

NEWSLETTER

January 2025

FEEDACTIV



DIGNITY private company is honoured to serve as the Dissemination Manager for the FEEDACTIV Project, playing a crucial role in ensuring the project's outcomes are effectively communicated to a wide range of stakeholders, including scientific communities, industry professionals and policymakers.

The FEEDACTIV Project, launched in January 2023, is dedicated to advancing sustainable aquaculture through the development of innovative fish feed supplements. As global demand for sustainable fish farming rises, FEEDACTIV aims to create feed solutions based on natural bioactive compounds.



Funded by
the European Union

This project has received funding from the European Union's Horizon Europe Framework Programme (HORIZON) under the Marie Skłodowska-Curie grant agreement No 101086261

These supplements are designed to enhance fish immune systems while providing antioxidant and antimicrobial benefits, ultimately promoting healthier fish stocks and more sustainable farming practices.

By organising workshops, knowledge exchange events and targeted outreach initiatives, DIGNITY ensures that the project's outcomes reach relevant audiences and encourage collaboration across borders. The long-term goal of FEEDACTIV is to foster innovation, entrepreneurship and self-employment within the fish feed value chain. This aligns with the European Union's sustainability objectives, as the project seeks to enhance the commercial adoption of cutting-edge aquaculture practices.



Through robust dissemination efforts, FEEDACTIV aspires to make a lasting impact on the scientific understanding and application of sustainable aquaculture practices, ultimately contributing to a more environmentally friendly future for fish farming.



Dr. Sofia Papadaki, Director of DIGNITY, FEEDACTIV project Dissemination Manager

PARTNERS



“USAMVCN is a multidisciplinary research group comprised of scientists with backgrounds in chemical engineering, food engineering, process technology, and biochemistry. In the FEEDACTIV project, USAMVCN conducts the characterization, evaluation and selection of algae and plants with antioxidant and antimicrobial action, in order to recover the bioactive ingredients and applies the quality control of the extracts. Moreover, USAMVCN takes care of the management and coordination of the project.” (<https://www.usamvcluj.ro/en/>)



“Our vision in DIGNITY is to bring feasible solutions in a sustainable industrial landscape. In FEEDACTIV, DIGNITY will work on the indication of hotspots regarding energy and material flows in extraction and encapsulation processes via LCA analysis, the implementation of sustainability assessment of final products and the determination of commercial potential of final products. Moreover, DIGNITY organizes the dissemination and communication activities of the project.” (<https://dignity.com.gr/>)



“ZOONOMI is a company located in Greece, with more than 35 years experience in fish feed production for mediterranean fish species as well as for other freshwater fish species. The vision of the company is the production of high quality and sustainable fish feed covering all life stages for the aquaculture sector. In FEEDACTIV, ZOONOMI will provide infrastructure and knowledge to run pilot trials of functional fish feed production.” (<https://www.zoonomi.gr/en/>)



“Our role in the project is to evaluate in vitro the antibacterial activity of the selected extracts against important marine bacterial pathogens and assess the impact of the new enriched fish feed on fish performance by administering them to experimental animals.” (<https://www.aegean.edu/>)



“Our role in the project is the evaluation of the effect of innovative feed products during commercial operation aquaculture conditions on growth, survival and parasitic load. Particularly, University of Messina will conduct health monitoring activity, feed effects and growth performance evaluation.” (<https://international.unime.it/>)



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PARTNERS



“PISCICOLA SA, is a specialized fish farm with a current production capacity of approximately 350 tonnes annually. Our role in FEEDACTIV involves applying new diets in actual aquaculture conditions, monitoring zootechnical parameters, and tracking variations in daily mortality.” (<https://www.livrarepeste.ro/>)



“The Laboratory of Process Analysis and Design (LPAD) at the School of Chemical Engineering, NTUA, comprises 2 Professors, 3 permanent researchers, 8 post-doctoral researchers, 8 PhD candidates, and 10 undergraduate students. In the FEEDACTIV project, our role involves optimizing bioactive compounds encapsulation and developing stable formulations for enhanced bioavailability in farmed fish feed.” (<https://www.ntua.gr/en/>)



