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**In vitro fermentative activity of human fecal micro flora on rice fibre**

WMADB Fernando¹, KKDS Ranaweera², A Bamunuarachchi², CS Brennan³

¹Open University of Sri Lanka, Sri Lanka,
²University of Sri Jayewardenepura, Sri Lanka,
³Institute of Food, Nutrition & Human Health, Massey University, Palmerston North, New Zealand

**Background** – Dietary fibre has been linked to an increased production of short chain fatty acids (SCFA) which in turn have been associated with a reduction in colon cancer. Rice varieties are consumed widely in Sri-Lanka and have varying amounts of dietary fibre depending on cultivar grown.

**Objective** – To assess the effect of dietary fiber of rice on fermentative activity of human fecal microflora in relation to SCFA production.

**Design** – Four different Sri Lankan red rice and white rice varieties named respectively LD 356, AT 353, BG 352, BG 358 were selected to extract dietary fiber. Four human subjects including 3 men and one female were given diets containing the above 4 rice varieties for more than three months prior to the study. Fiber was extracted from the above rice varieties and separated into total dietary fiber (TDF), insoluble dietary fiber (IDF) and soluble dietary fiber (SDF). Fiber incubated anaerobically with the fecal microflora of the above subjects was taken at 0, 2, 4, 6, and 24 hour-intervals for SCFA (short chain fatty acid) analyses by Gas Chromatography.

**Outcomes** – Among the SCFAs, acetate was the most abundant one to be formed in all rice varieties, whereas amounts of propionate and butyrate were less. The rice variety LD 356 gave the highest yield of SCFAs while the variety BG 358 gave the least. As the variety LD 356 contained the highest quantity of fiber (TDF-16.73% IDF-2.9%, SDF-2.57%), it can be suggested that the quantity of SCFA production was directly correlated with the amount of the fiber in the rice variety. Total dietary fiber of all rice varieties contributed to produce more SCFA than soluble dietary fiber and insoluble dietary fiber did. The SCFA production was found to be subject specific.

**Conclusions** – The results from this study illustrate that the fermentable dietary fibres in rice varieties differ depending upon variety used and also the characteristics of the fibre (soluble or insoluble). This will also alter the amount and type of SCFA production observed.

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**Pulse incorporation and microencapsulation strategies to enhance the nutritional attributes of Asian Noodles**

J Harvey, D Small

School of Applied Science, RMIT University, Melbourne Australia

**Background** – Asian noodles have become increasingly popular around the world as a distinctive product which maybe confused with the popular pasta foods from Europe. The difference between noodles and pasta is noodles are made from soft wheat and pasta is from Durum (Hard) wheat. One of the most common yellow noodles selling in Australian Supermarkets is “Hokkien” noodles which is partially cooked.

**Objective** – Hokkien noodles is prepared with the incorporation of pulse and wheat flours and supplemented by microencapsulated vitamins. As noodles is a staple diet, it is relevant that issues of good dietary level and having lower GI value should be considered seriously. As this is often consumed daily and in large quantities by the general public, a blend of good nutrition and process of production enhancing the quality of noodle is vital to general health.

**Outcomes** – Combination of wheat and pulse gives full range of amino acids with no animal saturated fats. As wheat is lacking in lysine, tryptophan and other amino acids and these shortcomings can be overcome by appropriate blending of legume providing the full range of amino acids. Together with using the technology of microencapsulated vitamins, the capsulated vitamins endured the process of production which maintained the nutrition levels that supplemented.

**Conclusion** – The end product of the noodle production reveals that the supplemented nutrition through microencapsulation and the blend of pulse and wheat made it possible to have a wholesome dietary provision with low GI.