CHAPTER 6

Conclusion

- With a specific growth rate of 2.79 – 2.86 % in the different feeding groups the fish obtained a remarkable growth development within the 14 weeks rearing phase from 5.5 – 87.8g average body weight. The high survival rate indicated by only 2 fish lost out of a total of 720 underline the healthy development of the fish throughout the experimental phase.

- The present study showed a clear positive effect of fishmeal supplementation by fish protein hydrolysates on rearing growth performance of Asian red-tail catfish up to 10% of the diet. The growth advantage of the FPH-diets resulted in up to 8% higher final weights and a corresponding improvement of all growth dependent parameters like daily growth rate, specific growth rate and feed conversion rate.

- Even though the carcass evaluation was done at 88g body weight the slightly improved carcass composition of FPH-feeding groups might be helpful predicting the revenue of market size Red-tail catfish. The most important effect of the FPH-diets on carcass quality is the retarding effect of FPH in the diets on lipid deposition in the cave by >12%.

- Regarding the meat quality the examined diets did not show any effect on the muscle protein content. However corresponding to the carcass quality the FPH-diets had a significant retarding effect on muscle lipid retention, bringing the muscle fat content down from >13% to <11% regardless of the replacement level of fishmeal by hydrolysates. The outer flesh characteristics were little affected by feeding FPH-diets, except the color expression which in tendency show a slightly darker bluish appearance especially of the skin, even though the L* A* B* values were not significantly different.

- The fairly low lysozyme volumes, measured at the end of experiment for the Asian red-tail catfish does not indicate that the lysozyme activity is an informative

◆ parameter for evaluating their “tank farming tolerance”. For the immune stimulation of FPH-diets in the actual study a clear increase of the lysozyme volume of up to 7% could be observed even though not statistically significant.

◆ In conclusion, for better growth performance, highest body weight, better carcass percentage with low fat in muscle composition, we recommend to replacement 33.33% of FPH to the red-tail catfish diet.