

Plant protection products, endocrine disruptors and amphibians - where to start?

Authors: V. Mingo¹, J. Baumann¹, J. Wiewel¹, B. Szczesniak¹, M. Candolfi¹, V. Schiller²

¹ Eurofins Agrosience Services Ecotox GmbH, Germany

² Fraunhofer Institute for Molecular Biology and Applied Ecology IME, Germany

Amphibians are gaining an increasing prominent role in the field of ecotoxicology. Especially, the lacking data and uncertainty regarding potential sublethal effects, as well as different modes of action of pesticides and endocrine disruptors in amphibians when compared to fish has been of increasing concern in the last few years. Recently, a scientific opinion regarding the need to evaluate the risks of pesticide applications to amphibians and reptiles was published by EFSA. Here, it became very clear that ecotoxicological data regarding these taxa is greatly lacking, and methodologies need to be adapted in order to complete a reliable risk assessment scheme. Similarly, regulations EC 1107/2009 and EC 528/2012 were recently amended in order to incorporate the assessment of endocrine disruptors with regard to aquatic organisms. It is generally accepted that in the majority of cases, acute toxicity of amphibians is covered by aquatic testing on fish. However, there are still many concerns whether this may also apply to sublethal effects such as development, gonadal development and metamorphosis. In light of the differing life-history and peculiar developmental biology of amphibians, this is of special importance. In an attempt to discern between the potential different sensitivities and effects of endocrine disruptors (e.g. pesticides) on these two different taxa, we conducted two tests using the same concentrations of an endocrine disrupting pesticide using *Oryzias latipes* and *Xenopus laevis* as test organisms.