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Innovative approaches for the management of environmental risks from plant protection products

A joint Euraqua-PEER Scientific Conference

Background

The ongoing global change will affect agriculture in many ways: it is increasingly affecting the climate in many regions around the world. Rising temperatures and scarcer precipitations raise concerns, amongst others about the sustainability of productions, evolution of growth periods, sensitivity of crops to stress and diseases. Moreover, demographic pressure is increasing, in particular in tropical and sub-tropical regions, more sensitive to climatic variations. These trends will lead to more and more conflicts involving water uses (irrigation versus drinking water production or freshwater ecosystems maintenance, sanitation etc.) and food production. This appeals to the development of agricultural practices equally or more productive than the current ones, with less induced pollution of soils and water bodies.

In Europe, the current Common Agricultural Policy (CAP) appears obsolete. Designed in a period where self-sufficiency was the main driver, and subject to various adjustments afterwards, the CAP is currently inappropriate, for economical, political and environmental reasons, and will be profoundly re-shaped during the coming years.

There is a current focus in the public and political debates, at least in Europe, on source reduction of plant protection products (PPP), which may not be sufficient to address and manage the impacts and risks generated by the use and transfers of PPP in air, soil, water, feed and food…

Aims & Scope

- To set the scene: identify issues at stake, describe the current status and trends, assess risks to ecosystems or farmers. Discuss governance, policy, plans for risk reduction, approaches and tools for risk management.
- Present and discuss the PPP risk assessment approach, its limitations (e.g. spatial scale, multi-stress situations), the links with other regulatory texts such as the water

framework directive, the use of models …

- Present and discuss researches around PPP design, developing (integrated) practices and innovative technologies which could or are intended to affect the abovementioned issues. Put these in context and question their relevance (e.g. by using life-cycle assessment approaches, or ecosystem services evaluation).
- Discuss scenarios for the future and research/development needs.

- Venue: Agropolis International, Agropolis avenue, Montpeller (tramway line "blue" to St Eloi, then bus "La Navette")
- conference website: http://www.euraqua.org/content/activities/euraquapeerconference2011.4.7df4c4e812d2da6a41680009629.html
- contact: ashley.tilghman-sibille@cemagref.fr / euraqua@cemagref.fr

Scientific Committee

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Scientific program (tentative)

Oct. 26th

Registration opens at 9:45 am (along with coffee, drinks etc.)

Welcome and Conference opening talk at 10:45 am

11:00 Session 1 "Ecological risk assessment"

Keynote: Schultz R. Could the concept of ecosystem services help to improve ecological risk assessment of pesticides? (unconfirmed title)

Lagadic L. (INRA, F) Structural and functional effects of conventional and low pesticide input wheat and oilseed rape crop protection programmes in outdoor aquatic mesocosms

Ippolito A. (Milano Univ., I) Site-specific ERA: new trends in PPP risk evaluation

12:30 Lunch

14:00 Session 1 (continued)

Ateyyat M. (Al-Balqa' Univ., J) Toxicity of five medicinal plant oils to woolly apple aphid, Eriosoma lanigerum (Homoptera: Aphididae)

Stenrod M. (Biofors, N) Soil microbial diversity as an indicator of ecotoxicological effects of single pesticides and mixtures; case study with picoxystrobin and nonylphenol

Pesce S. (Cemagref, F) Combining polar organic chemical integrative samplers (POCIS) with toxicity testing to evaluate pesticide mixture effects on natural phototrophic biofilms

Rasmussen J. (Aarhus Univ., DK) Microbial litter degradation in Danish streams is reduced with increased pesticide contamination during storm flow

Arts G. (Alterra/WUR, NL) Aquatic macrophyte risk assessment for pesticides: current status and future challenges

Discussion

16:00 Coffee Break

16:30 Session 2: Trends, effects of global changes and other drivers

El Hassan W. (WRMR, E) Effect of climate change on reference evapotranspiration and water risk management in Nile Delta

Herrero-Hernades E. (IRNASA-CSIC, SP) Determination of multi-class pesticides in surface and ground water from La Rioja (Spain) by solid-phase extraction and GC-MS

Li Z. (Montpellier Univ., F) eaching behavior of emerging contaminants from wasterwater irrigation in agricultural soil

Discussion

18:00 End of day 1

Oct. 27th

9:00 Session 3: PPP fate, monitoring and trends

Roex E. (Deltares, NL) The advantages of passive sampling with respect to monitoring of Plant Protection Products

Mazzella N. (Cemagref, F) Evaluation of chemical and biological quality of rivers: relevance and validity of a range of in situ sampling method

Margoum C. (Cemagref, F) Use of PDMS coated stir bars for the passive sampling of agricultural pesticides in surface waters: calibration and determination of lag times

10:00 Coffee break and poster session

10:45 Session 3: PPP fate, monitoring and trends (continued)

Barra-Carraciolo A. (IRSA-CNR, I) Environmental fate of the herbicide terbuthylazine: study cases from Italian agricultural areas