“ PANITTICA ITALIA SOCIETA AGRICOLA SRL, specializing in sea bass and sea bream fish farming, plays a key role in FEEDACTIV by implementing new diets in real aquaculture settings and closely monitoring zootechnical parameters. Our participation aims to acquire valuable knowledge in innovative fish diet practices, aligning with market demands and establishing a competitive edge.” (<https://www.panitticaitalia.it/>)

Project Facts

8

Partners

3

European Countries

314

Secondment months

48

Months

14

Deliverables

8

Work packages

4

Milestones

1,4M

€ EU Contribution



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SECONDMENTS

FROM JANUARY 2024 TO DECEMBER 2024, 105 SECONDMENTS MONTHS
HAVE BEEN COMPLETED.



Hello, my name is Ana Maria Cocean, a PhD student at the University of Agricultural Sciences and Veterinary Medicine Cluj. I am sincerely grateful to the FEEDACTIV project and the Marie Curie RISE action for the opportunity to deepen my knowledge and expertise in aquaculture and fish feed production. These experiences have significantly enhanced my professional skills and advanced my academic journey.



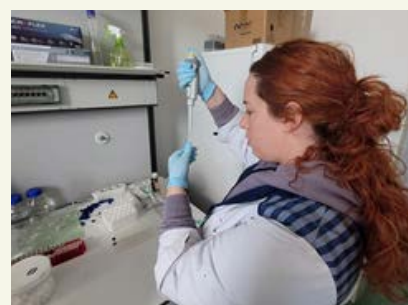
My name is Michail – Angelos Valsamidis and I am a Phd Student at University of the Aegean, Department of Marine Sciences. The FEEDACTIV project has been a big opportunity for me during my doctoral studies on Aquaculture since I had the opportunity to be trained on fish rearing and fishfeed supplementation techniques. It has also helped me to develop my professional skills through a variety of workshops and meeting presentations in the collaborating universities.



Hello, my name is Anita, and I am a PhD student at the University of Agricultural Sciences and Veterinary Medicine. With the support of FEEDACTIV and the Marie Curie RISE action, I have deepened my understanding of fish feed additive production and further developed my professional skills.



Hello, I'm Anna Moustogianni and I had the incredible opportunity to carry out my secondment from Zoonomi to USAMV through the FEEDACTIV Project and the Marie Curie RISE Action. I gained valuable knowledge in green extraction methods of plants with antimicrobial and antioxidant activities. This expertise will enhance FEEDACTIV's fish feed production. Additionally, the experience broadened my skills beyond my core field, benefiting both my professional growth and my organization.



Hello, my name is Dario Di Fresco and I am a PhD student at the University of Messina. I am grateful to the FEEDACTIV project for giving me the opportunity to acquire new knowledge in aquaculture, especially in plant management and formulation of new feeds, developing my professional skills.



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WHAT FEEDACTIV SECONDED RESEARCHERS TELL US ABOUT THEIR EXPERIENCE

My name is Rosa and I'm a PhD student at Institute for Comparative, Experimental, Forensic and Aquatic Pathology "Slavko Bambir", University of Messina. I'm thankful to FEEDACTIV project for giving me the opportunity to work in aquaculture company and to meet other researchers with different field. In this experience I performed professional skills to my doctoral journeys, and I added good stead for my future career.



My name is Shabab Hussain, I am a Ph.D. student at University of Messina, Italy. I learned and polished my skills related to fish feed production by availing opportunity in FEEDACTIV Project with the support of Horizon Europe Framework Program (HORIZON) under the Marie Skłodowska-Curie grant. I am very thankful to FEEDACTIV Team and University of Messina, Italy.



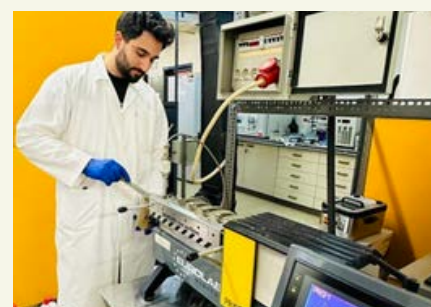
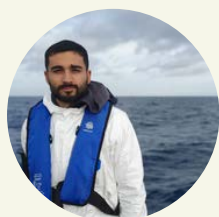
My name is Lavinia and I am a Lecturer within the University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Food Science and Technology. I am extremely grateful to FEEDACTIV project for giving me the opportunity to learn the fundamentals of LCA not otherwise found in my working environment, but so necessary in the field of extraction technologies for achieving a great economic and environmental impact in my research career.



