



**Department of Aquaculture**  
**College of Fisheries**  
**Acharya Narendra Deva University of Agriculture**  
**and Technology, Kumarganj, Ayodhya – 224 229,**  
**U.P.**

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**BRIEF ABOUT THE DEPARTMENT:**

Department of Aquaculture came into existence in the academic year 2006-07 with the establishment of undergraduate teaching (B.F.Sc.) in College of Fisheries. The postgraduate (M.F.Sc.) and Ph.D. programme were started in the academic year 2019-20 and 2023-24, respectively. Till date department has produced 4 M.F.Sc. students and 14 Masters and 2 Ph.D. students are pursuing their degree.

**VISION:**

Impart quality fisheries education to the students and to improve competency of faculty in the various field of aquaculture for teaching, research and extension.

**OBJECTIVE:**

1. To produce trained human resource for the development of aquaculture practices in state and the country.
2. To undertake basic and applied research work on various aspects of aquaculture.
3. To offer training programmes to students and farmers.
4. Dissemination of technology through demonstration extension materials, books, booklets, articles etc.

**FACULTY:**

Name	Designation	E-mail	Mobile No.
Dr. Laxmi Prasad	Assoc. Professor & Head	laxmiprasad.aqc.cof@nduat.org	7704818025
Dr. Dinesh Kumar	Assistant Professor	dineshfish@rediffmail.com	9412604737
Dr. Shashank Singh	Assistant Professor	ssingh.aqc.cof@nduat.org	7320887898

**ACADEMICS:**

The students are getting admission through Uttar Pradesh Combined Agriculture and Technology Entrance Test (UPCATET). As per the recommendations of V<sup>th</sup> Dean's

Committee of ICAR, the qualification for admission in B.F.Sc. programme is 10+2 in Science-Biology/Agriculture as their basic subjects and B.F.Sc. is the basic requirement for admission in M.F.Sc. degree programme. For taking admission in Ph.D. programme, the students should have M.F.Sc. with specialization in Aquaculture.

### TEACHING:

The department offers following courses in B.F.Sc. programme

S. No.	Course No.	Course Title	Credit Hours
1.	FAQ-111	Principles of Aquaculture	2(1+1)
2.	FAQ-112	Fundamentals of Biochemistry	3(2+1)
3.	FAQ-121	Freshwater Aquaculture	3(2+1)
4.	FAQ-122	Aquaculture in Reservoirs	2(1+1)
5.	FAQ-211	Fish Food Organisms	2(1+1)
6.	FAQ-212	Ornamental Fish Production and Management	2(1+1)
7.	FAQ-213	Genetics and Breeding	2(1+1)
8.	FAQ-221	Coastal Aquaculture and Mariculture	3(2+1)
9.	FAQ-222	Fish Nutrition and Feed Technology	3(2+1)
10.	FAQ-223	Shellfish Hatchery Management	2(1+1)
11.	FAQ-311	Finfish Hatchery Management	3(2+1)
12.	FAQ-321	Introduction to Biotechnology and Bioinformatics	2(1+1)

The department follows BSMA guideline for M.F.Sc. and Ph.D. degree programme.

### STUDENTS STRENGTH

The department offers M.F.Sc. in Aquaculture and planning to start Ph.D. from the academic year 2023-24.

M.F.Sc. Students Enrolled		M.F.Sc. Degree Awarded
Academic Year	Number of Student	Number of Student
2019-20	02	-
2020-21	01	-
2021-22	01	03
2022-23	03	01
2023-24	11	-

### FACILITIES AND INFRASTRUCTURE:

**Classrooms** –There are three classrooms for conducting classes of the Masters and Ph.D. students.

**Laboratory**- There are 02

**Central Instrumentation Facility**- 02

**Wet Laboratory** – 01

### **Instructional Fish Farm –**

The instructional fish farm covered 6.0 ha land with total 23 fish ponds which includes 5 nursery ponds, 5 rearing ponds, 6 grow-out, 2 broodstock ponds and 5 integrated ponds. The instructional fish farm is also having a Circular carp hatchery with one overhead tank and spawning pool, 2 hatching pool and 1 spawn collection chamber constructed under Mega Seed Project. The quality seed of various species like Indian Major Carp and exotic carps are produced during the breeding season to fulfill the demand of Instructional fish farms, B.F.Sc and M.F.Sc students practical classes, research purpose and farmers of Eastern Uttar Pradesh. The source of water is tube well and solar pump. The Instructional fish farm is also having a RAS unit for the demonstration, training and research purpose. Apart from this, twenty four small earthen ponds of 10×10 feet are available for the practical experimentation and research work of M.F.Sc. students.