Martin-Laurent F. (INRA, F) Evidence for filtering capabilities of grass buffer strips: key parameters favoring natural attenuation of pesticides in vineyard area

Siimes K. (SYKE, F) Pesticide monitoring in Finnish surface waters - Monitoring results 2007-2011

Stenrod M. (Bioforsk, N) Trends of pesticides in Norwegian streams and rivers 1995-2010

Discussion

12:30 Lunch

14:00 Session 4: Indicators and models

de Werd R. (Alterra/WUR, NL) Proposed methodology for listing problematic plant protection products in surface water, causal analysis and emission reduction integrated in registration holders ' Product Stewardship' and the authorisation procedure in the Netherlands

Carluer N. (Cemagref, F) Building risk indicators of surface water contamination by pesticides at the small catchment scale. Taking into account spatial and temporal dimensions. Support for risk assessment and risk management: MIRIPHYQUE project

Vernier F. (Cemagref, F) EIS pesticide: an innovative Environmental Information System to calculate agro-environmental indicators

Miralles A. (Cemagref, F) EIS Pesticides: An information system for data and knowledge capitalization and analysis

Sinfort C. (Cemagref, F) Pesticide drift impact at the level of a watershed: a geo-referenced approach

Reichenberger S. (Footways, F) A web-based risk assessment platform to reduce water contamination by pesticides in catchments in France and across the EU

Discussion

16:30 end of day 2 - Scientific committee meeting

20:00 conference dinner

Oct. 28th

Session 6: Risk management

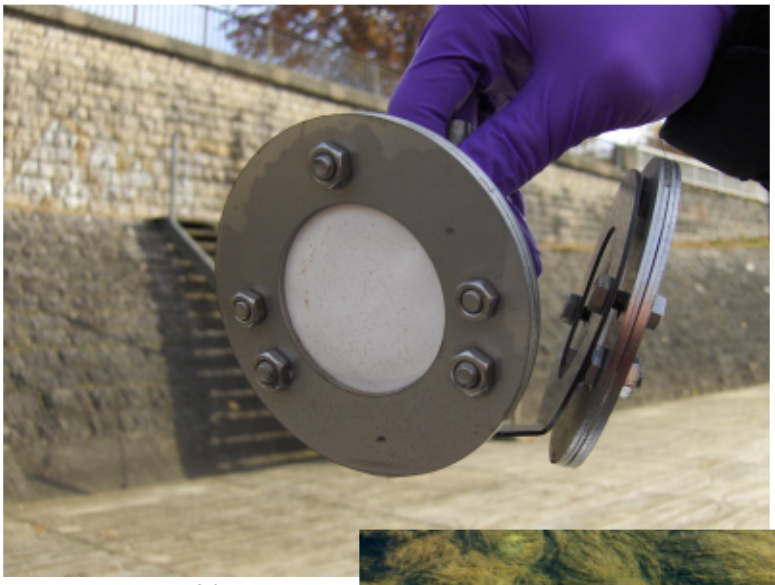
Keynote: Röttele M. (Better Decisions, G) Mitigation of Plant Protection Products losses to surface water from agricultural uses

Tournebize J. (Cemagref, F) Efficiency of two constructed wetlands (in- and off-stream) to mitigate pesticide contamination in drained agricultural watershed

Vindimian E. (Cemagref, F) Assessing and reducing environmental risks linked with the use of pesticides: a French research program to support public decision

Conclusive discussion

11:30 Conference end



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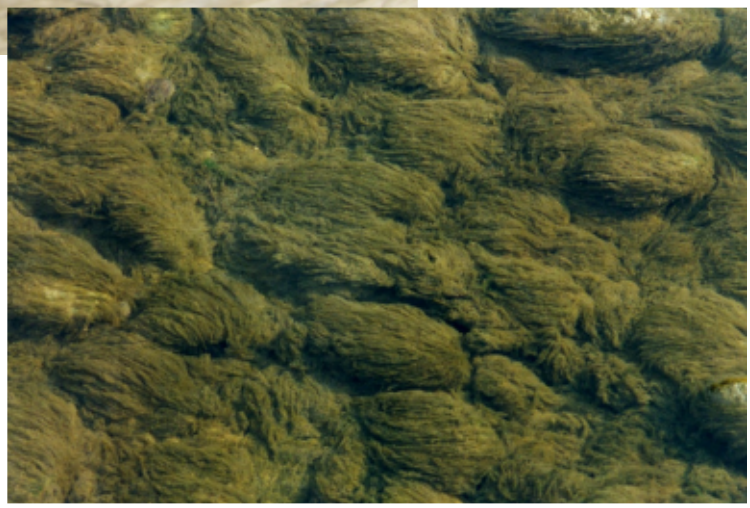

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Useful links and contacts

– Montpellier tourism office: http://www.ot-montpellier.fr/

– Public transport in Montpellier: http://www.montpellier-agglo.com/tam/index2.php