

**FIELD PRACTICE REPORT ON IMPROVED THE MODERN CULTURE
OF OYSTER (*Crassostrea iredalei*) AT NATIONAL INTEGRATED
FISHERIES TECHNOLOGY DEVELOPMENT CENTER IN
BONUAN BINLOC, DAGUPAN CITY, PANGASINAN**

By

MARICAR V. CARBONEL

**Department of Aquatic Post-Harvest
COLLEGE OF FISHERIES
CENTRAL LUZON STATE UNIVERSITY
Science City of Muñoz, Nueva Ecija
Philippines**

2017

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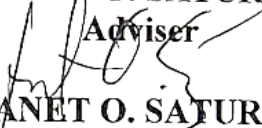
**Undergraduate Field Practice Report presented to the faculty
of the College of Fisheries, Central Luzon State University
in partial fulfillment of the requirements for the degree**

of

BACHELOR OF SCIENCE IN FISHERIES

Approved:

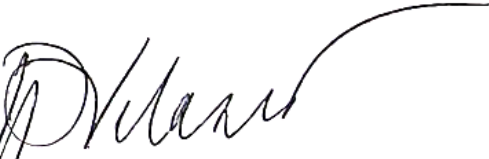

JANET O. SATURNO
Adviser


JANET O. SATURNO
Department Chairperson


REA MAE C. TEMPLONUEVO
Critic


CLAIRE SAMANTHA T. JUANICO
Field Practice Coordinator

Accepted:


RAVELINA R. VELASCO
Acting Dean

**Department of Aquatic Post Harvest
COLLEGE OF FISHERIES
Central Luzon State University
Science City of Muñoz, Nueva Ecija
Philippines**

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BIOGRAPHICAL DATA



Personal Data

Name	Maricar V. Carbonel
Birthday	February 14, 1997
Birth Place	San Antonio Munoz, Nueva Ecija
Address	San Antonio Munoz, Nueva Ecija
Parents	Maribel G. Vilanueva and Eufronio DR. Carbonel

Educational Attainment

Elementary	San Antonio Elementary School San Antonio Munoz, Nueva Ecija
Secondary	San Antonio Integrated School San Antonio Munoz, Nueva Ecija
Tertiary	Central Luzon State University Science City of Muñoz, Nueva Ecija

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MARICAR V. CARBONEL

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EXECUTIVE SUMMARY

The field practice was done at the National Integrated Freshwater Technology Development Center, at Bonuan, Binloc, Dagupan, Pangasinan from June 13 to July 22, 2016. The training focused on the modern culture of oyster (*Crassostrea iredalei*).

C. iredalei, locally known as “talabang tsinelas” belongs to Phylum Mollusca under Class Bivalvia. It is one of the most desirable species to culture because it grows up to the biggest/excellent attainable size possible and has an excellent appearance and high market value. There are two methods in culturing oyster, the traditional and non-traditional. In the station, the non-traditional method is used due to its advantages such as more production, less effect of siltation and its mobility. The activities done by the author includes spatfall monitoring and forecasting, seed collection, hardening bed deployment of oyster seeded collector and hydrobiological sampling.

The strengths of the station include their skilled manager and laborers; and resourcefulness of the laborers and employee. On the other hand, the weakness of the farm is inadequate number of employees.

1/Undergraduate Field Practice Report presented in partial fulfillment of the requirements for graduation with the degree of Bachelor of Science in Fisheries. Prepared at the Department of Aquatic Post Harvest, College of Fisheries, Central Luzon State University under the supervision of Prof. Janet O. Saturno.

REFERENCES

- Bureau of Fisheries and Aquatic Resources. Retrieved from bfar-niftdc@facebook.com on November 30, 2016.
- Carreon, J.A. 1969. The malacology of Philippine oysters of the genus '*Crassostrea*' and a review of their shell characters. Proceeding of the National Shellfisheries Association, 59: 104-115.
- Codex alimentarius. 2009. Code of Practice for fish and fishery products. First edition. Codex CAC/RCF 52-2003. FAO, Rome, Italy.
- Costa, R.A. and C. Sobral. 2013. *Escherichia coli* in seafood: A brief overview. Advances in Bioscience and Biotechnology, 4: 450-454.
- FAO. 2008. Bivalve Depuration: fundamental and practical aspects. FAO Fisheries Technical paper, No 511. Rome, 139 p.
- Guo, X., S.E. Ford and F. Zhang. 1999. Molluscan aquaculture in China. Journal of Shellfish Research, 18: 19-31.
- Li, X., and Z. Qi. 1994. Studies on the comparative anatomy, systematic classification and evolution of Chinese oysters. Studia Marina Sinica, 35: 143-173.
- Phuvasate, S. and Y.C. Su. 2013. Impact of water salinity and types of oysters on depuration for reducing *Vibrio parahaemolyticus* in Pacific oysters (*Crassostrea gigas*). Food Control, 32: 569-573.
- Quayle, D. B. and G. F. Newkirk 1989. Farming bivalve mollusks: methods for study and development. International Development Research Center, Canada. p. 10-11.