3R Prize 2023 – The Committee's recommendation

Linda Andersen, ILAB

Mortality is still used as the main endpoint in fish trials for efficacy and safety assessment of vaccines and pharmaceuticals, despite that there is a consensus among national authorities to move away from death as endpoint parameter.

The work conducted by Linda Andersen and her colleagues clearly highlights the problem and describes how the traditional mortality endpoint may be replaced by other, more refined parameters. In particular, the work emphasizes the importance of assessing other aspects besides the obvious clinical signs of disease. Signs of discomfort shown by general appearance and changes in behaviour should be taken into consideration. This includes appetite, swimming behaviour, as well as morphological and physiological changes that can be evaluated with regards to degree of wellbeing.

By developing new and more sophisticated ways of evaluating clinical signs and the severity of any side effects or adverse events, both the number of test animals can be reduced, as well as the duration of the trials and the severity of discomfort that the test animals may experience during the trial period.

Linda has been involved in hosting seminars and workshops covering the topic of assessing severity of humane endpoints. Together with her colleagues she has contributed to two publications focusing on refinement of toxicity tests and assessment of clinical signs in fish research. She has contributed to increasing the awareness of the ethical aspects of animal welfare in fish trials. Based on this, the committee consider Linda a worthy winner of the 3R Prize 2023.

Laura Camassa and **Henrik Rasmussen** have conducted solid work within their respective scientific fields. Both candidates have published important work that fulfill the requirements for being considered for the 3R Prize. We wish them the best for continuing this important work.

Bjørn Groven – Mattilsynet
Torill Malmstrøm – Dyreetikk
Adam Lillicrap – NIVA
Marie Løvoll - VESO