

COMPARITIVE STUDY ON THE EFFECT OF VARYING DIETARY PROTEIN LEVELS IN THE GROWTH OF *ETROPLUS SURATENSIS*

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

**AISWARIA V
(CRAUSZO001)**

UNDER THE SUPERVISION OF

**Ms. GOPIKA V MENON
Assistant Professor of Zoology**



**DEPARTMENT OF ZOOLOGY
CARMEL COLLEGE (AUTONOMOUS), MALA
THRISSUR, KERALA**

2022-2023

Supervisor

Ms. GOPIKA V. MENON

Head of the Department

**Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thirissur**





CERTIFICATE

Certified that this is an authentic record of the project work entitled "**COMPARITIVE STUDY ON THE EFFECT OF VARYING DIETARY PROTEIN LEVELS ON THE GROWTH OF *ETROPLUS SURATENSIS***" done by **AISWARIA V (CRAUSZO001)** in partial fulfilment of the requirement for the degree of Bachelor of Science in Zoology, University of Calicut and this work has not previously formed the basis for any other similar work.

Place: Mala

Ms. Gopika V Menon

Date:

Project supervisor

Department of Zoology

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Farm Manager
2023/02/23
ADAK, Poyya

COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

By

AISWARYA T. D.
(CRAUSZO010)

UNDER THE SUPERVISION OF

Dr. Sr. RINI RAPHAEL

Head of Department of Zoology



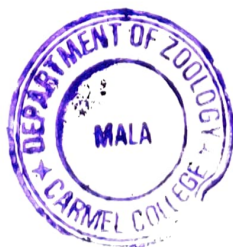
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Place: Mala

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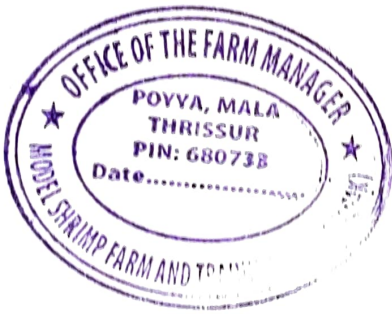
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Esabi
20/03/2023
Farm Manager
ADAK, Poyya

WATER QUALITY MANAGEMENT IN AQUACULTURE

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

By

AKSHAYA K. S.

(CRAUSZO002)

UNDER THE SUPERVISION OF

Ms. AYRIN JOSE

Assistant Professor of Zoology



DEPARTMENT OF ZOOLOGY

CARMEL COLLEGE (AUTONOMOUS), MALA

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Ayrin Jose
Supervisor

Ms. Ayrin Jose



Rini Raphael
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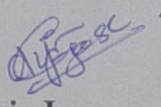


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Place: Mala

Date:


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Project supervisor

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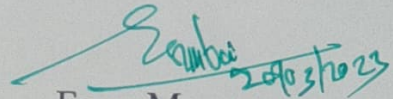
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Farm Manager

ADAK, Poyya



WATER QUALITY MANAGEMENT IN AQUACULTURE

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

AMEESHA K. R.

(CRAUSZO003)

UNDER THE SUPERVISION OF

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Assistant Professor of Zoology



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Head of the department

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Place: Mala

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Samba
Farm Manager

ADAK, Poyya

WATER QUALITY MANAGEMENT IN AQUACULTURE

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

AMRITHA SREE S
(CRAUSZO011)

UNDER THE SUPERVISION OF

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Assistant Professor of Zoology

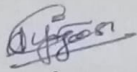


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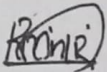
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Place: Mala

Date:

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Project supervisor

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S. S. S.
Farm Manager
ADAK, Poyya
20/05/2023

**COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON
ANGEL FISH**

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

**ANJITHA T R
(CRAUSZO004)**

UNDER THE SUPERVISION OF

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Assistant Professor of Zoology



DEPARTMENT OF ZOOLOGY

CARMEL COLLEGE (AUTONOMOUS), MALA

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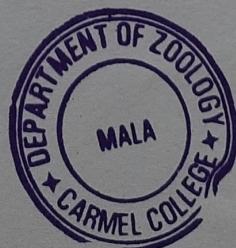
Needhu Das C.D.
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Needhu Das C.D.

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Place: Mala

Ms. Needhu Das C D

Date:

Project Supervisor

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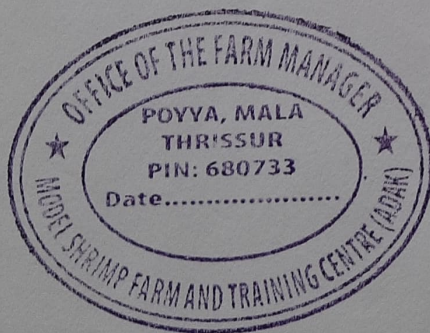
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[Signature]
Farm Manager

ADAK, Poyya

COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON ANGEL FISH

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

ANJU JOSHY
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UNDER THE SUPERVISION OF

Ms. NEEDHU DAS C. D.