Hello, my name is Jessica, and I am a Researcher in The field of Veterinary Pathology at the University of Chemical, Biological, Pharmaceutical and Environmental Sciences at the University of Messina. I am grateful to the FEEDACTIV project for the unique opportunity to increase my knowledge and professional skills in the field of pathology and aquaculture.



Hello, my name is Alex Carnevale, and I am a PhD student at the University of Messina. I am truly grateful to the FEEDACTIV project and the Marie Curie RISE action for the opportunity to broaden my expertise in fish feed production. This experience has greatly enhanced my professional skills and has been a key milestone in my academic journey, allowing me to deepen my understanding of aquaculture and animal nutrition.



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WHAT FEEDACTIV SECONDED RESEARCHERS TELL US ABOUT THEIR EXPERIENCE

My name is Sofia Pappou and I am a post-doc researcher at University of the Aegean, Department of Marine Sciences. I am delighted to be part of the FEEDACTIV project since it has given me a variety of opportunities through the past two years to expand my professional skills, meet prestigious colleagues from all around Europe and work within the aquaculture industry. As a Marine Biologist it was very crucial for me to acquire hands on experience in matters of the real-life working environment of a company and be able to apply or adjust my research accordingly.



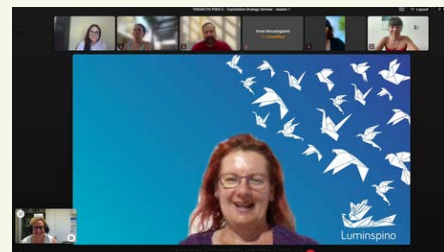
Hello, I'm Panagiota Anagnostopoulou and through my secondment from Zoonomi to USAMVCN under the FEEDACTIV Project and Marie Curie RISE Action, I gained invaluable knowledge in new technologies that enhanced my professional skills. This expertise will be applied in FEEDACTIV and Zoonomi's fish feed production. Additionally, I gained insights into bridging the gap between research results and industrial validation, which will be crucial for advancing our projects.



FEEDACTIV Boosts Impact with Horizon Results Booster!

We're excited to announce that FEEDACTIV has partnered with the Horizon Results Booster to receive top-tier expert guidance! Here's how we're leveling up:

- **Module A:** Identifying and creating the portfolio of R&I project results.
- **Module B:** Helping projects from the portfolio to design and execute a portfolio dissemination plan.
- **Module C:** Assisting projects to improve their existing exploitation strategy.



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Dissemination Material

All the necessary promotional material needed for the dissemination activities of the FEEDACTIV project has been designed, namely:

- 1.a brochure
- 2.a bookmark
- 3.a leaflet
- 4.a roll-up/poster

The leaflet was created in English and translated by the partners to their native languages (Greek, Romanian, Italian).

PARTNERS

CONTACT US
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FEEDACTIV
 Development of functional fish feed based on bioactive compounds of marine and herbal origins.
HORIZON-MSCA-2021-SE-01

FIND US

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HORIZON-MSCA-2021-SE-01
 Development of functional fish feed based on bioactive compounds of marine and herbal origins.

FEEDACTIV

Boost the immune system of farmed fish using bioactive compounds of marine and herbal origin

FEEDACTIV AT A GLANCE

To improve the productivity of European Aquaculture with environmental, economic, and social acceptance
 To cover the consumer's demand for safe, chemical free, fresh and high quality products from sustainable fisheries
 To create a new and more importantly, sustainable source of natural ingredients that can be integrated at an industrial level within the food supply chain.

8 Partners	3 European Countries	314 Secondment months	48 Months
14 Deliverables	8 Work packages	4 Milestones	1.4M € EU Contribution



FEEDACTIV AT A GLANCE

FEEDACTIV focuses on the development of innovative aquaculture feed supplements based on natural bioactive compounds that boost the immune system and exhibit antioxidant and antibacterial activity.

The project aims to improve the quality of farmed fish species by using bioactive agents from alternative raw materials of plant and marine origin as feed supplements.

