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## Fish

*Update following aquaculture sector meeting on 25/04/2019*

**Participants at meeting:** Sophie Lebouquin-Leneveu (ANSES Ploufragan); Mathieu Jamin (veterinary practitioner, SNGTVGDS aquaculture representative); Marc Lamothe (fish farmer in Les Landes, director of CIPA); Yves Rolland (CIPA lawyer);

Diseases/Framework of use	Therapeutic alternatives identified (cascade)	Comments
<p><b>External parasitism</b> Dipping treatment of cutaneous-branchial parasitosis caused principally by protozoan parasites and monogenetic worms</p>	<p>Use of various products with biocidal action, no veterinary drug MA or biocide, but some of the substances used are approved as biocides (TP3). A major problem in the sector, use of peracetic acid or formaldehyde on parasites in body of water. Endoparasiticides such as Slice used as systemic parasiticides acting directly on the parasite is used in salmon in Norway. The others have more fungicidal, bactericidal or anti-fungal biocidal action. Use of hydrogen peroxide, formaldehyde, CUSO4 and Bronopol. Product marketed with TP3 biocide status, HALAMID. Regulatory problem according to interpretation of action, prescription problem, etc. Only one drug with MA for aquaculture: PYCEZE, only indicated for one condition (white fungus) and only for two target species.</p>	<p>→ Give overview of regulations regarding use of these anti-parasite products. Update on formaldehyde application, Anses Working Group report “substitution of formaldehyde” being finished, approval of the Reference Health Values by the Expert Body in May/June and then public consultation of the report with the objective of publication at the end of the summer. → CIPA warns that public consultation may not give favourable results. Request for prior information from professionals.</p> <p>Elanco plans to cease marketing Pyceze in France. An application to import the Chilean product Cress could be made.</p>

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<p><b><u>Treatment of bacterial diseases</u></b> The most common bacterial diseases: yersiniosis, furunculosis, vibriosis, lactococcus, etc. Metaphylactic treatment of septicaemic bacterial diseases administered orally by coating feed with premix</p> <p>Fight against uncommon bacterial diseases or in “minor” aquaculture species Turbot (Edwardsiellosis) Sturgeon (Siberian streptococcus) Fight against flavobacteria: juvenile rainbow trout</p>	<p>Medicated feeds using antibiotic premixes: TRIBRISSEN FISH, etc. Medicated feeds prepared using premixes registered for other target species Powders or drinkable solutions with MA for aquaculture or for other species Vaccines and autologous vaccines are highly effective against yersiniosis and this disease has been significantly reduced. Furunculosis: no vaccine with MA in France, therefore importation from Norway of Alpha Ject 3000 furunculosis-vibriosis, even though “vibriosis” is of no use in France for high value-added species. Otherwise, a more or less effective autologous vaccine. Vibriosis: ad hoc use of autologous vaccine. Efficacy gap with turbot and Edwardsiellosis, foreign attenuated vaccine or recombinant from Asia (Japan) may be of value, needs looking into, otherwise AB (marbofloxacin, etc.). Turbot is still a fringe sector. Sturgeon: vaccination method for streptococcus being sought, but research difficulties as regards immunity in sturgeons (ploidies, etc.). Lack of robust protocol for trout to combat this disease. Antibiotic treatment in the event of acute outbreak. Basically, florfenicol. No resistance to date, slightly higher MIC Consider importing vaccine from Japan, if such exists. Antibiotic treatment in other species</p>	<p>Less use of antibiotics and increased use of autologous vaccines. The antibiotic cascade is well suited because it is reactive, stock can be processed on the following day. Emergency medicated feed is complicated. Antibiotic prescriptions are emergency treatment prescriptions at the current time. Antibiotics are used primarily on young fish (80% of fish have never been treated with antibiotics). MSD vaccine often out of stock, which causes a major problem for the sector. Switch to autologous vaccines when a dispensation can be obtained. Bivalent autologous vaccines work very well. TRIBRISSEN not available</p> <p>Problem of medicated feed antibiotics delivery in emergency situations, because they take at least 4-5 days to arrive, so not suitable. Import of medicated premixes if necessary must be facilitated...</p>
<p><b><u>Prevention of virus diseases</u></b> IPN (Infectious Pancreatic Necrosis) affects all salmonids: salmon when transferred to the</p>	<p>The 2 main virus diseases are not vaccinated against under French regulations for eradication. No vaccine exists.</p>	<p>In France, vaccines against viruses are not much used due to environmental issues; asymptomatic virus carrier fish swim around freely. Management by means of biosecurity, hygiene in transport and sites. Consider developing imports if vaccines exist (from Norway but they are still very costly, often heptavalent, etc.). Vaccination of breed stock should be</p>

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<p>sea, IPN-sensitive trout from 1st feed at a time when vaccination cannot be done. Emerging virus diseases (reoviruses).</p>	<p>Work on identification and diagnostic test.</p>		<p>envisaged. See autologous virus vaccines. ANMV reports openness to granting ATU for virus vaccines (rather than autologous virus vaccines). PNNS DGAL policy for eradicating virus diseases in fish sector.</p>	
<p><b>Anaesthesia for:</b></p> <ul style="list-style-type: none"> <li>- vaccination by injection</li> <li>- collecting roe for consumption</li> <li>- collecting ovules for fertilisation</li> <li>- taking average weights and sorting (particularly in sea perch or freshwater farms)</li> </ul>	<p>The aquaculture sector in France (freshwater, saltwater, diverse species, etc.) has stopped using phenoxyethanol without legal status.</p> <p>Implementation of a programme studying the use of anaesthetic drugs, and now everything centres on benzocaine imported from Spain (Aquacène laboratory); before it was prepared extemporaneously.</p> <p>The other molecule imported is tricaine, and extemporaneous preparations using eugenol and isoeugenol.</p>		<p>For roe harvesting benzocaine works well in cold water, differently in warm or hard water. Recommendation that fish be thoroughly rinsed before roe is harvested.</p> <p>A fairly French practice.</p>	

**Other points addressed:**

- Availability of medicated feeds, only oxytetracycline authorised and available, main drug for treating vibriosis.
- Pharmacovigilance update, increase reports, reports on vaccines. It would be of much use to determine a threshold (number of dead fish) for pharmacovigilance feedback.
- Attention to new veterinary drug regulations with two components: fish cascade, antibiotic cascade, report fish sector and SNGTV proposals/positions as quickly as possible.
- Opening in France of a specialised pharmaceutical establishment for vaccines and autologous vaccines.
- The main topic is still the external AP/biocide component.