Assistant Professor of Zoology



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CARMEL COLLEGE (AUTONOMOUS), MALA

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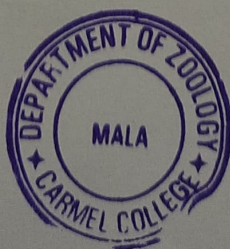
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Place: Mala

Date:

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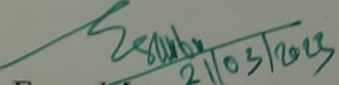
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Farm Manager

ADAK, Poyya

COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

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ANUPRIYA K. J.

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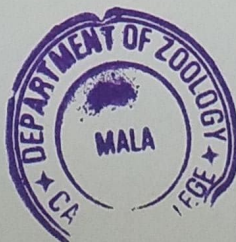
DEPARTMENT OF ZOOLOGY

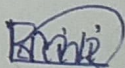
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


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Place: Mala

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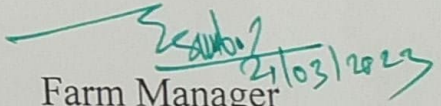
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Farm Manager
ADAK, Poyya

WATER QUALITY MANAGEMENT IN AQUACULTURE

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

ANUSHA S
(CRAUSZO014)

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Assistant Professor of Zoology



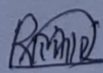
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Place: Mala

Ms. Ayrin Jose

Date:

Project supervisor

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Seenu
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ADAK, Poyya

WATER QUALITY MANAGEMENT IN AQUACULTURE

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award of the degree of Bachelor of Science in Zoology

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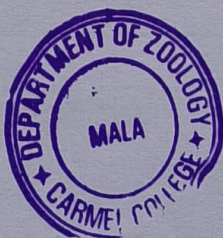
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
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Place: Mala

Date:

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Project supervisor

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Senthil
Farm Manager

20/03/2023
ADAK, Poyya

COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON ANGEL FISH

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

DHANYA P. S.
(CRAUSZO005)

UNDER THE SUPERVISION OF

Ms. NEEDHU DAS C. D.

Assistant Professor of Zoology



DEPARTMENT OF ZOOLOGY


CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23


Supervisor
Needhu Das C.D.




Head of the department
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Carmel College
Mala, Thirissur



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Place: Mala

Date:

Ms.Needhu Das C. D.

Project Supervisor

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Farm Manager

ADAK, Poyya

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**LINDZE MR
(CRAUSZO016)**

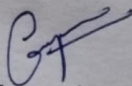
UNDER THE SUPERVISION OF

**Ms. GOPIKA V MENON
Assistant Professor of Zoology**

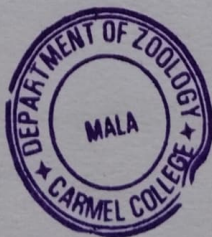



**DEPARTMENT OF ZOOLOGY
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2022-2023


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Mala, Thrissur**



CERTIFICATE

Certified that this is an authentic record of the project work entitled "**COMPARITIVE STUDY ON THE EFFECT OF VARYING DIETARY PROTEIN LEVELS ON THE GROWTH OF *ETROPLUS SURATENSIS***" done by **LINDZE MR (CRAUSZO016)** in partial fulfilment of the requirement for the degree of Bachelor of Science in Zoology, University of Calicut and this work has not previously formed the basis for any other similar work.

Place: Mala

Date:

Ms. Gopika V Menon

Project supervisor

Department of Zoology

Carmel College (Autonomous), Mala



MODEL SHRIMP FARM AND TRAINING CENTRE

Agency for Development of Aquaculture, Kerala

(An Autonomous Body fully owned by the Govt. of Kerala)

Poyya, P.O. Mala, Thrissur - 680 733.

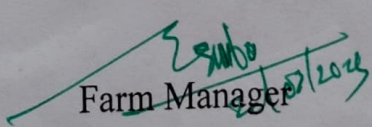
Tele/Fax 04802890183, Mob : 8078030733.

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Certified that **LINDZE M R** (Uni.Reg.No.CRAUSZO016), student of third year B.Sc. Zoology, Carmel College, Mala, has participated project work in connection with academic curriculum in this institution from January 2023 to March 2023. During the work period the student has undergone in depth involvement in this project area.