To improve the productivity of European aquaculture and to cover the consumer's demand for safe, chemical free, fresh and high quality products from sustainable fisheries.

To create a new and more importantly, sustainable source of natural ingredients that can be integrated at an industrial level within the food supply chain.

Workflow

- WP 1: Management and Coordination
- WP 2: Evaluation of the effect of bioactive feed ingredients on growth, survival and genetic health.
- WP 3: Development of innovative feed products in response to specific aquaculture and environmental conditions.
- WP 4: Evaluation of the effect of natural bioactive compounds on growth, survival and genetic health.
- WP 5: Dissemination and Communication Activities
- WP 6: Evaluation of the effect of natural bioactive compounds on growth, survival and genetic health.
- WP 7: Evaluation of the effect of natural bioactive compounds on growth, survival and genetic health.

CRITICAL ISSUES

- The development of technical and scientific knowledge on aquaculture, which will reduce the impact on the environment, dependence on farmed and fish oils, enhance sustainable use of aquaculture resources and improve animal welfare.
- Optimize production of fish products with high nutritional value in terms of volume and quality.
- The interest for increased fertilisability, dictates the incorporation of functional ingredients into fish feed in a stable and bioavailable form.
- Novel, environmentally friendly techniques are needed for maximum, green recovery of compounds. Production of bioactive agents, is also needed for maximum bioavailability and controlled release.
- Development of protocols for monitoring fish pathology, zootechnical parameters and variations in daily mortality.
- Model-based process optimization based on quality and safety properties of the fish feed.

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FEEDACTIV

HORIZON-MSCA-2021-SE-01
 Development of functional fish feed based on bioactive compounds of marine and herbal origins.

314 Secondment months to implement 6 research steps

- Characterization, evaluation and selection of algae and plants with antioxidant and antimicrobial action - Recovery of natural ingredients from selected species and quality control of the extracts
- Encapsulation of bioactive ingredients with antimicrobial and antioxidant action in order to integrate them into functional fish feed supplements
- Development of innovative feed products by replacing antibiotics with phytochemicals - Quality control of the produced fish feed
- Evaluation of the effect of selected bioactive ingredients against common bacterial fish pathogens in vitro and on new entrant fish feed on a semi-pilot scale in simulated conditions of cultivation
- Evaluation of the effect of innovative functional fish feed products on growth, survival and genetic health in real full-scale aquaculture operation conditions.
- Compliance with ethics requirements.

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FEEDACTIV

Boost the immune system of farmed fish using bioactive compounds of marine and herbal origin

Email
 feedactiv@usamvcluj.ro
 info@feedactiv.eu

Find us

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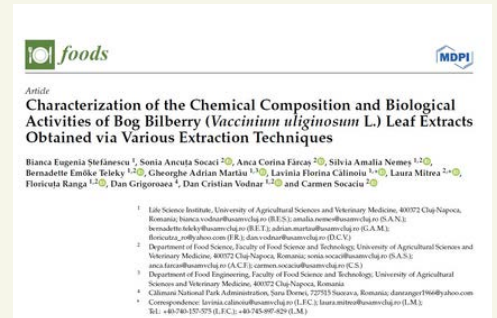


Work progress

Publications

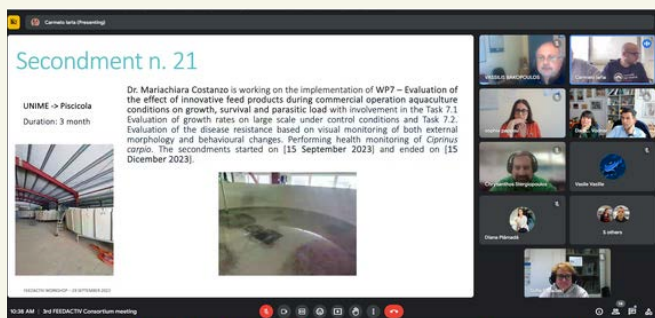
The FEEDACTIV team published two scientific publications:

- “Innovative Bioactive Products with Medicinal Value from Microalgae and Their Overall Process Optimization through the Implementation of Life Cycle Analysis—An Overview”
<https://doi.org/10.3390/foods13020258>
- “Characterization of the Chemical Composition and Biological Activities of Bog Bilberry (*Vaccinium uliginosum* L.) Leaf Extracts Obtained with Various Extraction Techniques”
<https://doi.org/10.3390/md22040152>



