Abstract No: 538 (Poster) *Food, Nutrition and Livestock*

PROXIMATE ANALYSIS OF ROTTI, PITTU AND THOSAI PREPARED USING SOY, RICE AND WHEAT FLOURS

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Sri Lankans consume a variety of breakfast foods made with either rice flour or wheat flour. Soy incorporated foods are low glycaemic. In a previous study on soy incorporated breakfast food, thosai, rotti and pittu were identified to have acceptable sensory qualities by a trained taste panel. Therefore the present study was conducted to analyze the proximate composition of the three selected soy incorporated foods which will be used for future glycaemic index studies.

Rice flour (*Bg 352*), Wheat flour (*Prima*) and Soy bean (*Pb-1*) were used to prepare rotti, pittu and thosai with either 25% soy flour and 75% rice flour (SFRF) or 100% rice flour (RF) or 100% wheat flour (WF) following the usual food preparation methods at Food Research Unit, Gannoruwa. Moisture, protein, fat, ash and crude fiber content were analyzed following standard AOAC methods. Student's *'t'* test was performed to compare mean values obtained from proximate analysis.

Significant difference was observed in moisture content between rotti and pittu made with SFRF (31.7%, 37.5%, p=0.010) or RF (32.5%, 37.5%, p=0.019), pittu and thosai made with SFWF (37.5%, 33.5%, p=0.01) and rotti and thosai made with WF (36.1%, 32.5%, p=0.006). Rotti, pittu and thosai made with SFRF had higher fat content (9.5%, 9.2%, 12.1% respectively) than RF (5.3%, 5.0%, 6.3% respectively) and WF (5.9%, 5.5%, 6.6% respectively). Protein content in rotti was significantly lower than thosai made with SFRF (19.1%, 24.3%, p=0.02). Similarly pittu had significantly lower protein than thosai made with RF (9.1%, 15.0%, p=0.008). The protein content in rotti, pittu and thosai made with SFRF (19.6%, 21.7%, 24.3% respectively) was higher than RF (10.3%, 9.1%, 15.0% respectively) and WF (16.7%, 15.0%, 18.5% respectively). Rotti had significantly higher ash content than thosai made with WF (1.8%, 0.6%, p=0.001). No significant difference was observed in fiber content among rotti, pittu and thosai prepared with SFRF, RF and WF. Total carbohydrate content was low in rotti, pittu and thosai made with SFRF (36.9%, 29.3%, 27.7% respectively) compared to RF (49.9%, 46.8%, 45.5% respectively) and WF (38.9%, 42.4%, 41.3% respectively).

It was observed that 25% of soy bean flour in combination with 75% red rice flour yielded significantly high protein, fat and low carbohydrate in rotti, pittu and thosai compared to rice and wheat flour preparations. This difference could be attributed to high nutrient content of soy flour.