UNIVERSITY OF UDINE

AQUA CASE
VALLE CA' ZULIANI – MONFALCONE

Exercise 2

Restoring water quality in the pre-ongrowing tanks

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The challenge

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Something happened in the sea bass pre-ongrowing tanks, because the values of some water quality parameters changed and now you have to restore the previous values

Additional materials

There are some changes in the quality parameters of the water from the usual values to these new values:

	Previous values	New values
dissolved oxygen	6.2 ± 0.3 mg/l	5 ± 0.7mg/l
pH	7.7 ± 0.2	6 ± 0.1
total ammonia nitrogen	< 0.12 mg/l	2.2 ± mg/l
nitrite nitrogen	< 0.06 mg/l	0.95 mg/l

Additional materials

Here are more information on the rearing conditions:
Biomass/tank, 80 kg
Fish average weight, 75 g
Tank volume, 12 m^3
Feed rate 1,2 %/kg ABW/day
daily water volume renewal rate, 4%,
temperature, 23.0 ± 0.5°C
salinity, 32 ± 1 ‰.
Feed stock has been changed 2 weeks before the measuring time.
Photoperiod: 12 D/12 L

The questions

1. What do you suppose it has happened?
2. What will you do to restore the previous values?
3. Why?
4. Which are the physiological basis of your choices?

LEARNING GOALS

To identify the connections between feed and nutrient metabolism and between nutrient catabolism and water quality in reared fish

To understand the possible consequences of unbalanced feed on water quality

To understand the strong relationship between fish and their environment