### **LABORATORY FACILITIES:**

Sl. No.	Name of the Equipment	Quantity (No.)	Utility / Purpose
1.	Weighing Balance	1	Used to weigh samples/chemicals
2.	Water testing kit	1	Used to observe water samples
3.	pH meter	1	Used to observe water pH
4.	Microscope with Image Processing System	1	Used to observe samples/ plankton identification
5.	Soxhlet apparatus	1	Used for lipid estimation
6.	Double Distillation Unit	1	Used for Preparation of Distilled water
7.	Muffle Furnace	1	Used for estimation of Ash/Minerals
8.	Hot Air Oven	1	Used for Drying
9.	Autoclave	1	Used for Sterilization
10.	Centrifuge	1	Used in analysis for taking supernatant
11.	Soil Analysis Kit	-	Used for analysis of soil parameters
12.	Biochemical Analyzer Kit	1	Used for biochemical analysis
13.	Aeration Motor	4	Used for supplementation of oxygen

### **Ongoing Research Project**

Title of the Project	Total Amount (Rs. In Lacs)	Funding Agency
Development of suitable model to harvest the optimum potential of fish production in sodic soil of Uttar Pradesh	18.8650	UPCAR

### **PG Research**

Sl. No.	ID No.	Name of the student	Research title
1.	F-8600/15/19	Mr. Shivaji Kanoujiya	Ichthyofaunal diversity and relative catch composition of middle stretch of Gomti River
2.	F-8588/15/19	Mr. Mayank Bhushan Singh	To Evaluate Effect of Cow dung and Gypsum on Growth of Indian Major Carp, Rohu ( <i>Labeo rohita</i> ) Fry under Sodic Soil Condition
3.	F-11717/20	Ms. Anshika Pathak	Evaluation of Growth performance of <i>Pangasianodon hypothalamus</i> and <i>Ctenopharyngodon idella</i> under mono and mixed culture condition
4.	F-9333/16/21	Mr. Ashish Singh	Effect of Vermicompost on the Growth and Survival of <i>Labeo rohita</i> (Ham.) Fingerlings under Sodic Soil Condition

## PUBLICATIONS

- **Dinesh Kumar**, Shivaji Kanoujiya, Laxmi Prasad and C. P. Singh (2023). Assessment of fish biodiversity in middle stretch of Gomti river with the relation of water quality. *J. Exp. Zool. India* Vol. 26, No. 2, pp. 2311-2318, 2023.
- Singh, S., Misra, V. K., Swain, S. and Peter, R. M. (2023). Soils for Aquaculture: Characteristics and Management. In: Instant notes on soil science (Editors: Singh, A. K., Kumar, C. Singh, K., Singh, A. K., Singh, D. K. and Kumar, V.), pp. 141- 154. Biotech Books, New Delhi. (ISBN: 978-81-7622-542-7)
- Singh, S., Dey, S., Katare, M. B. and Misra, V. K. (2023). Aquaculture for a Rural Economy of India. In: A Critical Appraisal of India's Self-reliance in Agriculture (Editors: Rai, P. K., Sharma, N. K., Singh, V. K. and Rai A. K.), pp. 179-198. Nova Science Publishers, Inc. (ISBN: 979-8-88697-602-1)
- Kumar, M., Gupta, G., Saxena, M., Singh, S., Maurya, P. K., Kumar, D., Prasad, L., Verma, S. K. and Singh, C. P. (2023) Tracer Techniques in Fish Larval Nutrition Studies. *Matsya Jagat*, 2023, 1(2), pp. 24-30.
- Kumar, M., Gupta, G., Saxena, M., **Singh, S.**, Maurya, P. K., Kumar, D., Prasad, L., Verma, S. K. and Singh, C. P. (2023) Tracer Techniques in Fish Larval Nutrition Studies. *Matsya Jagat*, 1(2), pp. 24-30
- शशांक सिंह एवं डॉ ए पी राव (2023). जलजीव पालन में नवीनतम तकनीकी प्रगति। पूर्वांचल खेती (फरवरी), पेज- 15.

