

AdriAquaNet

Enhancing Innovation and Sustainability in Adriatic Aquaculture

WP 4.4 Trainings for veterinarians and SMEs



WP4 – Training nr. 1, report, September 19, 2020

Introduction

LP and PP9 members were actively involved in the organization of **the First training course on September 19, 2020 in Ostuni (Italy) and simultaneously in remote via zoom**. All partners participated to the course. The first training was entitled **“VACCINAZIONI, TERAPIE INNOVATIVE E QUALITA’ DEI PRODOTTI ITTICI” (“VACCINATIONS, INNOVATIVE THERAPIES AND QUALITY OF FISH PRODUCTS”)** was reserved for Veterinarians and was organised in collaboration with the Order of Veterinarians from the Province of Brindisi and provided for the assignment of 10 ECM credits for the veterinary profession (accreditation number: 300719) and contributed to the programme output indicator 1.104-Participants to training activities. 21 professionals obtained successfully the ECM credits. 27 participants were present during the training.

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The agenda of the training, programme, training materials-presentations, attendee list of participants, press release, photos, video link are part of this report.

The meeting was opened by the Project Coordinator prof. Galeotti and by the dr. Rosanna Panebianco, Order of Veterinarians of Brindisi representative, who welcomed the participants and presented the programme. He also presented the project. VIDEO: <https://youtu.be/GT8CuYJ9I44>

M. Galeotti introduced and moderated the training and held a lesson entitled **“Introduzione al sistema immunitario dei pesci”** (Introduction to the immune system of fish) and a lesson on **“Stato attuale e future prospettive per la vaccinazione delle specie ittiche”** (Current status and future prospects for the vaccination of fish species).

VIDEO GALEOTTI 1: <https://youtu.be/BFfSMdsQel8>

VIDEO GALEOTTI 2: <https://youtu.be/XVOugeX711s>

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D. Volpatti held a lesson entitled *“Trota iridea, spigola e orata come target per lo studio di vaccini/sostanze immunomodulanti da utilizzare in acquacoltura”* (Rainbow trout, sea bass and sea bream as targets for the study of vaccines / immunomodulating substances for use in aquaculture).

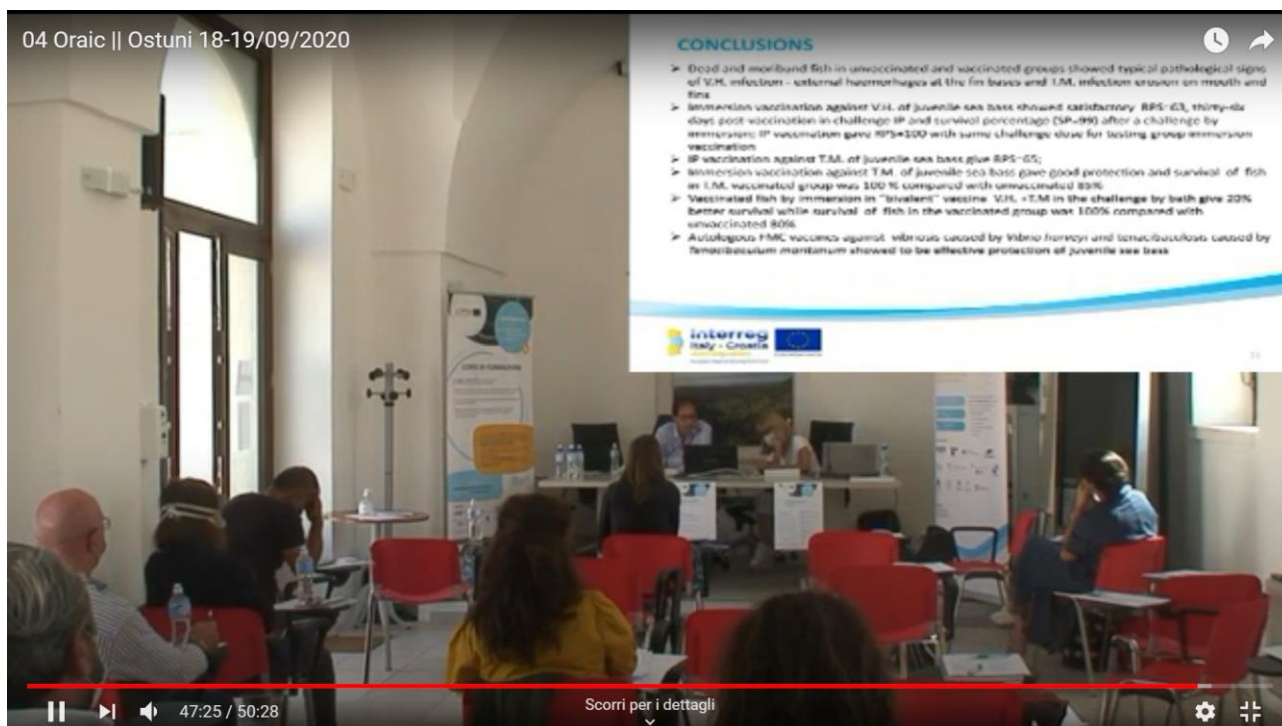
VIDEO VOLPATTI: <https://youtu.be/EHhYFxFxUyKT4>

