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Propositions for the doctoral thesis
“Effects of pesticides on aquatic macrofauna in the field”
by Oleksandra Ieromina, 19 May 2015, Leiden University

1. Ditches represent a valuable component of agroecosystems in the Netherlands and are highly important in terms of aquatic biodiversity and ecosystem services (This thesis, Verdonschot, 2012).
2. Environmental factors (nitrate, nitrite, phosphate, dissolved organic carbon, dissolved oxygen, temperature, macrophyte coverage) explain the largest proportion of variance in the community composition of aquatic macrofauna, followed by pesticides and time (This thesis).
3. Survival, reproduction and growth of *Daphnia magna*, *Chydorus sphaericus* and *Asellus aquaticus* exposed in situ in ditches bordering flower bulb fields largely depend on environmental factors (This thesis).
4. Responses of *Daphnia magna* to the neonicotinoid insecticide imidacloprid depend on food quality (This thesis).
5. Phosphorus limits primary production in aquatic ecosystems and influences the growth and reproduction of freshwater zooplankton (This thesis, Lampert & Sommer, 2007).
6. Environmental factors (amongst all, nutrients) can mask the effects of pesticides present on ambient concentrations on aquatic invertebrates in the field (This thesis, Alexander et al., 2003).
7. Ecosystems containing large biological diversity are characterized by high species richness within and between functional groups, and are more resilient to disturbances than ecosystems with low species diversity (Cleland, 2011).
8. Species traits help to understand the stressor's mechanisms of action and provide information on how stressors relate to ecological functions in an ecosystem (Baird et al., 2008).
9. Ecotoxicologists should investigate natural variation in ecosystems with regard to how ecological processes affect the responses of biological communities to disturbances (Clements et al., 2012).
10. “It is recognized that there is the need for a change in the philosophy of ERA (*Ecological Risk Assessment*), moving from the reductionist methods of the past (on which many European regulatory tools have been successfully based) to a more holistic approach capable of increasing the ecological realism of the assessment and of explaining and predicting the actual effects that may occur on structure and functions of complex natural ecosystems” (SCENIHR, SCHER, SCCS, 2012).
11. “Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts” (Rachel Carson, “Silent Spring”, 1962).