Farm Manager

ADAK, Poyya

COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

By

MARWA ABDURAHIMAN
(CRAUSZO006)

UNDER THE SUPERVISION OF

Dr. Sr. RINI RAPHAEL

Head of Department of Zoology



DEPARTMENT OF ZOOLOGY

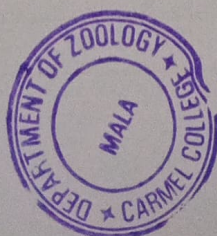
CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23

Supervisor
Dr. Sr. Rini Raphael
Assistant Professor
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Head of the department



Dr. Sr. Rini Raphael
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Certified that this is an authentic record of the project work entitled "COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP", done by MARWA ABDURAHIMAN (CRAUSZO006) in partial fulfilment of the requirement for the Degree of Bachelor of Science in Zoology, University of Calicut and this work has not previously formed the basis for any other similar work.

Place: Mala

Date:

Dr. Sr. Rini Raphael

Project Supervisor

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[Signature]
Farm Manager

[Date: 20/3/2023]
ADAK, Poyya

**COMPARITIVE STUDY ON THE EFFECT OF VARYING
DIETARY PROTEIN LEVELS IN THE GROWTH OF
*ETROPLUS SURATENSIS***

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

**NAHALA P V
(CRAUSZO007)**

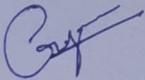
UNDER THE SUPERVISION OF

**Ms. GOPIKA V MENON
Assistant Professor of Zoology**



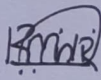
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THRISSUR, KERALA**

2022-2023


Supervisor

MS. GOPIKA.V. MENON




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Place: Mala

Date:

Ms. Gopika V Menon

Project supervisor

Department of Zoology

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S. Sankar
22/03/2023
Farm Manager
ADAK, Poyya

COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON ANGEL FISH

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

NANDANA SIVADAS

(CRAUSZO017)

UNDER THE SUPERVISION OF

Ms. NEEDHU DAS C. D.

Assistant Professor of Zoology



DEPARTMENT OF ZOOLOGY


CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23


Supervisor
Needhu Das C.D.




Head of the department
Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thrissur



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Place: Mala

Ms.Needhu Das C. D.

Date:

Project Supervisor

Department of Zoology

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20/03/2023
Farm Manager

ADAK, Poyya

COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

By

NIRANJANA
(CRAUSZO018)

UNDER THE SUPERVISION OF

Dr. Sr. RINI RAPHAEL

Head of Department of Zoology



DEPARTMENT OF ZOOLOGY

CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23

Supervisor

Head of the department



Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thirissur



CERTIFICATE

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**"COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN
INDUCED BREEDING OF CARP"**, done by **NIRANJANA (CRAUSZO018)** in partial
fulfilment of the requirement for the Degree of Bachelor of Science in Zoology, University of
Calicut and this work has not previously formed the basis for any other similar work.

Place: Mala

Date:

Dr. Sr. Rini Raphael

Project Supervisor

Department of Zoology

Carmel College (Autonomous), Mala

Head of the Department
Dept. of Zoology
Carmel College
Mala, Thrissur



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[Signature]
Farm Manager

20/03/2023
ADAK, Poyya

COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON ANGEL FISH

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

RISMIYA P A
(CRAUSZO019)

UNDER THE SUPERVISION OF

Ms.NEEDHU DAS C.D.

Assistant Professor of Zoology



DEPARTMENT OF ZOOLOGY


CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23


Supervisor
Needhu Das C.D.




Head of the department
Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thrissur



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Place: Mala

Ms. Needhu Das C D

Date:

Project Supervisor

Department of Zoology

Carmel College (Autonomous), Mala



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Farm Manager

ADAK, Poyya

**COMPARITIVE STUDY ON THE EFFECT OF
VARYING DIETARY PROTEIN LEVELS IN THE
GROWTH OF *ETROPLUS SURATENSIS***

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

**ROSANNA JOY
(CRAUSZO020)**


UNDER THE SUPERVISION OF

**Ms. GOPIKA V MENON
Assistant Professor of Zoology**

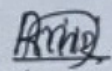


**DEPARTMENT OF ZOOLOGY
CARMEL COLLEGE (AUTONOMOUS), MALA
THRISSUR, KERALA**

2022-2023


Supervisor

MS. GOPIKA V. MENON


Head of the Department

**Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thirissur**





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Place: Mala

Date:

Ms. Gopika V Menon

Project supervisor

Department of Zoology

Carmel College (Autonomous), Mala



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[Handwritten Signature]
Farm Manager

ADAK, Poyya

COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP

Project report submitted to the University of Calicut for the partial fulfilment of the
award of the degree of Bachelor of Science in Zoology

By

SARIKA K.
(CRAUSZO021)

UNDER THE SUPERVISION OF

Dr. Sr. RINI RAPHAEL

Head of Department of Zoology



DEPARTMENT OF ZOOLOGY

CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

Supervisor

2022 - 23

Head of the department



Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thrissur



CERTIFICATE

Certified that this is an authentic record of the project work entitled "COMPARATIVE EFFICIENCY OF DIFFERENT SYNTHETIC HORMONES IN INDUCED BREEDING OF CARP", done by **SARIKA K. (CRAUSZO021)** in partial fulfilment of the requirement for the Degree of Bachelor of Science in Zoology, University of Calicut and this work has not previously formed the basis for any other similar work.