3



D.Oraic and S. Zrncic had a lesson online on entitled **“Novi vaccini stabulogeni contro Vibro harveyi e Tenacibaculum maritum nella spigola: applicazioni future”** (*New autologous vaccines against Vibro harveyi and Tenacibaculum maritum in sea bass: future application*).

VIDEO ORAIC and ZRNCIC: <https://youtu.be/5Rc8HtfJynk>



C. Bulfon held a lesson entitled **“Sostanze naturali per un'acquacoltura sostenibile: stato dell'arte e possibili applicazioni nel controllo delle malattie infettive”** (Natural substances for sustainable aquaculture: state of the art and possible applications in the control of infectious diseases) and a lesson on **“Prodotti naturali marini (MNPs): potenziali farmaci contro *Vibrio anguillarum* e *Photobacterium damsela* piscicida?”** (Marine natural products (MNPs): potential drugs against *Vibrio anguillarum* and *Photobacterium damsela* piscicida?).

VIDEO BULFON 1: <https://youtu.be/tj8VpEpDX0Q>

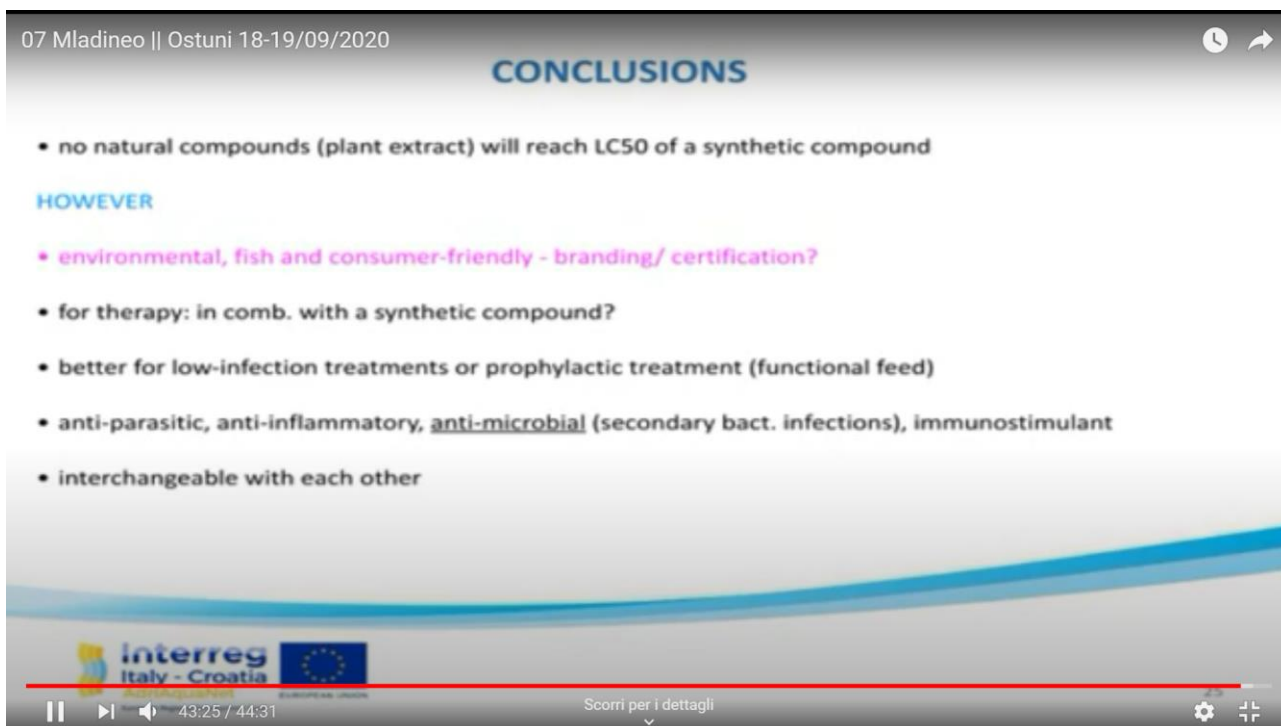
VIDEO BULFON 2: <https://youtu.be/tj8VpEpDX0Q>

