

David Santiago Valero Velosa

Animal Science Student with interests in Aquaculture
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PERSONAL STATEMENT

I am a ninth-semester Animal Science student at the National University of Colombia, where I have deliberately focused my academic path on aquaculture. Growing up around farm animals and fish systems sparked my early interest in animal production, and over time that interest evolved into a genuine commitment to sustainable aquaculture as a tool for food security and community development. Throughout my degree, I have built comprehensive knowledge across the core dimensions of aquaculture: nutrition, physiology, genetics, reproduction, and biostatistics, through both specialized coursework and hands-on experience. This interdisciplinary background has given me a well-rounded perspective on productive system management that I am eager to apply in a professional setting. During my studies, I gained hands-on experience in aquaponic and RAS systems, working with fish and plant management, water quality monitoring, larval feeding, and fish reproduction, while also developing an understanding of the operational challenges these systems face, from water parameter fluctuations to algae management. Currently, I am working in a genetics laboratory, applying molecular techniques such as PCR and gel electrophoresis to a research project on gene determination in ornamental fish native to Colombia, which has also given me relevant experience in the ornamental fish and aquarium industry, an area I am particularly interested in expanding, especially from a genetics and selective breeding perspective.

I am now actively seeking an internship opportunity where I can apply and further develop these skills in a productive aquaculture environment. I am especially interested in positions involving the full production cycle of cultured fish species, from egg to grow-out and reproduction stages, within RAS or other aquaculture systems, contributing to the productive improvement of the unit. While my current experience is primarily in freshwater species, I am highly motivated to expand into marine aquaculture and mariculture, and I am open to working with new species and production approaches. I also bring a broader animal production background in livestock and poultry management, which I believe adds value in integrated or diversified production systems. I want to connect with researchers and practitioners actively working on these challenges, exchange perspectives, and bring those insights back to contribute to sustainable aquaculture development in Colombia.

RELEVANT EXPERIENCE

Livestock & Animal Management Assistant | MARENGO – National University of Colombia | Feb – Apr 2024

Hands-on farm experience with multiple livestock species, including poultry, sheep, pigs and cattle

- Assisted in daily livestock management across multiple species (laying hens, broilers, cattle, pigs and sheep), monitoring animal health, feed intake, and production indicators
- Supported husbandry routines including vaccine administration, animal handling, pasture-to-milking parlor cattle transfers, concentrate supplementation, and milking operations.
- Participated in nutritional improvement initiatives, including the design and application of a specialized diet for laying hens to enhance productive performance.
- Contributed to monitoring activities aimed at improving productive unit performance across species, identifying key indicators and supporting data collection.
- Engaged in biosecurity routines and farm hygiene protocols for disease prevention across poultry, swine, cattle and sheep production systems.

Voluntary Farm Assistant – Alternative Laying Hen Production | MARENGO – National University of Colombia | May 2024

Hands-on experience with laying hen production systems

- Participated in management of laying hens under alternative production systems, observing housing conditions, feeding, and egg collection.
- Gained practical understanding of welfare-oriented production practices applicable to European standards.
- Assisted in monitoring flock behavior and identifying signs of stress or disease.

Aquaponics Assistant | National University of Colombia | Aug – Dec 2023

Aquaponic systems management, water quality control and biological filtration experience

- Gained practical knowledge in the design and operation of aquaponic systems, managing the biological and mechanical components of the production cycle.

- Monitored and maintained water quality parameters (pH, dissolved oxygen, temperature, ammonia) critical to organism survival.
- Managed daily feeding schedules and health monitoring of fish and plants, developing attention to animal welfare and production continuity.
- Performed routine system maintenance, developing methodical operational skills.
- Managed nitrifying bacteria cultures essential for biological filtration, developing understanding of nitrogen cycles and water chemistry.

Aquaculture Assistant – RAS Systems | National University of Colombia | *Aug – Dec 2025*
Recirculating system management, larval rearing and fish reproduction

- Operated and maintained recirculating aquaculture systems (RAS) for tilapia and ornamental fish, managing water treatment, filtration, and biosecurity protocols.
- Gained experience in ornamental fish reproduction, supporting breeding protocols and managing early life stages to ensure successful spawning outcomes.
- Managed larval feeding programs during the first critical days post-hatching, implementing strategies to minimize early mortality and optimize survival rates.

Genetic Laboratory Assistant | National University of Colombia | *Feb 2026 – Present*

Research and molecular techniques, supports understanding of genetics in animal selection

- Developed hands-on proficiency in molecular biology techniques including DNA extraction, PCR amplification, agarose gel electrophoresis, and polyacrylamide gel electrophoresis, applied to genetic research in aquatic species.
- Contributing to a genetic study focused on the identification of species-specific genes in an ornamental fish native to Colombia, aimed at assessing its genetic conservation status and characterizing the genetic diversity of wild populations, applying molecular techniques and developing precision and analytical skills to support informed conservation and selection decisions.
- Handling laboratory samples and assisting in data collection, analysis, and scientific reporting.

EXTRACURRICULAR & PROFESSIONAL DEVELOPMENT

Poultry Science

- Member, Poultry Science and Avian Medicine Study Group (GEAMA), National University of Colombia (2022–Present).
- Participant, Poultry Science Webinar – AMEVEA (September 2025).

Aquaculture & International Memberships

- Member, World Aquaculture Society (WAS). (2025 – Present)
- Member, Youth in Caribbean Aquaculture group. (2026)
- Member, Aquaculture Study Group, National University of Colombia (GEACUN) (2022–Present).

Other

- Participant, Applied Beekeeping Course – National University of Colombia (Alternative livestock production).
- English and Portuguese conversation clubs – National University of Colombia (active language development).
- Participant, Technical Training on QuantStudio 3 Real-Time PCR System (Applied Biosystems) – Equipos y Laboratorio de Colombia S.A.S / National University of Colombia (March 2026)

SKILLS

Animal Production: Livestock management, livestock husbandry (sheep, pigs, calves and cows).

Aquaculture & Water Systems: Water quality monitoring, RAS operation, environmental parameter control.

Research & Lab: Molecular biology techniques, genetic analysis, data collection, scientific reporting

Farm Management: Record-keeping, production monitoring, feed management, health observation and nutritional aspects

Languages: Spanish (native), English (Upper advanced – B2), Portuguese (basic)

IT: Microsoft Office, basic data analysis tools, R. Mapmaker.

EDUCATION

B.Sc. Animal Science (in progress) | National University of Colombia | 2020 – *Present*

National University of Colombia, Bogotá, Cundinamarca

Overall GPA: 3,8

Expected graduation: 2027

Animal science and veterinary medicine college, Bogotá – Cundinamarca

Associate of animal production science degree

- Relevant coursework: Animal Genetics, Animal Reproduction, Poultry Production Systems, Animal Nutrition, Animal Physiology, Statistics, Biosecurity and Traceability, Animal Welfare and Bioethics, Livestock Improvement.
- Aquaculture relevant coursework: Fish Physiology, Fish Reproduction, Aquaculture I, Aquaculture II, Ornamental Fish Production Systems, Aquaculture Production Systems, Experimental Design, Fish nutrition.