Meetings

- 3rd Project Meeting - 24 March 2024
- Mid-term meeting - 14 June 2024
- 4th Project Meeting - 13 September 2024



Zenodo

Our 2nd public deliverable, "Innovative green process of recovery of bioactive compounds from edible plants and algae", is uploaded now on Zenodo!
Explore the full deliverable here:
<https://doi.org/10.5281/zenodo.14610087>



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Work progress

In Media

FEEDACTIV proudly congratulates Professor Dan Vodnar from the University of Agricultural Sciences and Veterinary Medicine in Cluj-Napoca for being ranked among the top 0.05% of scientists worldwide in Agriculture and Natural Resources by ScholarGPS™. This honor recognises his impactful research over the last five years. Professor Vodnar's innovative work continues to drive forward FEEDACTIV's mission for sustainable aquaculture. Watch his interview in TVR Cluj here:

<https://www.facebook.com/watch/?mibextid=WC7FNe&v=813281544057848&rdid=XdJJDE8RaLS4DJSy>

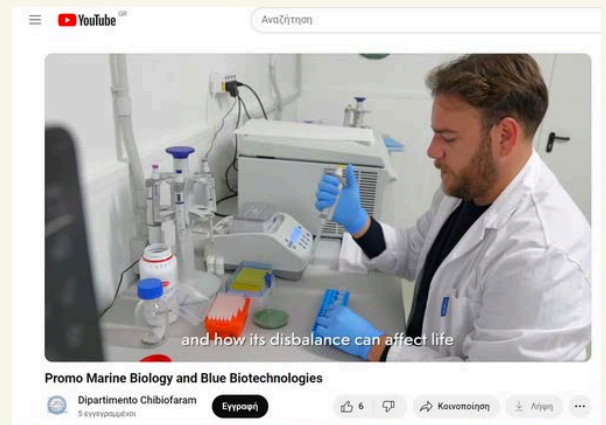
TVR CLUJ



The FEEDACTIV project received significant recognition with an article published on February 7, 2024, in the Cibus Food Expert Society's website. The article highlights our innovative fish feeds designed for producing functional aquaculture products. Read the full article at Cibus's website.

The Department of Marine Biology and Blue Technologies at UNIME University, a key partner in the FEEDACTIV Project, has released an exciting promotional video showcasing their cutting-edge work in marine science and sustainable blue technologies. UNIME's contributions are driving new possibilities in the blue economy, promoting healthier oceans and advancing groundbreaking feed solutions.

Watch the full video here:
<https://www.youtube.com/watch?v=uLKYaLxTleI>



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Mid-term meeting

On June 14th, we held the 18-month Mid-term Meeting for the Horizon 2020 Feedactiv Project, which we are proud to coordinate. The meeting was highly productive, bringing together our project partners and representatives from the European Commission. We are pleased with the progress made so far and are eager to move forward with the upcoming phases of the project. Exciting developments lie ahead as we continue working toward our shared goals.





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2nd FEEDACTIV workshop

The 2nd FEEDACTIV workshop was successfully held during the HydroMediT 2024 conference on 1st of June on Lesvos, Greece. Building on the success of the first workshop in Romania, the event featured presentations from project partners on key work packages and results, along with a poster session to engage attendees. Special guest lectures by Dr. Ioannis Kotzamanis (HCMR) and Dr. Markos Kolygas (AVRAMAR) provided valuable insights into sustainable aquaculture and veterinary health. The workshop offered a great opportunity for knowledge exchange and furthered the project's mission to advance innovative fish feed solutions.



2nd Workshop

JOIN US AND MEET WITH OUR EXPERTS TO LEARN ABOUT SUSTAINABLE AQUACULTURE SYSTEMS AND WAYS TO BOOST THE IMMUNE SYSTEM OF FARMED FISH... DISCOVER MORE ABOUT FEEDACTIV FISH FEED INNOVATIONS!

Boost the immune system of farmed fish using bioactive compounds of marine and herbal origin!


