

**DEVELOPMENT OF LOW OIL ABSORBENT  
INSTANT NOODLE TYPE BY INCORPORATING  
CMC (CARBOXYMETHYL CELLULOSE)**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture of  
Uva Wellassa University  
in partial fulfillment of the requirements for the award of the degree of  
Bachelor of Science in Export Agriculture

By  
**K.D.M.C.M.S.D. MUDALIGE**

**Faculty of Animal Science and Export Agriculture  
Uva Wellassa University**

**2013**

## ABSTRACT

Instant noodle industry is a one of innovative industry, not only Sri Lanka but all around the world. There is significant opportunity to develop new instant noodle types. In recent years, a steady increase of instant noodle consumption has been reported in Sri Lanka. But the problem is high oil absorption during frying process, when the steamed noodles are fried in oil, the moisture contained in the noodle string vaporizes suddenly and the noodle string expands excessively into a porous structure. Oil is incorporated in the voids of the porous structure, which results in instant noodles with a high oil content. Apart from overall product quality improvement CMC (Carboxy Methyl Cellulose) can be used to reduce the oil uptake of the instant noodle. It is tasteless, smellless, mould-proof, non-toxic, non-flammable and easily dissolved in water to become transparent viscose solution. The study was conducted to production of a low oil absorbent quality instant noodle type for the consumers. All samples were prepared under same condition and organoleptic characteristics were tested using 30 untrained panelists. Firstly, two preliminary trails were conducted to find out best time and temperature combinations for steaming and frying of noodles. Main experiment was conducted to find out best level of CMC incorporated to the recipe (0.1%-0.5%). Friedman test find out 0.3% as the best level of CMC ( $p < 0.005$ ) and other experiments find out edible oil type as vegetable oil, A proximate analysis was conducted for final product and control samples. Consider about the changing of gruel content, moisture content and proximate analysis between final product and control sample there was no significant different ( $P < 0.005$ ) during the storage period. Further sample existed within the recommended moisture level, gruel level and proximate analysis range (SLS 420: 1989).

*Key Words:* Instant noodle, Carboxy Methyl Cellulose, moisture, gruel, oil uptake