

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING**

Judul Jurnal Ilmiah (Artikel) : Evaluation on The Change of Water Quality and Survival Rate of Mangrove Seedling within Silvicultural Pond at Semarang City during Early Dry Season

Nama/ Jumlah Penulis : Endah Dwi Hastuti, Rini Budihastuti/ 2 orang

Status Pengusul : penulis ke-1

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- g. Terindeks :

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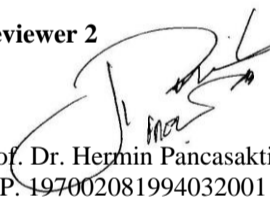
Semarang, 20 Januari 2020

Reviewer 1



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NIP. 196404291989032001
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Prof. Dr. Hermin Pancasakti Kusumaningrum, SSi, MSi
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1. Kesesuaian dan kelengkapan unsur isi prosiding:

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Penelitian dalam bidang fisiologi mangrove berkaitan dengan kualitas air dan seedling nya. 2 tabel data memperkuat landasan ilmiah bahwa pembibitan tidak dilakukan di awal musim panas

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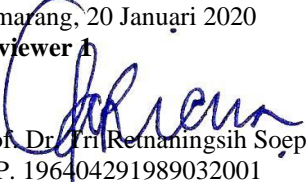
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Semarang, 20 Januari 2020

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Prof. Dr. Tri Retnaningsih Soeprubowati, MAppSc
NIP. 196404291989032001

Unit Kerja : Departemen Biologi - FSM UNDIP

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- Kecukupan dan kemutakhiran data/informasi dan metodologi:** Data-data hasil penelitian belum menunjukkan ada kebaruan informasi. Dari 20 bh rujukannya, terdapat 2 bh sudah kadaluwarsa lebih dari 10 th terakhir, hampir semua rujukan berupa jurnal. Proses review cukup baik (skor = 2.75).
- Kelengkapan unsur dan kualitas terbitan:** Jurnal ini tergolong Seminar Nasional yang disajikan dengan ISBN: 978-602-71169-7-9 ada proses editorial yang kurang yaitu di penulisan Reference karena tidak angkanya (skor = 2,00).

Semarang, 20 Januari 2020

Reviewer 2

Prof. Dr. Hermin Pancasakti Kusumaningrum, SSi, MSi
NIP. 197002081994032001

Unit Kerja : Program Studi Bioteknologi, Departemen Biologi - FSM UNDIP

Evaluation on The Change of Water Quality and Survival Rate of Mangrove Seedling within Silvicultural Pond at Semarang City during Early Dry Season

ED Hastuti, R Budihastuti - 2015 - eprints.undip.ac.id

Water quality and survival rate of mangrove seedling planted within silvofishery pond are vulnerable to seasonal climate change. Early dry season usually provide initial change on climate change such as lowering rain intensity, increasing light intensity and lower water tide. This research aimed to study the change of water quality and evaluate survival rate of mangrove seedling planted in early dry season. This research was conducted for 4 months from March to June 2015. Observations was conducted in April (1st period) and June (2nd ...

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**Proceedings of
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(5th ISNPINSA)**

**7-8 October 2015
ICT Centre,
Diponegoro University,
Semarang, Indonesia**



**Proceedings of
the 5th International
Seminar on New Paradigm
and Innovation on Natural
Sciences and Its Application
(5th ISNPINSA)**



**Faculty of Sciences and Mathematics
Diponegoro University**

**Proceedings of
the 5th International Seminar on New
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(5th ISNPINSA)**

Diponegoro University (UNDIP),

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Rully Rahadian

Agustina L.N. Aminin

Adi Darmawan

Yayuk Astuti

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Preface to The Conference Proceedings

On behalf of the Scientific Committee, we would like to thank all participant of the 5th International Seminar on New Paradigm and Innovation on Natural Sciences and Its Application who already submitted their papers. We are very fortunate this year to begin our program with the keynote address from Iran, South Korea, Germany and Indonesia.

