

# Estimation of emission of plant protection products from protected cultivation to surface water

Theme: Risk assessment procedures for pesticide registration

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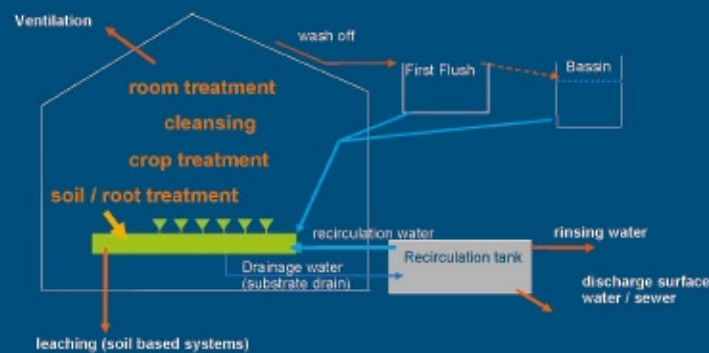
## Problem

For authorization purposes in the Netherlands, a fixed emission percentage of 0.1% of the application rate is used to assess the risk for aquatic organisms. Findings of horticulture related plant protection products and higher water quality standards have led to the question whether this emission percentage is still adequate for current growing systems. A working group has been formed to further analyze and quantify these emissions.

## Approach

We want to develop assessment procedures for emissions from most important systems of protected cultivation. The group started making an inventory of different ways to quantify the emissions. For soil-bound cultivations, it seems sufficient to establish appropriate scenarios and incorporate these in the PEARL database. Because of limited availability of data on hydroponic systems, the group analyzed potential emissions by coupling an existing glasshouse water model (Voogt et al., 2007) to a pesticide fate model specifically developed for this project.

## General emission scheme production rooms



*Potentially important emission routes in covered cropping systems.*

## Results

- Overview of potential emission routes from protected cultivation
- Overview of available measurements of concentrations in hydroponic cultivation systems
- Pesticide Fate Model for protected cultivation

Conclusion: Emissions can best be estimated using a modelled approach.

The project was started in January 2008 and will continue until summer 2009. Thereafter the coupled models will be converted into a tool, which can be used in the authorisation process.

## Future use in risk assessment

- The results will be used as part of the methodology for risk assessment of plant protection products in the Netherlands
- The results will be communicated with the EFSA working group on emissions from protected crops
- Participation in the EFSA working group



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