

CHAPTER IV

CONCLUSION

The *in vitro* antimicrobial activity test of durian polysaccharide gel (PG) by agar diffusion test and broth microdilution test indicated that PG inhibited the growth of *Vibrio harveyi* 1526, a gram negative bacterium.

Polysaccharide gel from durian fruit-hulls, incorporated into commercial shrimp diets for juvenile *Penaeus monodon*, promoted growth of black tiger shrimp represented by an increasing of the body weight of shrimps fed with 2.0% PG was higher than that of control after feeding for 8 weeks, total body length was not significantly longer ($P>0.05$) than control. Survival rate in shrimp groups fed with 0.5 and 1.0 % PG was significantly higher ($P<0.05$) than that of control groups. Feed conversion ratio (FCR) of shrimp groups fed with PG was significantly lower ($P<0.05$) than that of control.

An oral administration of durian polysaccharide gel additive diet for *Penaeus monodon* juvenile shrimp, improved the immune response in shrimp represented by an increasing the total hemocyte count and phenoloxidase activity in shrimp groups fed with 1.0 and 2.0% PG, which was significantly ($P<0.05$) higher than control groups of shrimp fed with shrimp diet without PG. The durian polysaccharide gel added in shrimp diet seemed to provide the better survival rate and disease resistance against *Vibrio harveyi* 1526 and white spot syndrome virus (WSSV) infection in black tiger shrimp groups fed with 1.0 and 2.0% PG than that of control groups.