



ASPA 25th Congress Book of Abstract

Pasquale De Palo

To cite this article: Pasquale De Palo (2023) ASPA 25th Congress Book of Abstract, Italian Journal of Animal Science, 22:sup1, 1-320, DOI: [10.1080/1828051X.2023.2210877](https://doi.org/10.1080/1828051X.2023.2210877)

To link to this article: <https://doi.org/10.1080/1828051X.2023.2210877>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 12 Jun 2023.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

ASPA 25th Congress

Monopoli (BARI - ITALY), June 13-16, 2023

#ASPA2023

ASPA 25th Congress Book of Abstract

The 25th congress of the Animal Science and Production Association

“Animal Production Science: Innovations and sustainability for future generation” is under patronage of Loghi patrocini

**Monopoli (BARI - ITALY),
June 13-16, 2023**

Venue

Torre Cintola Natural Sea Emotions

Località Capitolo - Monopoli (BARI - ITALY)

the GGP Equine70k SNP chip. Genomic inbreeding coefficients were derived by means of Runs of Homozygosity (ROH) assessment. The ROH segments were detected using the DetectRUNS package in R and defined as follows: at least 15 SNPs in a run, a minimum length of a run equal to 500 Kb, a lower density limit of 1 SNP per 100 kb and allowing for a maximum of one missing and one heterozygous SNP in a run. The genomic inbreeding coefficients (FROH) were calculated as the proportion of individual genome size covered by ROH. Based on the hypothesis that ROH length reflects the chronological time points at which inbreeding occurred, the FROH was expressed separately for five length ROH categories (0.5–1 Mbp, 1–2 Mbp, 2–4 Mbp, 4–8 Mbp, >8 Mbp). Finally, ROH island discovery defined as ROH shared in over 80% of the horses within breed were retrieved as possible signatures of selection. The overall FROH mean was 0.18 (SD =0.05) with a maximum of 0.24 (SD =0.03) in the Lipizzaner and a minimum of 0.11 (SD =0.05) in the Monterufolino breed. In all breeds the majority of the ROH were relatively short (86.3% were less than 2 Mbp long), highlighting the occurrence of older inbreeding, rather than a more recent one. However, all breeds except the Cavallo Pentro showed individuals with ROH longer than 8 Mbp which might be interpreted as a more recent reduction of genetic variability. A total of 16 breeds showed ROH islands with an average of 5.1 ROH island per breed (SD =4.47), highlighting the potential presence of selection in those regions.

Acknowledgements

This study was supported by ANAREAI, ANAM, ANACAITPR, and ANACRHAI 'Progetto Equinbio.2 – PSRN 2020/2025 – Sottomisura 10.2'

O405

Digestibility of raw materials candidate for sustainable feed formulation in Mediterranean yellowtail (*Seriola dumerili*)

Cecilia Fanizza^a, Francesco Bordignon^b, Miguel Jovercerdá^a, Silvia Martínez-Ilorens^a, David Sánchez-peñaranda^a, Angela Trocino^b and Ana Tomás-vidal^a

^aInstitute of Animal Science and Technology (ICTA), Universitat Politècnica de València, València, Spain

^bDepartment of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE), Legnaro, University of Padova, Padova, Italy

With the aim of increasing the efficiency and sustainability of recirculating aquaculture systems (RAS), this study compared the digestibility of cutting-edge ingredients and aquafeed, the physical characteristics of feed pellets and faeces and the rate of ammonia excretion in Mediterranean yellowtail (*Seriola dumerili*). The fish were fed 5 experimental diets which were

prepared by mixing a fishmeal-based control diet (crude protein: 51.8% DM; crude lipid 13.6% DM) with one of the alternative ingredients in a ratio of 7:3, i.e. porcine haemoglobin (diet PH), soy protein concentrate (diet SPC), hydrolysed wheat protein (diet HWP), potato protein (diet PP), and beet pulp (diet BP). A total of 20 fish (271 g ± 9.5 g) were randomly distributed into 5 RAS tanks (4 fish per tank) equipped with a Guelph system and fed for 12 weeks the diets. A Latin square experimental design was used based on 5 diets ×5 tanks (2 weeks per diet per tank). Regarding digestibility of raw materials, soy protein concentrate and porcine haemoglobin showed the highest protein digestibility compared with other ingredients (85.5% vs. 68.1%; $p < 0.05$); beet pulp and porcine haemoglobin showed the highest lipid digestibility compared with potato protein (96.0% vs. 90.3%; $p < 0.05$). As for diets, apparent protein digestibility was higher in diet BP than in diets PP and HWP (94.1% vs. 86.4%; $p < 0.05$) whereas other diets performed in between. Apparent lipid digestibility was lower in diet PP compared with other diets (96.8% vs. 98.0%; $p < 0.05$). With regard to physical properties of feed pellets, no differences in oil leakage (%) were found between the experimental diets ($p > 0.05$), while the lowest water turbidity at 15 min after feed administration was recorded for diets PH and HWP (3.7 vs. 4.4 mg L⁻¹; $p < 0.05$). Considering faeces characteristics, no differences according to diets were found in fine (≤0.5 mm), middle (0.6–1.2 mm) and large (>1.2 mm) faeces particles and furthermore, either the volume (%) of the three classes of faecal particles did not differ. Regarding ammonia excretion, a maximum (N-NH₄⁺ mg kgfish⁻¹ × h) was reached between 4 and 6 h after feed ingestion without differences among diets ($p > 0.05$). Overall, the tested ingredients are worth of further investigation in order to make sustainable choices of alternative ingredients that satisfy the dietary requirements of Mediterranean yellowtail and provide best performance in RAS.

O404

Growth and quality of fish reared in haloponics

Francesco Bordignon, Cecilia Fanizza, Carlo Nicoletto, Carmelo Maucieri, Angela Trocino, Marco Birolo and Gerolamo Xiccatto

Department of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE), University of Padova, Legnaro, Padova, Italy

The study evaluated the effects of three water salinity levels (0.5‰, 3.0‰, and 6.0‰) on fish growth and fillet colour, pH, lipid peroxidation (TBARS), proximate composition and fatty acid profile of black bullhead catfish (*Ameiurus melas*) and rainbow trout (*Oncorhynchus mykiss*) reared in a brackish-water aquaponic (haloponic) system during a 9-month production cycle. A