**INTRODUCTION**
Cooked rice is easily available for digestion and absorption by gelatinization, resulting in a high glycemic index (GI). Macronutrients could be applied to delay digestibility of starch, including fiber addition which has been reported to be able to decrease starch hydrolysis. Slowly digestible starch leads to a slow entry of glucose into the blood stream, consequently lowering glycemic response. The objective of this study is to investigate the effect of soluble fiber and soy protein isolate on starch digestibility of imitated rice.

**MATERIALS AND METHODS**
Imitated rice grains were produced from high amylose rice flour (25.78% amylose) using a twin screw extruder with a rice-shaped die and dried at 25°C. The feeding materials were extruded at 30% moisture, 90°C barrel temperature and 30 rpm screw speed. Soy protein isolate (SPI), Fibersol-2 (FS) and duo combination of SPI and FS (1:1) were blended with rice flour at 10% substitution. The cooked imitated rice was undergone in-vitro starch digestion (Sopade and Gidley, 2009), which mimicked human digestion, to determine the kinetics of digestion, glycemic load (GL) and GI. The pasting properties of imitated rice were monitored using RVA.

**RESULTS**
Cooked imitated rice supplemented with FS (RF-FS) showed the lowest starch digestion rate followed by FS combined with SPI (RF-5SPI5FS) and SPI (RF-SPI). For the cooked imitated rice, FS and SPI reduced GI from high GI in the control sample (72.29) to medium GI (Fig. 1). The GI of cooked imitated rice with RF-FS, RF-5SPI5FS and RF-SPI was 62.22, 64.57 and 65.19, respectively. As compared with the control (65.36), the GL of cooked imitated rice with RF-FS (50.63), RF-5SPI5FS (52.54) and RF-SPI (53.05) was also decreased (Fig. 1). In addition, RF-FS showed the highest final viscosity followed by RF-5SPI5FS and RF-SPI (Fig. 2). Addition of SPI led to a decrease in final viscosity. The final viscosity is regarded as a direct measure of starch retrogradation. In addition, the presence of protein molecules would hinder appreciable starch-starch re-association or retrogradation that may limit starch digestion (Yong, Chan, Garcia and Sopade, 2011). Moreover, the viscosity of soluble fibers could reduce amylyolsis by decreasing the accessibility of enzyme to substrate (Koh, Kasapis, Lim and Foo, 2009).

**REFERENCES**