14:00 – 14:30	Arrival – Short Welcome
14:30 – 14:45	Invited Lecture I: Dr. Ioannis Kotzamanis, Research Director at the Hellenic Centre of Marine Research (HCMR)
14:45 – 15:00	Invited Lecture II: Dr. Markos Kolygas, Veterinarian/Actinoparasitologist at AVRAMAR aquaculture company
15:00 – 15:15	Coffee Break
15:15 – 16:15	Presentation of Project's Progress and Results by FEEDACTIV Partners
16:15 – 16:30	Coffee Break
16:30 – 17:00	Round Table Discussion with stakeholders - Closing Remarks

Encapsulation of bioactive ingredients

University of the Aegean
Mytilene, Lesvos, Greece
1st June 2024 | 14:00 – 17:00 EEST

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FEEDACTIV's presentations @ HydroMediT 2024

5th International Congress on Applied Ichthyology, Oceanography, and Aquatic Environment (HydroMediT 2024), 30th May to 2nd June, Mytilene, Lesvos, Greece, with seven (7) oral and poster presentations:

Vodnar D.C., Blue economy: Development of innovative fish feed products.

Stergiopoulos C., Dimitriadis T., Polonyfi F., Papadaki S., Krokida M., Plămadă D., Calinoiu L.F., Vodnar D.C., Extraction of bioactive compounds from plant by-products intended for fish feed supplements.

Stergiopoulos C., Polonyfi F., Papadaki S., Krokida M., Qualitative GC-MS analysis of herb essential oils and their potential use as fish feed additives.

Manta L., Vasalie V., Romito F., Kavetsou E., Tricha N., Krokida M., Papadaki S., Development of zein electrospun particles for the potential delivery of various extracts and their use as innovative feed additive.

Pappou S., Valsamidis M.A., White D.M., Calinoiu F., Plamada D., Stefanescu B.E., Batjakas J., Vodnar D., Bakopoulos V., Antibacterial activity of citrus peel and bog bilberry against four aquaculture bacterial strains.

Calinoiu L.C., Plamada D., Teleky E.B., Pascuta, M.S., Stefanescu B.E., Papadaki S. 3, Polonyfi F., Moustogianni A., Vodnar D.C, Green extraction revolution of phytobiotics: Pioneering sustainable solutions for fish health.

Gervasi C., Iaria C., Vasalie V., Moustogianni A., Romito F., Tamburello M. P., Costanzo M.C., Marino F., Evaluation of the effect of bioactive ingredients and new enriched fish feed against bacterial fish pathogens



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FEEDACTIV @ European Researchers' Night

The FEEDACTIV project was presented in the European Researchers' Night, hosted at Cluj-Napoca, Romania, on September 27th. The team of USAMV, presented the FEEDACTIV project with great success. Through interactive demonstrations and engaging discussions, participants were introduced to the development of bioactive fish feed and how it contributes to more sustainable fish farming. The event was a wonderful platform for bringing science closer to the public and demonstrating how cutting-edge research can have a real impact on the future of aquaculture.



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The FEEDACTIV project was also presented in the European Researchers' Night in Greece, where a large number of students and researchers were informed about the project's innovations in fish feed.

Athens



Mytilene, Lesvos Island



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FEEDACTIV @ 14TH PANHELLENIC SCIENTIFIC CONFERENCE OF CHEMICAL ENGINEERING


The FEEDACTIV project was widely presented in the 14th Panhellenic Scientific Conference of Chemical Engineering, 29th-31st May 2024, Thessaloniki, Greece, with two (2) oral and poster presentations:

1. Efficient recovery of bioactive compounds from macro algae applying ecofriendly extraction process, by Tricha N., Parisouli F.V., Kavetsou E., Stergiopoulos C., Papadaki S., Krokida M.
2. Development of marine based formulations using efficient extraction and encapsulation techniques, by Dimoula M., Manta L., Kavetsou E., Stergiopoulos C., Krokida M., Papadaki S.



FEEDACTIV @ XXVII CONVEGNO NAZIONALE SIPI - Società Italiana di Patologia Ittica (National Conference of the Italian Society of Fish Pathology)

The FEEDACTIV Project was presented at the XXVII Convegno Nazionale SIPI, held from 26th-28th June, through a poster presentation, by Alaria C., Capparucci F., Romito F., Lanteri G., Marino F, from University of Messina.





