

VAP og godkendelse af pesticider

Anne Louise Gimsing

Chefkonsulent

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Anvendelse af VAP i reguleringen af pesticider

Kravværdien på 0,1 mikrogram pr. liter må ikke overskrides som årligt gennemsnit under en mark i VAP

Ekspertvurdering af om evt. overskridelser kan accepteres

VAP => evt. screening eller test i GRUMO, BK, regulering eller forbud

VAPs resultater gælder ikke jorder eller situationer, der ikke svarer til forholdene på VAP markerne

Fx særligt følsomme områder, BNBO og udvaskning fra punktkilder





Ministry of Environment and Food of Denmark Environmental Protection Agency

Framework for the Assessment of Plant Protection Products

Department of Pesticides and Biocides
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Conducting groundwater monitoring studies in Europe for pesticide active substances and their metabolites in the context of Regulation (EC) 1107/2009

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Executive summary Groundwater monitoring is recommended as a higher-tier option in the regulatory groundwater assessment of plant protection products in the European Union. However, to date little guidance has been provided on study designs. SETAC EMAG-Pest GW, a group of regulatory, academic, and industry scientists, was created in 2015 to establish scientific recommendations for conducting such studies. This report provides the SETAC EMAG-Pest GW group's recommendations on study designs and study procedures. Because of the need to assess the vulnerability to leaching in both site selection and in extrapolating study results, information on how to assess the vulnerability to leaching is a major topic in this report. In the development of groundwater study designs, which groundwater needs to be protected and to what level are key aspects. In the European Union, a groundwater quality standard of 0.1 µg/L applies to active substances and relevant metabolites, but the groundwater to which this standard is applied varies among the Member States. Also, the definition of the concentration may consider temporal or spatial variability (e.g. a single sample or an average concentration over a period of time or geographic area). The SETAC EMAG-Pest GW group does not endorse any specific exposure assessment option. However, 7 different exposure assessment options that consider only the location of the groundwater to which the ground water quality standard is applied were selected to illustrate the impact of the exposure assessment option on the study design. Monitoring can be performed on many different geographical scales. In-field and edge-of-field monitoring focus on residues from applications to a single field, while catchment and aquifer monitoring focus on residues in groundwater over a larger area. The timing of applications in monitoring studies can vary. In a prospective study, an application is made and the movement and degradation of the residues is followed. In a retrospective study, residues from previous applications are monitored. Some studies are both retrospective and prospective—residues from previous applications are monitored and a new application is made and the residues are followed. In addition to the exposure assessment option, study designs must consider the objectives of the study, the properties of the active substance and its metabolites, and the site characteristics. Usually, the objective is to determine whether a substance

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When assessing the leaching of pesticides and their metabolites to groundwater, all relevant monitoring data must be included in the assessment. There is currently no adopted EU-guidance on how to assess groundwater monitoring data, but the publication "Conducting groundwater monitoring studies in Europe for pesticide active substances and their metabolites in the context of Regulation (EC) 1107/2009"⁴¹ gives direction for assessing groundwater monitoring studies and data and should be consulted.

For the assessment of the leaching risk in Denmark results from the Danish national monitoring programmes (groundwater monitoring, the Agricultural Watershed Catchment Areas), drinking water abstraction wells and the Danish Pesticide Leaching Assessment Programme (PLAP) are used. Data, e.g. from GEUS, open scientific literature or monitoring studies from other countries, which could be relevant and representative for Denmark, should also be included/assessed.

The monitoring data should either be presented in a separate study report, or they can be included in the groundwater modelling report. Data should be a part of the Registration Report. The presentation of the monitoring data should start by specifying the monitoring programmes in which the substance has been included and how many filters or boreholes have been examined. In the presentation of the monitoring results the following should be included:

- Total number of analyses
- Number of detections above the limit of detection but below the limit value
- Number of detections above the limit value

If there are no results this must be reported so that it can be seen that the issue has been investigated.

Assessment of results from the Danish Pesticide Leaching Assessment Programme (PLAP)

The results can be obtained either from the PLAP website or by contacting GEUS.

The assessment should contain an introduction which gives an overview of the uses in PLAP. The introduction must present the fields used, the crops, application timing and the dose rates.

When assessing the risk of leaching to groundwater in PLAP only data from the groundwater installations should be used. Hence, data from drains or suction cups are not used.

The assessment of results from PLAP includes a consideration of whether the substances occur in a few individual samples in a short time period in concentrations above the limit value, or if there are many samples below the limit value and many without detections. In these cases Danish Environ-

mental Protection Agency considers that, although the substance has sometimes exceeded the limit value, the overall picture does not show an unacceptable risk of leaching.

