

2012 WORK PROGRAMME FOR THE EURL FOR CRUSTACEAN DISEASES

LEGAL FUNCTIONS AND DUTIES

The functions and duties of the EURL are specified in Annex VI Council Directive 2006/88/EC on animal health requirements for aquaculture animals and products thereof, and on prevention and control of certain diseases in aquatic animals. In the 2012 work programme year 27 Member States and 3 candidate countries (Croatia, Turkey and Former Yugoslav Republic of Macedonia) are considered eligible for EURL assistance and are invited to participate in EURL organised training programmes and activities. The full integration into the European Union of recent accession Member States is a priority area, and facilitated via the provision of additional advice, training and assistance to these states.

2012 WORK PROGRAMME

1. Scientific advice and support (71 days)

1.1 Provide advice and support to Commission on current and arising issues, including emergencies, associated with crustacean diseases and in particular, with the crustacean diseases listed in Directive 2006/88/EC

1.2 Assist Commission with continued designation of MS NRLs by provision of updated information on the status of the network. In instances whereby a MS is unable to designate a Crustacean Disease National Reference Laboratory (NRL), the EURL will provide a portal for contact between MS without designation and those with existing designated NRL's. The aim in 2012 being further develop a comprehensive network of NRL's or designated testing laboratories in all MS.

1.3 Participate in the annual EURL Directors co-ordination meeting and other EURL co-ordination meetings and workshops as appropriate.

1.5 Provide specialist scientific information and advice to MS NRLs, including new EU accession countries, on all aspects of crustacean disease diagnosis, including that associated with diagnosis of those diseases listed in Directive 2006/88/EC. Continue to provide early assistance with

design of national programmes for diagnosis of crustacean diseases if required. To continue to develop a diagnostic centre of excellence for the identification and diagnosis of pathogens of crustaceans.

2. Co-ordination of activities of NRL network and provision of technical assistance and training (41 days)

2.1 Continue activities to form Member State (MS) Crustacean Disease NRL network and to carry out a capacity assessment of Competent Authority-designated NRLs to diagnose agents of White Spot Disease (WSD), Yellowhead Disease (YHD) and Taura Syndrome (TS) as listed in Council Directive 2008/88/EC, and other crustacean diseases of relevance in European crustaceans.

2.2 Organize and host 4th Annual meeting of NRL network for crustacean diseases on 'Exotic and Native Disease Threats to European Crustaceans'. The workshop will provide an element of practical training for NRL representatives in histological and molecular diagnosis of Directive-listed agents of WSD, TS and YHD, a focus on other important emerging disease issues in global aquaculture and fisheries, (particularly those of relevance to European crustaceans), and an update on progress, capacity and important disease issues by MS representatives. The workshop will follow the 3rd Annual NRL network meeting in Venice, Italy (October 2011) and will take place at a location to be announced. The fourth workshop will aim to crystallize expertise in crustacean disease diagnosis within Europe and to gather an European wide perspective on issues facing the crustacean harvesting industries and wildlife populations of European waterways. It will aim to continue to build upon knowledge gaps and training requirements for newly designated laboratories identified during the 3rd NRL Network meeting in Italy. The outputs to be made available via report to DG SANCO and to Member State NRLs and Competent Authorities. To include EURL administrative assistance.

2.3 Maintain and refresh the Crustacean Disease EURL website as the primary means of information dissemination to NRLs and others. See www.crustaceanrnl.eu

3. Ring trials, comparative testing and quality assurance (29 days)

3.1 Maintain and build upon tissue/strain/reagent bank for agents of WSD, TS and YHD (EC listed pathogens) for provision of training, proficiency testing and ring testing material to NRL's and other laboratories. Carry out second

full ring trial and proficiency test for histological and molecular diagnosis of WSD, YHD and TS by Member State NRLs. In particular to focus on the utilisation of the Lenticule™-based system (developed during the 2011 EURL programme) for carrying out the molecular biology components of the ring trial. Furthermore, to initiate development of a 'Virtual Slide' approach for delivery of the histological component of the ring trial (possibly delivered via a secure part of the EURL website). Reference material generated from EURL aquarium programmes will be also be required for the 4th NRL workshop (2.2) and to continue to develop diagnostic capability within the newly formed MS NRL's.

