**Seminar I (850-592)**

**Effect of raw materials and extrusion conditions on the extrudate quality**

Mr. Naruchat Bunrat Student ID: 5511020024

**Abstract**

The effect of different raw materials and extrusion conditions on the quality of extrudate was studied. It was found that hi maize, inulin and guar gum were improved the extrudate by increased the extrudate expansion ratio (P<0.05). Whereas, fiber used from wheat bran had decreased in expansion ratio (P<0.05). The correlation of amylose content to extrudate water absorption index (WAI) and water solubility index (WSI) was studied. High amylose content was resulted in high WAI and low WSI (P<0.05). The higher particle size (710 micrometers) was increased in extrudate expansion ratio and decreased in hardness and WAI (P<0.05). The effect of extrusion conditions such as feed moisture content (15%, 17% and 19%), barrel temperature (150, 170 and 190⁰C) and screw speed (350, 400 and 450 rpm) were used. Among the different extrusion conditions, low feed moisture content (15%), 170oC of barrel temperature and 450 rpm of screw speed was provided the better expansion ratio of extrudate (P<0.05).

**Keywords** : Extrusion cooking, Extrusion conditions, Extrudate properties

**References**

Carlos, W. P., Takeiti C. Y., Onwulata, C. I. and Pordesimo, L. O. 2010. Relative effect of particle size on the physical properties of corn meal extrudates: Effect of particle size on the extrusion of corn meal. Journal of Food Engineering 98: 103–109.

Sompong, R., Siebenhandl-Ehn, S., Berghofer, E. and Schoenlechner, R. 2011. Extrusion cooking properties of white and coloured rice varieties with different amylose content. Journal of Food Sci. 63: 55–63.

Suksomboon, A., Limroongreungrat, K., Sangnark, A., hititumjariya, K. and Noomhorm, A. 2011. Effect of extrusion conditions on the physicochemical properties of a snack made from purple rice (Hom Nil) and soybean flour blend. International Journal of Food Science and Technology. 46: 201–208.

...........................................

(Asst. Prof. Dr. Mutita Meenune)

……/……/……