We are extremely grateful to all the reviewers for giving up their time so generously and providing constructive feedback to authors. Your hard work ensured that we maintained the high quality of work being presented. A note on the refereeing process, the work presented at this year's conference spans multiple disciplines, range from the area of fundamental research up to the area of applied research. The 5th ISNPINSA provides also a forum for starting researchers and PhD students by offering seminars and discussion groups.

Last but not least we would like to ask your apology for waiting this proceeding published. We highly appreciate your consistently to support us in finishing this proceeding.

Rully Rahadian

Scientific Committee Chair

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Evaluation on The Change of Water Quality and Survival Rate of Mangrove Seedling within Silvicultural Pond at Semarang City during Early Dry Season

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Abstract. Water quality and survival rate of mangrove seedling planted within silvofishery pond are vulnerable to seasonal climate change. Early dry season usually provide initial change on climate change such as lowering rain intensity, increasing light intensity and lower water tide. This research aimed to study the change of water quality and evaluate survival rate of mangrove seedling planted in early dry season. This research was conducted for 4 months from March to June 2015. Observations was conducted in April (1st period) and June (2nd period). Observation on the water quality parameters including temperature, turbidity, salinity, pH and DO. While survival rate observed in this research including survival of *Avicennia marina* and *Rhizophora mucronata* which were utilized as mangrove species integrated in silvicultural pond. Analysis result showed there were significant difference on the water quality for temperature, turbidity, salinity and pH, while DO was not significantly different. Observations of water quality showed changes from first observation to second observation. Average temperature decreased from 34.24 °C to 31.38 °C, turbidity decreased from 379.74 NTU to 313.01 NTU, salinity increased from 22.0 ‰ to 31.0 ‰, pH increased from 7.49 to 9.26, while DO increased from 6.56 mg/l to 6.99 mg/l. Evaluation on the survival rate of mangrove seedling showed only 16.67% of *Avicennia marina* survive while *Rhizophora mucronata* had higher survival rate with 31.48%. The result indicate that early dry season generate the change of water quality and effect to survival of mangrove seedlings.

Keywords: water quality, seedling, survival rate, silviculture, dry season

Introduction

Mangrove plantation require suitable sites to support its survival and growth. According to [1], soil suitability plays important rules in determining mangrove survival and growth. Suitable plantation site for mangrove should have silty or clayey soil, slopy topography and covered by tidal. Eventhough mangrove habitat is originally in the tidal area, but some aquaculture activities had applied mangrove plantation within ponds named silviculture. Integration of mangrove in ponds was purposed to rehabilitate coastal area without interfering aquaculture activities as well as to support the sustainability for aquaculture.

The application of silvofishery farming system was purposed to control the pond sewage as well as to provide natural food web for the cultivated biota. According to [2], mangrove plays important role in purifying pond water approximately up to 70 – 75% of

nutrients and provide natural food for up to 42 species of matrobenthic organisms. The water circulated system involving mangrove plants had been proved to enhance the pond productivity up to 30%. Hence, mangrove plantation in silvofishery pond is an important activity as a rehabilitation effort of mangrove ecosystem.

The application of mangrove plantation in aquaculture pond should face limitations. Different soil condition as well as its oceanographic activities became major consideration for mangrove survival and growth. Sediment burial could cause mortality of mangrove seedling as mentioned by [3] which showed that sediment burial beyond 7 cm increased the mortality of mangrove seedlings. Inversely, the exposure of mangrove seedling could contribute a better stem elongation. In such case as silviculture, mangrove seedling should have better height growth but vulnerable to sediment burial. According to [4], *Avicennia* is vulnerable to sediment



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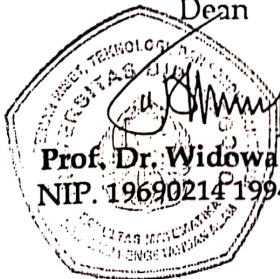
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has presented a paper entitled

Utilization of Channels Digestion Golden Snail (Pomacea Canaliculata) as Lytic Enzyme and Application on Yeast Pichia Manshurica Ducc-Y15

at the **5th International Seminar on New Paradigm and Innovation on Natural Science and Its Application (5th ISNPINSA)** held on 7-8 October 2015 in Semarang which organised by Faculty of Sciences and Mathematics Diponegoro University

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Semarang, 8 October 2015
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