Ms. Simran Kaur Arora

Mr. S. N. Rajakumar

Mr. Hilal Ahmad Punoo

Post doctoral researchers

Dr. (Ms.) Rekha Dahiya

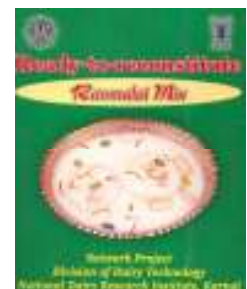
Dr. (Ms.) Sashi Prabha

Significant research results/photographs

Ready-to-reconstitute Rasmalai mix

The new formulation obtained by application of a non-conventional dehydration technology represents ready-to-reconstitute *rasmalai* mix in a dehydrated form which can be stored at room temperature and thus marketed over long distances.

- Patty and syrup portions prepared by an osmo-air dehydration process
- Dehydrated patties and dried syrup mix packed immediately and put together in a retail carton.
- Rehydration of patties and syrup mix powder by heating in boiling water for 4 ` to 5 min.



Ready-to-reconstitute Basundi mix

The new product has been developed in a ready-to-reconstitute form. The technology relates to manufacture of the following three ingredients through industrially adaptable process and dry blending of the ingredients into ready mix.

- Particulated whey protein (PWP) and sweetened milk solids (SMS) are to be manufactured by novel technological process employing osmotic dehydration and air drying
- Whole milk powder (WMP) is manufactured by well established spray drying process
- PWP, SMS, WMP and sugar are to be blended into ready mix.
- The ready-mix can be reconstituted within 5 min. by mixing with boiling water.



List of representative recent research publications

1. Patange DD, **Singh RRB***, Patel AA and Patil GR (2006) Consumer Acceptance of Ready-to-Reconstitute *Basundi* Mix. *Indian Journal of Dairy Science* (In press)
2. Jayendra Kumar A, **Singh RRB***, Patil GR and Patel AA (2006) Kinetics of colour and texture changes in *Gulabjamun* balls during deep-fat frying. *Lebensmittel wissenschaft –und Technologie* 39 (7): 827-833

3. **Singh RRB***, Rao KH, Anjaneyulu ASR & Patil GR (2006) Water sorption characteristics of raw goat meat: effect of temperature. *Journal of Food Engineering* 75(2): 228-236.
4. Jayendra Kumar A, **Singh RRB***, Patil GR and Patel AA (2005) Effect of temperature on moisture desorption isotherm of kheer. *Lebensmittel wissenschaft –und Technologie* 38 (3): 303-310
5. **Singh RRB***, Patil, GR and Balachandran R (2004) Kinetics of lipid hydrolysis during storage of UHT milk. *Journal of Food Science and Technology* 41: 139-142
6. Nayak SK, Makrariya A, **Singh RRB***, Patel AA, Sindhu JS, Patil GR and Tomar, P (2003) Heat stability and flow behaviour of buffalo milk added with corn starch. *Food Hydrocolloids* 18: 379-386
7. Jha Alok, Patel, AA and **Singh, RRB** (2002) Physico-chemical properties of instant *Kheer* mix. *Lait* 82:501-513.
8. **Singh RRB***, Rao KH, Anjaneyulu ASR & Patil GR (2001) Moisture sorption properties of smoked chicken sausages from spent hen meat. *Food Research International* 34:143-148.
9. **Singh RRB***, Patil GR & Balachandran R (2001) Reaction kinetics of lipid oxidation and proteolysis in stored UHT milk. *Milchwissenschaft* 56:250-253.