DEISI HEPTARINA. The Effect of Mannanase and Cellulase Combination in Palm Kernel Meal Base Diet on the Growth of Common Carp *Cyprinus carpio* Juvenile. Under direction of MUHAMMAD AGUS SUPRAYUDI and NUR BAMBANG PRIYO UTOMO

This experiment was conducted to study the effect of combination of mannanase and cellulase enzymes at a dose of 0.1% in the feed which made of Palm Kernel Meal (PKM) as an alternative raw material for the feed of common carp *Cyprinus carpio*. This study was divided into two experimentals: digestibility and growth. PKM were subjected to indirect digestibility experiments and chromium oxide (Cr$_2$O$_3$) at level 0.5% was used as tracer. The faeces were daily collected 30 – 60 minutes after feeding for 14 days. Dry matter and protein were used as digestibility parameters. Five experimental diets containing isoprotein (30.00%) and isoenergy (400.00 kcal GE/Kg) were used for treatments of growth performance of common carp juvenile. The treatment of experiments were A, contain 0.1% mannanase; B, 0.1% mannanase : cellulase, 0.075 : 0.025; C, 0.1% mannanase : cellulase, 0.050 : 0.050; D, 0.1% mannanase : cellulose, 0.025 : 0.075; and E without enzyme addition. Completely randomized design with 5 treatments and 3 replicates was used in this experiment. Common carp with an average weight of 5.77 ± 0.45 g kept in aquariums of 50x30x40 cm$^3$ with density were ten fish each aquarium and fed tested diet at satiation for 50 days of culture period. Parameters evaluated were feed consumption, relative growth, survival rate and feed conversion. The results showed that fish fed diet A, B, C and D had higher protein digestibility compare to fish fed diet E. However, fish fed diet E had no difference growth response compare to the rest. It is concluded that PKM can be used directly to common carp juvenile feed without supplementation of mannanase and cellulase enzymes.

Keywords: common carp, palm kernel meal (PKM), mannanase, cellulase