- शशांक सिंह एवं आशीष कुमार सिंह (2022). महाझींगा : जलजीव पालन हेतु महत्वपूर्ण प्रजाति । मत्स्यवाणी, पेज- 23-24.
- शशांक सिंह एवं मिथलेश कुमार पाण्डेय (2022). कार्प मछलियों का प्रजनन एवं बीज उत्पादन । पूर्वांचल खेती (जून), पेज- 27-29.
- Vibha Yadav, Dr. Dharmendra Yadav and Dr. Dinesh Kumar (2022). Batakh, Bater, Khargosh Sah Matsya Paalan. Dr. Rama Publishing House, Meerut
- Laxmi Prasad and A. P. Rao (2022). “Matasya Paalan Ki Vidhiyan”; Directorate of Extension, A. N. D. Uni. of Ag. & Tech. Kumarganj, Ayodhya (Technical Bulletin).
- Laxmi Prasad and Dinesh Kumar. “Matasya Paalan Prashikshan Manual” (2022). **Training Manual**, College of Fisheries, ANDUAT, Kumarganj, Ayodhya.
- Dinesh Kumar, Ashish Kumar Maurya, Vipin Mishra , C. P. Singh and Laxmi Prasad (2020) Present status of freshwater Fishery Resources In Uttar Pradesh, India . International Journal of Current Microbiology and Applied Sciences., special issue (11) 2389-2394.
- Pal, J., C.V. Raju, G. Pandey, H.H. Tripathi and L. Prasad (2022).Effect of pomegranate and orange peel extracts on the quality of fish ham under frozen storage. *J. Environ. Biol.*, 43, 197-204
- Pal J, Gayatri Pandey, Laxmi Prasad, C.V. Raju (2021) Preparation of Fish Ham Using Low Value Fish by mixing Red Meat of Tuna Chunks and its Quality Attributes. *Agricultural Mechanization in Asia* 51, (3), August. 1723-1732.
- Ravi kumar, A. K. Jaiswar, Rama Sharma and Laxmi Prasad (2020) **Quantification of morphological variations among populations of *Channa gachua* (Hamilton, 1822) from different geographical locations in India.** *Indian J. Fish.*, 67(2): 114-119, 2020
- Laxmi Prasad, Ravi Kumar, Shashank Singh, Dinesh Kumar, Ashish Maurya, Jag Pal, Sunil Kant Verma and Satendra Kumar (2020) Adoption of carps based polyculture system and status of fish productivity in eastern Uttar Pradesh, India; *Journal of Entomology and Zoology Studies* , 8(3): 157-161
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- Dinesh Kumar, Ashish Kumar Maurya, Laxmi Prasad, C.P.Singh, K V Radhakrishanan and SR Somasekara (2020) Fish biodiversity and diversity indices in Himalayan River Ghaghara at Northern India. *Journal of Entomology and Zoology Studies*;8(6)15-59-1564.
- Ashish Kumar Maurya, Laxmi Prasad and Ravi Kumar (2018). Length-weight relationship and condition factor of *Pethia ticto* (Hamilton, 1822) from Gomti river in Sultanpur, Uttar Pradesh. *Journal of Applied and Natural Science* 10 (1): 487 – 490.
- Ashish Kumar Maurya, Laxmi Prasad, Ravi Kumar and Shakila Khan (2018). Morphometric relationships and meristic characteristics of ticto barb *Pethia ticto* (Hamilton, 1822) from Gomti River, Uttar Pradesh. *Journal of Entomology and Zoology Studies*; 6(2): 1877-1880.