If many samples exceed the limit value in the groundwater installations in longer time periods, then the risk of leaching is considered to be unacceptable.

The following points should be considered in the overall assessment.

Some substances have been tested several times or several years. In these cases all data should be included in the assessment. For some substances the first years may not show unacceptable leaching, but after use for a number of years the leaching may become more pronounced. Therefore it is important to assess the change in findings over time. Most substances have been used on more than one PLAP site, and the different sites may exhibit different patterns in leaching. Leaching may be minimal at one site but more pronounced in on another site. The assessment must take into account the results from the most vulnerable site.

All results should be presented, however, the assessment should pay particular attention to the specific uses in PLAP. Some uses (crops, dose rates, application timing, BBCH) may present a higher risk of leaching than others. This should be carefully compared to the intended use.

In PLAP wells are installed both up-stream and down-stream. Measurements from the up-stream wells give an indication of the leaching from the neighbouring up-stream fields and are hence not directly linked to use of pesticides on the PLAP fields. Measurements from the down-stream wells can be directly related to the use of pesticides on the PLAP fields and hence gives an indication of the leaching potential related to the specific use on the PLAP fields.

When assessing the results from PLAP the weather data should also be included in the assessment. If the weather deviates significantly from the normal weather then this can affect leaching, e.g. a very dry summer can lead to less leaching and a very wet autumn can lead to more leaching. Description of the weather is presented in the PLAP reports.

Monitoring data from other sources

Data from other monitoring programs in Denmark and other countries can also add information about the risk of leaching. For information about how to evaluate publicly available monitoring data please consult chapter 7 in Gimsing et al. (2019): Conducting groundwater monitoring studies in Europe for pesticide active substances and their metabolites in the context of Regulation (EC) 1107/2009.

The final assessment of the risk of leaching to groundwater must take into account all relevant information using a weight of evidence approach. This includes knowledge about patterns of use and possible changes in the pattern of use over time.

If available the Danish Environmental Protection Agency also uses monitoring data on surface water from the NOVANA programme in connection with risk assessment for aquatic organisms.

⁴¹ Gimsing et al. (2019): Conducting groundwater monitoring studies in Europe for pesticide active substances and their metabolites in the context of Regulation (EC) 1107/2009. Journal of Consumer Protection and Food Safety, July 2019, Volume 14. Open access at <https://link.springer.com/article/10.1007/s00003-019-01211-x>

VAP og godkendelse

- VAP monitorer udvaskning til det helt unge grundvand i 1,5 – 4,5 meters dybde, hvor det tager pesticiderne ganske få år at udvaske til.
- Når kravværdien er overholdt i VAP i 1,5 – 4,5 meters dybde så vil den også være overholdt i dybere grundvand
- VAP data skal altid inddrages i vurderingen

På trods af regulering sker der fund af ”nye” stoffer i grund- og drikkevand

Desphenyl-chloridazon - nedbrydningsprodukt fra:

Chloridazon (ukrudtsmidler)

Anvendt til sukkerroer og foderroer fra 1964 til 1996

DMSN,N-dimethylsulfamid (DMS) – nedbrydningsprodukt fra:

tolyfluanid anvendt til frugt og bær 1973-2007

dichlofluanid anvendt til frugt og bær i perioden 1966-1974 samt træbeskyttelse 1974-1999.

Chlorothalonil-amidsulfonsyre – nedbrydningsprodukt fra:

Chlorothalonil (svampemidler)

i hvede, kartofler, ærter, løg, porrer, solbær, ribs og jordbær på friland samt agurker og pryddplanter på friland og i væksthuse i perioden fra 1982 til 2000

Chlorothalonil har ikke været godkendt til træbeskyttelse i Danmark, men det kan have været lovligt anvendt i mindre omfang som biocid i træmaling og bundmaling til både. Disse anvendelser var tidligere ikke godkendelsespligtige. Stoffet er ikke ansøgt inden for fristen efter biocidreglerne i EU, og alle biocidanvendelser blev forbudt i 2011.



Konklusioner om dansk grundvandsbeskyttelse

- Grundvandsmodellerne vurderer om kravværdien på 0,1 mikrogram/liter kan overholdes i 1 meters dybde
- Danmark har den mest restriktive tilgang til grundvandsmodellerne i EU
- I Danmark skal alle nedbrydningsprodukter også overholde 0,1 mikrogram/liter
- I Danmark kan pesticider, som er lang tid om at blive nedbrudt i jord, ikke godkendes
- I Danmark er 161 aktivstoffer godkendt. I Tyskland er der godkendt 250.
- VAP undersøger udvaskningen til grundvand i 1,5 – 4,5 meters dybde
- Massescreeningen bekræfter at godkendelsesordningen virker

Tak for opmærksomheden

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