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I. Mladineo held a lesson online entitled “**Natural compound against aquaculture parasites**”. Other partners’ researchers attended the training programme in presence and remotely. The training involved all partners.

VIDEO MLADINEO: https://youtu.be/H_4nq292ZUs



07 Mladineo || Ostuni 18-19/09/2020

CONCLUSIONS

- no natural compounds (plant extract) will reach LC50 of a synthetic compound

HOWEVER

- environmental, fish and consumer-friendly - branding/ certification?
- for therapy: in comb. with a synthetic compound?
- better for low-infection treatments or prophylactic treatment (functional feed)
- anti-parasitic, anti-inflammatory, anti-microbial (secondary bact. infections), immunostimulant
- interchangeable with each other

interreg Italy - Croatia EUROPEAN UNION

43:25 / 44:31

Scorri per i dettagli

Topics

The following presentations (which are part of this report) regarding WP4 were discussed among the participants and all relators present debated about:

1. Actual status and future prospective of the vaccination of fish in aquaculture
2. Vaccination in practice and types of vaccinations
3. Fish diseases and problems due to environmental factors
4. immunity system in fish species
5. when do the lymphomieloid organs development take place in fish?
6. Antimicrobials: peptide antibiotics in mast cells of fish
7. Acquired immunity
8. rainbow trout, sea bass, sea bream as a target for the study of vaccines - immunomodeling substances to be used in acquaculture
9. ethical consideration in fish research. Challenges
10. immune functions investigated in tests (response against *Lactococcus garvieae*, *Listonella*)
11. challenges
12. Computational modelling of immune system of the fish
13. Risk factors to consider before any treatment: conventional and experimental treatments
14. Vaccination trials
15. Ecological factors and epidemiology

Conclusions

The second small scale vaccination trial against *V. harveyi* or *T. maritimum* in sea bass ended. PP1 and PP3 carried out the necessary sampling and challenge tests during the fourth project period. Some serum samples was be sent to LP for specific antibody titer evaluation. The vaccination trial against *V. harveyi* or *T. maritimum* in sea bream was performed at PP4 starting from the end of September-beginning of October 2020 (activity 4.1).The field vaccination trial against *V. harveyi* or *T. maritimum* in sea bass at PP8 was completed during the fourth project semester (activity 4.1).LP carried out the *in vitro* cytotoxicity, antibacterial, and immunological assays with MNPs and probiotics during the fourth and fifth project periods (activity 4.2). PP6 and LP collaborated for the identification of one MNP to be test as new immunostimulant or antibacterial substance in fish diet, by studying the cost/benefits ratio of its production and potential application in aquaculture. PP3 will complete the *in vitro* analyses on parasitic effects of pyrethrins against *C. oestroides* and *S. chrysophrii*, on immunological properties of bacterial strains isolated from sea bass and sea bream gut, and on biological activities of selected AMPs from *Anisakis* sp. during the next project year. PP3 is drafting a scientific paper concerning the first experimental results to be submitted for publication (activity 4.2). The planned activities concerning fish welfare monitoring will be performed by PP4 and PP2 with LP collaboration during the next project year (activity 4.3).

Next Steps

The following training will be organized in Croatia by the end of the year with the particular attention to the Croatian market and farmers.