

**FIELD PRACTICE REPORT ON TILAPIA HATCHERY AT AQUASUR  
RESOURCES CORPORATION IN BARANGAY  
DUMOY, TORIL, DAVAO CITY**

by

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Philippines**

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of College of Fisheries, Central Luzon State University  
in partial fulfilment of requirements for the degree**


of

**BACHELOR OF SCIENCE IN FISHERIES**

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**KRIS ANGEL G. PINEDA**

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**EXECUTIVE SUMMARY**

The field practice was conducted at Aquasur Aquaculture Corporation located in Brgy. Dumoy, Toril, Davao City. The internship started from June 22, 2016 and ended July 27, 2016.

The field practice focused on Tilapia hatchery in pond with concrete dikes. The main activities performed by the trainee are pond preparation, conditioning of breeders, sexing of breeders, stocking of breeders, collection of fry and eggs, nursing of fry, sorting/grading of fingerling, conditioning of fingerlings, and packing and delivery of fingerlings. Other activities undertaken are monitoring of water quality, plankton analysis, and packing, seeding, feeding and harvesting of *P. vannamei*,

Evaluation of the strengths and weaknesses of the farm is included in this report. Strengths of the station include good security, sufficient and good water quality source, friendly and approachable staffs of the farm and accessibility of the farm. Lack of facilities and unknown disease of tilapia are the station's weaknesses.

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## REFERENCES

- Balirwa, J.S. 1998. Lake Victoria wetlands and the ecology of the Nile tilapia, *Oreochromis niloticus* Linne. PhD Dissertation, Wageningen Agricultural University, Delft, the Netherlands. 245 p.
- Eknath, A.E., M.M. Tayamen, M.S. Palada-de Vera, J.C. Danting, R.A. Reyes, E.E. Dionisiob, J.B. Capili, H.L. Bolivar, T.A. Abella, A.V. Circa, H.B. Bentsen, B. T. Gjedrem, and R.S.V. Pullin. 1993. Genetic improvement of farmed tilapias: the growth performance of eight strains of *Oreochromis niloticus* tested in different farm environments. *Aquaculture*, 111: 171-188.
- El-Zaeem, S.Y. 2011. Growth comparison of Nile tilapia (*Oreochromis niloticus*) and Blue tilapia (*Oreochromis aureus*) as affected by classical and modern breeding methods. *African Journal of Biotechnology*, 10(56): 12071-12078.
- El-Zaeem, S.Y. and G.M. Salam. 2013. Production of genetically male tilapia through interspecific hybridization between *Oreochromis niloticus* and *O. aureus*. *Iranian Journal of Fisheries Sciences*, 12(4) 802- 812.
- Hulata, G. 2001. Genetic manipulations in aquaculture: a review of stock improvement by classical and modern technologies. *Genetica*, 111(1-3): 155-173.
- Maclean, J.L. 1984. Tilapia - the aquatic chicken. *ICLARM Newsletter*, 7(1): 17-70.
- Mair, G.C., A. Scott, D.J. Penman, J.A. Beardmore and D.O.F. Skibinski. 1991. Sex determination in the genus *Oreochromis*. I: Sex reversal, gynogenesis, and triploidy in *O. niloticus* L. *Theoretical and Applied Genetics*, 82: 144-152.
- Njiru, M., J.B. Okeyo-Owour, M. Muchiri and I.G. Cowx. 2004. Shift in feeding ecology of Nile tilapia in Lake Victoria, Kenya. *Africa. J. Ecol.*, 42: 163-170.
- Penman, D.J. and B.J. McAndrew. 2000. Genetics for the management and improvement of cultured tilapias. p. 227-266. *In*: M.C.M. Beveridge and B.J. McAndrew (eds.). *Tilapias: Biology and Exploitation*. Kluwer Academic Publishers. Dordrecht, the Netherlands. 266 p.
- Pruginin, Y., S. Rothbard, G. Wohlfarth, A. Halevy, R. Moav and G. Hulata. 1975. All-male broods of *Tilapia nilotica* x *T. aureus* hybrids. *Aquaculture*, 6: 11-21.
- Pullin, R.S.V. 1985. Tilapias: 'everyman's fish'. *Biologist*, 32(2): 84-88.
- Smith, I.R. and R.S.V. Pullin. 1984. Tilapia production booms in the Philippines. *ICLARM Newsletter*, 7(1): 7-9.

Tacon, P., P. Ndyaye, C. Cauty, F. Le Menn, and B. Jalabert. 1996. Relations between the expression of maternal behaviour and ovarian development in the mouthbrooding cichlid fish *Oreochromis niloticus*. *Aquaculture*, 146: 261–275.

Wohlfarth, G.W. 1994. The unexploited potential of tilapia hybrids in aquaculture. *Aquaculture and Fisheries Management*, 25: 781–788.

<http://www.newsbalita.com/davao-city-water-best-in-the-world.html>

<https://www.worldfishcenter.org/content/tilapia-aquatic-chicken>