Dr. Sr. Rini Raphael

Project Supervisor

Department of Zoology

Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thrissur

Carmel College (Autonomous), Mala

Place: Mala

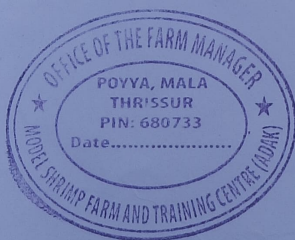
Date:



MODEL SHRIMP FARM AND TRAINING CENTRE
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E-mail adakpoyya@gmail.com

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Seemba
Farm Manager

ADAK, Poyya

**COMPARITIVE STUDY ON THE EFFECT OF VARYING
DIETARY PROTEIN LEVELS IN THE GROWTH OF
*ETROPLUS SURATENSIS***

Project report submitted to the University of Calicut for the partial fulfilment of the award of the degree of Bachelor of Science in Zoology

By

**SNEHA SIJU
(CRAUSZO009)**

UNDER THE SUPERVISION OF

**Ms. GOPIKA V MENON
Assistant Professor of Zoology**

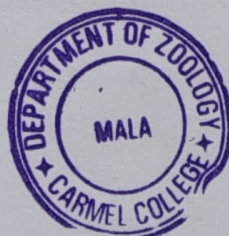


**DEPARTMENT OF ZOOLOGY
CARMEL COLLEGE (AUTONOMOUS), MALA
THRISSUR, KERALA**

2022-2023

Supervisor

Ms. Gopika V. Menon



Head of the Department

**Dr. Sr. Rini Raphael
Assistant Prof. & Head
Dept. of Zoology
Carmel College
Mala, Thrissur**



CERTIFICATE

Certified that this is an authentic record of the project work entitled "COMPARITIVE STUDY ON THE EFFECT OF VARYING DIETARY PROTEIN LEVELS ON THE GOWTH OF *ETROPLUS SURATENSIS*" done by SNEHA SIJU (CRAUSZO009) in partial fulfilment of the requirement for the degree of Bachelor of Science in Zoology, University of Calicut and this work has not previously formed the basis for any other similar work.

Place: Mala

Ms. Gopika V Menon

Date:

Project supervisor

Department of Zoology

Carmel College (Autonomous), Mala



MODEL SHRIMP FARM AND TRAINING CENTRE

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Sneha
Farm Manager
28/3/2023
ADAK, Poyya

COMPARITIVE STUDY ON LIVE FEED AND DRY FEED ON ANGEL FISH

Project report submitted to the University of Calicut for the partial fulfilment of the award of
the degree of Bachelor of Science in Zoology

By

SREELAKSHMI K. S.

(CRAUSZO022)

UNDER THE SUPERVISION OF

Ms. NEEDHU DAS C. D.

Assistant Professor of Zoology




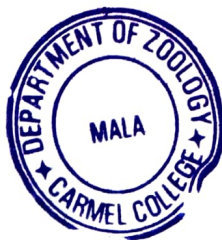
DEPARTMENT OF ZOOLOGY

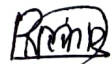
CARMEL COLLEGE (AUTONOMOUS), MALA

THRISSUR, KERALA

2022 - 23


Supervisor
Needhu Das C.D.




Head of the department
Dr. Sr. Rini Raphael
Assistant Prof. & Head
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Place: Mala

Date:

Ms. Needhu Das C. D.

Project Supervisor

Department of Zoology

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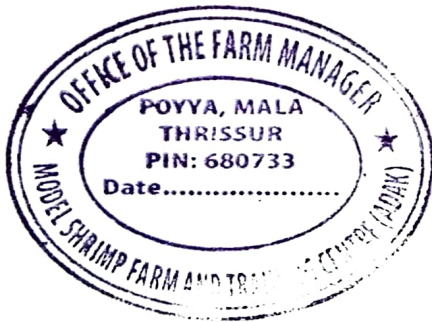
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[Signature]
Farm Manager
20/03/2023
ADAK, Poyya