

PROJECT: PREVENTIVE
SYSTEM: RAS – based on partner survey
PARTNERS: Nofima, NORCE, Bremnes Seashore,
Cermaq Norway, Grieg Seafood,
Mowi, Nekton.
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Nephrocalcinosis - initial CtrlAQUA survey

HYPOTHESIS:

Explore risk factors related to the development of Nephrocalcinosis in Atlantic salmon, specifically by mapping the problem to gain insight into causal factors that can explain the increase in the number of reported cases of Nephrocalcinosis and gain a better understanding of the physiological mechanisms associated with the disease.

DURATION: 2019-2020

HIGHLIGHTS:

- Responders agree that nephrocalcinosis (NC) is a problem both in RAS and flow through systems.
- First detection of NC appears in very small fish (<15g), maybe before the fish is normally examined (Fig 1).
- The NC problem has become worse after 2018
- NC is most likely caused by several factors.
- NC often seen together with HSS.
- Responders point at some risk factors: sudden changes in water quality, e.g. CO₂ increases, incomplete smoltification, more NC in brackish water (3-12 ppt), bigger problem in spring/summer transfer compared to fall and in fish that have stayed longer on land, too low water exchange rate, hyperoxia / hypercapnia, demineralisation and Ca and P deposition, high densities, salt feed

RECOMMENDATIONS:

- Investigate fish for NC as early as possible (<15g).
- Avoid sudden changes in water quality and temperature increase.
- If NC issues; look for patterns, e.g.

incidents of rapid changes in rearing protocols and water quality that can explain NC.

READ MORE:

Åsa Espmark, Tom Ole Nilsen and Lill-Heidi Johansen. CtrlAQUA Nephrocalcinosis - Preventive. Thematic meeting 10th December 2020 (https://nofimaas.sharepoint.com/:b:/r/sites/extranet/ctrlaqua/Shared%20Documents/Thematic%20meetings%20and%20workshops/Thematic%20meetings/Nephrocalcinosis_%C3%85sa%20Espmark.pdf?csf=1&web=1&e=NF2cbC)

Deliverable 9.2 / 2020: Report from epidemiological study and canulation experiments on possible risk factors that may cause Nephrocalcinosis



The factsheet is ready for implementation, but with the note that the testing has not been done for all industrial relevant conditions.