DEVELOPMENT OF FUNCTIONAL FISH FEED BASED ON BIOACTIVE COMPOUNDS OF MARINE AND HERBAL ORIGIN

Iaria C.¹, Capparucci F.¹, Romito F.², Lanteri G.², Marino F.¹

¹Department of Chemical, Biological, Pharmaceutical and Environmental Science, University of Messina, Messina, Italy
²Patologica Italia, Torre Canno di Patano (BR)




Project: FEEDACTIV_HORIZON-MSCA-2021-SE-01 focuses on the development of innovative aquaculture feed based on natural bioactive compounds that boost the immune system of farmed fish. Marine microalgae as well as seaweed and land based herbal plants are going to be used as enrichment of the fish feed as partial fishmeal substitution with low cost ingredients.

Objective: to form an international and inter-sectoral network of organizations working on a joint research program in the fields of aquaculture and feed formulation.

PARTICIPANTS					
Number	Rank	Short name	Legal name	Country	PKC
1	COE	SIPI-ANACON	UNIVERSITATEA DE STIINTA AGRICOLA SI MEDICINA VETERINARA CLEU NAPOCA	RO	10701314
2	BEN	STELA	ISTITUTO NAZIONALE PECTICONDUM	IT	10997842
3	BEN	GRONTY IRE	GRONTY IROTTIKI ARAIARAKINI ETABRIA	EL	10621108
4	BEN	ISA	ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΙΓΑΙΟΥ	EL	10996083
5	BEN	Environ	ENVIRONNEMENT VETERINAIRE SCIENTIFICHELEFON JOZEFORF	BE	10051212
6	BEN	UNIME	UNIVERSITA DEGLI STUDI DI MEDINA	IT	10992001
7	BEN	Piscicola	PISCICOLA SA	RO	10712414
8	BEN	Patologica	PATOLOGICA ITALIA SOCIETA AGRICOLA MEL	IT	10704261

The University of Messina is involved in the work package 7 (Evaluation of the effect of innovative feed products during commercial operation aquaculture conditions on growth, survival, and parasitic load) to evaluate on a large scale the potential effects of the proposed feeds that will be provided to farmed fish species.

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ACHIEVEMENTS

WP3: Characterization, Evaluation and Selection of Algae and Plants with Antioxidant and Antimicrobial Action

A wide range of plant by-products, including olive leaves, citrus and lemon peels and berries, as well as micro and macro algae, have been investigated for their potential in the valorization of bioactives and phytobiotics. Essential oils from various herbs have also been studied for their bioactive properties. Using green solvents and novel extraction techniques, the research ensured sustainable and efficient bioactive recovery, identifying promising compounds for functional fish feed.

WP4: Encapsulation of Bioactive Ingredients with Antimicrobial and Antioxidant Action for Integration into Feed Supplements

The team optimized encapsulation techniques, such as electrohydrodynamic processes and spray drying, using natural, biodegradable matrices. This improved the stability and bioavailability of bioactive ingredients for fish feed supplements.

WP5: Development of Innovative Feed Products by Replacing Antibiotics with Phytobiotics – Quality Control of Produced Fish Feed

Innovative fish feed formulations with encapsulated phytobiotics were developed and characterized. Quality control confirmed their safety, stability, efficacy, nutritional value, antimicrobial properties and shelf life. These results have set the stage for economic and environmental assessments to ensure the commercial viability of the fish feed.

WP6: Evaluation of Bioactive Ingredients Against Bacterial Fish Pathogens and Enriched Fish Feed in Simulated Conditions

Significant progress has been made in evaluating the antibacterial activity of bioactive extracts against bacterial fish pathogens *in vitro*. Promising results were also observed in studies on fish immune cells. Semi-pilot trials assessed the performance of fish fed enriched feeds, focusing on growth, health and immunity under simulated conditions.

WP7: Large-Scale Evaluations of Innovative Aquaculture Feeds: Insights into Growth and Disease Resistance

In 2024, initial large-scale evaluations of the innovative feed products were conducted under commercial aquaculture conditions, focusing on growth rates and disease resistance in selected fish species. Preliminary data collection on growth characteristics, water quality and disease monitoring provided insights to guide further assessments.

