SUMMARY AND CONCLUSIONS
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1. All the pigmented rice varieties belong to medium class and non-pigmented variety belongs to slender class, as per the Codex classification of rice w.r.t L/B ratio.

2. The protein and fat content decreased after parboiling, whereas there was marginal increase in ash and more increase in phosphorous content, after parboiling.

3. The Total Dietary Fiber content was significantly higher (p<0.05) in pigmented rice varieties compared to non-pigmented rice variety, IR-64.

4. All the rice varieties showed high amylose content, hence they belonged to group I classification of rice.

5. Cooking time was high, after parboiling process.

6. The GT was significantly higher (p<0.05) in pigmented parboiled rice varieties; PV was high in non-pigmented rice.

7. There was –ve BD in parboiled rice varieties due to cross linked starch behavior.

8. Optimizations of noodles were carried out with the combination of cereal and legume based using whole grains of pigmented/non-pigmented brown/husked rice and chickpea, with fenugreek along with selected additives.

9. During the preparation of noodles, after size reduction, it is hydrothermally treated in order to induce partial gelatinization, and then
made into dough, extruded and the noodles are again hydrothermally treated and dehydrated.

10. The dried noodles are placed in boiling water for about 3-4 min, decanted and then consumed.

11. In-vitro starch digestibility of pigmented noodles was 52% and non-pigmented noodles were 54%.

12. Sensory attributes indicated that, the noodles (PN & NPN) were good, by scoring an average value of 8, w.r.t. appearance, taste, colour and overall quality.

13. Total dietary fiber was high in both types of noodles, 22 to 23%.

14. Soluble fiber was ~6% and 7% in pigmented and non-pigmented noodles respectively.

15. Protein content was high in both noodles (~14%).

16. Noodles were cooked in about < 4 minutes, hence classified as instant noodles.

17. Pigmented noodles were dark, whereas non-pigmented noodles were bright.

18. Cooking behavior was almost similar in both the types of noodles.

19. The size of chick pea starch granules was bigger and predominant than the rice.

20. TPC differed significantly between raw and processed noodles. Jyothi, 174, IR-64, 68, whole Bengal gram, 301, Pigmented noodles, 418 and non-pigmented noodles, 461 mg of GAE/100g.
21. Phenolic extracts of raw and processed noodles exhibited marked DPPH radical scavenging activity in a concentration-dependent manner. Jyothi 23 to 61%, IR-64 11 to 57%, Bengal gram, 17 to 82%, pigmented noodles, 23 to 62% and non-pigmented noodles, 23 to 71%, respectively.

22. Ferric Reducing antioxidant power (FRAP): illustrated the reductive capabilities of raw and processed noodles compared with ascorbic acid.

23. The results presented in this study provided some evidence that feeding prepared noodles (Pigmented / Non-pigmented) to the diabetic rat improved diabetic status, as assessed by water consumption, gain in body weight, urine output, urine sugar and fasting blood glucose. A 41% in PNFD and 38% in NPNFD, improvement in fasting blood glucose was observed at the end of the experiment in rats compared with the starch fed diabetic (SFD) rats.

24. Changes in FFA were marginal on storage.

25. All the samples stored under ambient and accelerated conditions were acceptable at the end of 90 days of storage.

26. Samples did not have any off-taste or off-odor during the storage period.

27. Major changes in sensory quality during storage were related to textural attributes, in terms of slightly increased perception of firmness.

28. Pigmented noodles retained the intactness (appearance) better until the end of 90 days.
29. Although there was slight decrease in the intactness of non-pigmented noodles, the OQ scores were not affected drastically.

30. All the samples retained spicy aroma (fenugreek) to a desirably high level until the end of the study.

31. The sensory evaluation of the prepared noodles was rated good and acceptable up to 90 days of storage at both the storage conditions.