3.2 Continue to expand tissue/strain/reagent bank by specific linkages to OIE references laboratories in Asia and USA for WSD, TS and YHD. Tissue bank to store and type known and emerging isolates of WSD, TS and YHV as available. Other isolates to be collected from market sampling of virus-positive commodity shrimp.

3.3 Take part in any relevant 3rd country ring trials and proficiency testing exercises run by OIE reference laboratories or others. Carry trial on denaturation of viruses carried within the Lenticule™ system for distributing virus-positive test material to NRL's and investigate potential for a EURL-led global ring trial for alignment of diagnostic capacity of 3rd country testing laboratories with that of the EURL and EU MS NRL's.

3.4 Maintain full accreditation status (ISO 17025) for histological diagnosis of crustacean diseases and for confirmatory PCR diagnosis for agents of WSD, TS and YHD. Advise NRL's on relevant accreditation processes and provide a framework for quality assured recording of crustacean disease data.

4. Confirmatory testing (25.4 days)

4.1 Maintain and develop EURL competence and expertise on histological and molecular techniques for diagnosis of crustacean diseases caused by a range of pathogenic agents via collection of samples from key European sentinel species and encouragement of NRLs to submit samples for testing/cataloguing. To include maintenance of ISO 17025 accreditation status for histological diagnosis of crustacean diseases and confirmatory PCR diagnosis of WSD, TS and YHD.

4.2 Perform accredited testing on experimental trial and/or outbreak material from Member States NRL's, or on disputed material submitted to the EURL from Member States (on request from DG SANCO).

4.3 Collate reference strains of WSD, TS, YHD and other relevant crustacean pathogens from global outbreaks. Typing of strains using nucleic acid sequencing techniques and storage of type material in tissue bank held at the EURL (see above). Other pathogens to include the viruses causing IMNV, IHHNV, MBV and HPV of penaeid shrimp in global aquaculture.

4.4 Maintain stocks of reagents/materials for use in confirmatory testing (and for ring trials and proficiency tests).

5. Development of analytical methods (undertaken at EURL) (193 days)

5.1 Via linkages to OIE reference laboratories, other specialist centres and the scientific literature, establish molecular diagnostic approaches for the key crustacean pathogens as appropriate. Ensure diagnostic techniques for WSD, YHD and TS being used by the EURL (and NRL's) are aligned with recent developments by OIE laboratories and other specialist centres in 3rd countries. Move towards alignment of diagnostics capabilities of EURL to all listed crustacean pathogens designated by the OIE. The latter to include full diagnostic capacity for the pathogens IMNV, IHHNV, WTD (MrNV) and NHP of shrimp, and crayfish plague. Develop in-house protocols for real-time PCR and *in situ* hybridisation for listed pathogens. Move to development of a 'Virtual Slide Atlas' for crustacean pathology and pathogens, possibly to be made available via secure sign-on at the EURL website.

5.2 Continue with scoping studies to assist MS's with identification of relevant WSD susceptible host species and sampling strategy for utilisation in surveillance programs if required. Report on multi-species sensitivity assessment for the use of the OIE WSD PCR diagnostic assay collected in surveillance programmes across Europe.

5.3 Continue to develop taxonomic expertise for the description of novel and/or emerging crustacean pathogens of economically and ecologically important crustaceans from Europe. In particular, key parasitic infections (e.g. *Hematodinium* spp., Microsporidia, Haplosporidia) and a range of large DNA viruses (e.g. CcBV, HPV, CmBV, B1/2)

known to occur in European waters. In the latter, to investigate phylogenetic relationship between these large DNA viruses and WSSV using classical and next generation approaches. To contribute towards improved description of these viruses in future publications of the International Committee on the Taxonomy of Viruses (ICTV).

Dr Grant Stentiford, EURL Director

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