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- Dinesh Kumar, Laxmi Prasad, Ashish Kumar Maurya, C P Singh and Shakila Khan. (2018). Exploration of native and exotic fish germplasm in middle stretch of Ramganga River, Uttar Pradesh. *Journal of Entomology and Zoology Studies.*; 6(2): 2892-2896.
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- Ashish Kumar Maurya, K V Radhakrishnan, Priyanka Sahu, Laxmi Prasad, Jag Pal and BN Shukla (2018). Length weight relationship and condition factor of *Mystus bleekeri* (Day, 1877) in Rudrasagar Lake, a Ramsar site in Tripura. *Journal of Entomology and Zoology Studies.* 6(2): 2500-2503.
- Jag Pal, CV Raju, B N Shukla, Hari Om Verma, Gayatri Pandey, Ashish Kumar Maurya and Laxmi Prasad.(2018). *In-vitro* antioxidant activity of freeze dried extracts fruit peel waste (*Punica granatum* and *Citrus sinensis*) and its effect in  $\alpha$ -linoleic acid model system. *International Journal of Chemical Studies*; 6(2): 892-895.
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## AWARDS

- **Dr. Dinesh Kumar- Best Teacher Award (2022)** - By Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya.
- **Dr. Dinesh Kumar- Environmental Protection Research Award-2021**, In the field of Fisheries. Scientific Educational Research Society, Meerut (U.P.) India. In 5<sup>th</sup> International Conference on Innovative Approaches in Applied Sciences and Technologies (iCiAst-2021) at Babasaheb Bhimrao Ambedker University, Lucknow (U.P.)- 3-5 December 2021.
- **Dr. Dinesh Kumar- Environmentalist Award – 2019**, Agricultural and Environmental Technology Development Society (AETDS), U.S. Nagar, Uttrakhand. In International Conference- Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES2019). 1-2 December.
- **Dr. Dinesh Kumar- Best Poster Presentation Award.** In International Conference- Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES2019). 1-2 December 2019.

## GLIMPSES OF THE DEPARTMENT



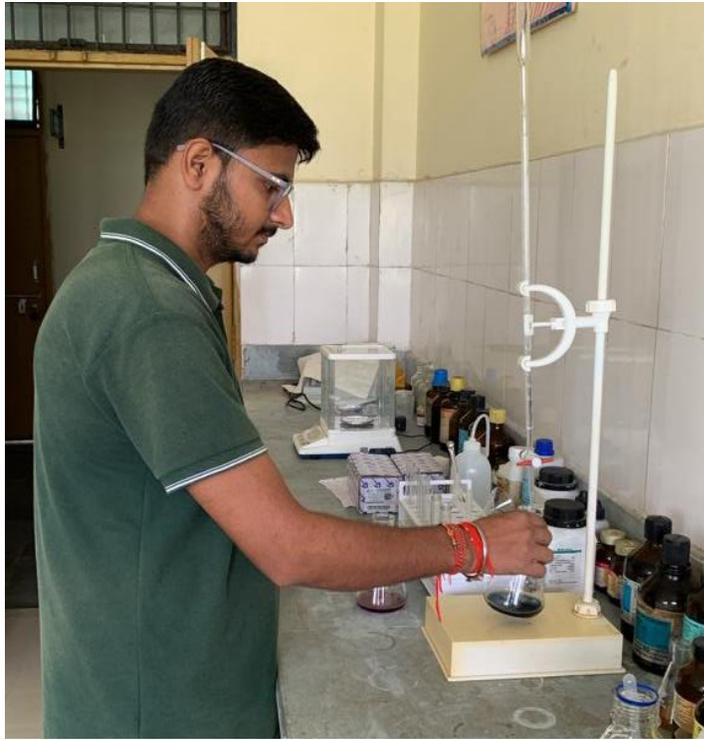
**Azolla culture in FRP tanks**



**Preparation of Vermicompost by using Azolla**



**Experimental set-up of M.F.Sc. student in earthen ponds**



**Analysis of water quality by M.F.Sc. Student in the Aquaculture laboratory**



**Experimental set-up of M.F.Sc. student in Wet lab**