



Summary sheet for viral nervous necrosis

Toffan A.

in

Zrncic S. (ed.).
Diagnostic Manual for the main pathogens in European seabass and Gilthead seabream aquaculture

Zaragoza : **CIHEAM**
Options Méditerranéennes : Série B. Etudes et Recherches; n. 75

2020
pages 148-149

Article available on line / Article disponible en ligne à l'adresse :

<http://om.ciheam.org/article.php?IDPDF=00007950>

To cite this article / Pour citer cet article

Toffan A. **Summary sheet for viral nervous necrosis** . In : Zrncic S. (ed.). *Diagnostic Manual for the main pathogens in European seabass and Gilthead seabream aquaculture*. Zaragoza : CIHEAM, 2020. p. 148-149 (Options Méditerranéennes : Série B. Etudes et Recherches; n. 75)



<http://www.ciheam.org/>
<http://om.ciheam.org/>

Summary sheet for viral nervous necrosis

A. Toffan¹

¹ Istituto Zooprofilattico Sperimentale delle Venezie,
National Reference Centre for Fish, Molluscs and Crustacean Diseases, Legnaro, Padova, Italy.

Aetiological agent

Betanodavirus

Epidemiology

Host/s (species; age): All Mediterranean farmed fish: seabass (*Dicentrarchus labrax*) is the target species, flatfish (*Solea* spp., *Scophthalmus* spp.) and groupers (*Ephinephelus* spp.) are also very susceptible. Seabream (*Sparus auratus*) and meagre (*Argyrosomus regius*) appear to be affected only during the larval stage. The younger the fish the more sensitive they are.

Morbidity and mortality rates: Depend on age/size class. Larvae up to 100%, juveniles up to 60%, adult fish are more resistant. Survivors remain persistently infected.

Transmission: Horizontal as well as vertical (via infected eggs).

Factors (environmental, others) for disease outbreak: Clinical signs insurgence is temperature-dependent. Outbreaks often occur at seawater temperatures above 20°C.

Clinical signs

Erratic swimming with spinning and swirling movements, swim bladder hyperinflation, congestion and erosion of the skin of the head, eye lesions, darkening.

Samples to be collected for diagnostics

Brains and eyes.

Presumptive diagnostics analysis

Typical clinical signs with the warm water temperature in cages and tanks. Severe congestion of head, brain and meninges in absence of other lesions in internal organs.

In hatcheries, the sudden appearance of high mortality of larvae. Hyperinflation of swim bladder.

Histological observation of congestion, haemorrhages and/or vacuoles in nervous tissues (brain, spinal cord and retina).

Confirmatory diagnostic analysis

Real time RT-PCR, viral isolation, PCR and sequencing.



Abnormal swimming



Congestion and erosion of the head