

CHAPTER V

SUMMARY AND CONCLUSION

The present study are summerized herewith:

1. Three sources of lecithin: soybean, Danish fish meal and local fish meal, were extracted employed in the present study. Lecithin extraction was performed by three solvent system as described elsewhere (Dahlan et al 1995). Phospholipid content of soybean lecithin, Danish fish meal and local fish meal lecithin assessed in form of phosphorus containing lipids are 50, 25 and 20 g/100 g, respectively.
2. Lecithin from soybean had linoleic acid and alpha-linolenic acid contents of 55.59 and 7.81 g/100 g total fatty acids, respectively. TG-FA had linoleic acid content of 50.57 whereas PL-FA had linoleic acid content of 57.00 g/100 g total fatty acids. TG-FA had alpha-linolenic acid content of 6.28 whereas PL-FA had linolenic acid content of 7.17 g/ 100 g total fatty acids. Lecithin of Danish fish meal has EPA and DHA of 7.51 and 21.68 g/100g total fatty acids, respectively. TG-FA had EPA content of 7.32 whereas PL-FA had EPA content of 7.85 g/100 g total fatty acids. TG-FA has DHA content of 17.56 whereas PL-FA had DHA content of 28.32 g/100 g total fatty acids. Lecithin of local fish meal had EPA and DHA content 6.40 and 19.25 g/100 g total fatty acids, respectively. TG-FA had EPA content of 3.62 whereas PL-FA had EPA content of 3.47 g/100 g total fatty acids. TG-FA had DHA content of 8.38 whereas PL-FA had DHA content 12.40 g/100 g total fatty acids. Fish oil had

linoleic acid, alpha-linolenic acid, EPA and DHA contents of 1.45, 0.80, 6.72 and 26.82 g/100 g total fatty acids, respectively.

3. The purified diet of shrimp in the present study comprised of four diets: SAD (soybean lecithin added diet), DAD (Danish fish meal lecithin added-diet), LAD (local fish meal lecithin added-diet), CD (control diet or lecithin-free added-diet). Linoleic acid, alpha-linolenic acid, EPA and DHA contents of SAD are 12.92, 1.69, 4.57 and 16.90 g/100 g total fatty acids, respectively in comparison to 2.95, 0.55, 5.94 and 19.97 for DAD; 2.57, 0.45, 4.64 and 14.39 for LAD; are 2.58, 0.76, 4.56 and 13.25 for CD.
4. At salinity of 25 ppt, the length of the larvae fed with SAD was significantly longer than those of larvae fed other diets. At salinity of 30 ppt, the larvae fed with LAD, DAD was also in satisfactory length and not significantly from larvae fed SAD.
5. At salinity of 30 ppt, survival rate of zoea fed with all diets was higher than that of zoea at 25 ppt. In mysis and postlarva stages, survival rate of larva was similar after culturing with different diets and salinity conditions. Furthermore, SAD and DAD could benefit for shrimp culture at salinity 25 and 30 ppt, LAD could benefit at salinity 30 >25 and CD could used at salinity 25 >30.
6. Stress test was performed so as to assess the tolerance of shrimp on the alteration of salinity condition by transferring postlarva 15 from either 30 and 25 ppt immediately to 0 ppt. The mortality rate of post larva at different time consumed was recorded. Shrimps fed diets fortified with lecithins derived from any sources could tolerate low salinity stress better than those fed diet without lecithin supplementation.

7. Shrimp fed LAD accumulated HUFA the most whereas those fed with SAD collected these fatty acids the least. However, no statistical significance was found.