



Management Summary

Pesticides in surface water: Comparison between the Netherlands and other European countries

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Problematic pesticides

In The Netherlands, many different pesticides are detected in surface waters. If the concentrations measured are higher than the water quality standards, they are regarded as problematic. The question that often arises is whether other European countries also have a problem with these substances. If this proves to be the case, joint action can be taken in order to coordinate measures. Monitoring and compliance checking of several pesticides are regulated by the European Water Framework Directive (WFD). These substances are systematically measured and actions have to be taken to reduce their concentration in water. One example is substances such as atrazine, diuron and chlorpyrifos, which are included in the European Directive on Priority Substances as part of the WFD. All European countries are obliged to compare monitoring data with water quality standards that apply throughout Europe. Pesticides are also included in national legislation such as the Dutch WFD Monitoring Regulation. Other countries have similar national legislation but the number of pesticides covered by this legislation differs from country to country. Belgium and Germany have included a similar number of pesticides in national WFD legislation as The Netherlands (namely several dozens of substances), whereas France has designated five pesticides as “specific pollutants”. In addition to differences in the number of substances, there are also differences between countries in the choice of substances and the related standards. Finally, there are substances that are not covered by the WFD legislation. This study looks in particular at this category of pesticides.

What measurements and tests do other countries carry out?

As in The Netherlands, other countries also monitor more pesticides than just those included in European and national legislation. Moreover, studies are carried out at more locations than just those designated as WFD measurement points. What is usually lacking is a central system in which these data are collected and tested consistently, such as the Pesticides Atlas in The Netherlands. This makes it difficult to compare countries. Often, data are available about the number of substances per monitoring location or the number of locations where a particular substance is found, but only limited data are available about the exceeding of these standards. When such data are presented, these often relate only to the substances for which quality standards are included in legislation. This is also to do with the fact that in most

countries standards have been derived for fewer substances than in The Netherlands, where in the 1990s standards were derived for a large number of pesticides. The Netherlands also uses indicative water quality standards. Because the derivation of indicative standards takes less time, these are available for a lot of substances. One exception is Sweden, which has a similar approach and where water quality standards are available for a relatively large number of substances. Belgium has adopted the Dutch water quality standard from the WFD Monitoring Regulation for several substances. Germany sometimes uses the drinking water standard or another fixed trigger value if there is no other water quality standard.

Is it just The Netherlands that has a problem?

Even though elsewhere substances are not tested against water quality / drinking water standards and are therefore not necessarily considered as a problem, nevertheless pesticides are found widely dispersed in the surface water in other countries too. For instance, the percentage of locations in The Netherlands with one or more substances that exceed the drinking water standard of 0.1 ug/L is similar to that in Switzerland and France. The lists of detected substances differ from country to country, as not all substances are monitored everywhere. Measurement programmes are often set up on the basis of practical experience, and the results of screening programmes and agricultural use play a role. The data indicate that substances that are used or were used a lot in the past are found when they are included in monitoring. Swiss research shows that the chance of detecting high concentrations is greater in smaller waters as the smaller streams are located close to agricultural land. This also applies to the Dutch situation, where water quality standards are exceeded more frequently if more and smaller monitoring locations are taken into account instead of only the WFD locations in larger waters. Eight Dutch problematic substances also appear on one of the lists drawn up for foreign countries. However, the foreign lists also show that there are substances in The Netherlands that are possibly incorrectly not regarded as problematic substances as the standard is higher here than elsewhere.

Are Dutch water quality standards strict compared with other countries?

The Netherlands has water quality standard for a total of over 600 active substances and several degradation products. Water quality standards and risk limits were collected for 13 European countries including Switzerland. For almost 130 substances there is at least one other country, in addition to The Netherlands, with a water quality standard or risk limit. The standards were compared for 47 substances for which, in addition to The Netherlands, at least three other countries have water quality standards or risk limits. For only three substances the water quality standard in The Netherlands is stricter than those in the other countries studied. The Dutch

water quality standard is (a lot) less strict than that of the other countries in around the same number of cases (four substances). For most substances there are both countries with higher standards and countries with lower standards. The analysis shows that the water quality standards that countries adopt can differ hugely. However, it should be noted here that the status and the basis of the water quality standards differ from country to country. For instance, some countries use a fixed trigger value for several substances. These differences between countries make it difficult to reach a clear judgment about what a problematic substance is.

International coordination required

Differences in geographical conditions, land usage and cultivation practices are factors that affect the emissions from pesticides. As a result of this, the use of a substance may lead to problems in one country but not in another country. As indicated above, the differences in water quality standards between countries also determine whether a substance is regarded as being problematic or not. In order to be able to address the matter jointly it would be good if standardised water quality standards for pesticides could be used within Europe, including for the non-priority substances covered by the WFD. During the process of pesticide approval in the EU the dossier data could be used to derive a water quality standard for the whole of Europe in accordance with the WFD methodology. For the pesticide authorisation process it is compulsory to also include all the available public literature in the dossier. The data requirements for European pesticide approval also refer literally to the possibility of deriving WFD water quality standards. At the moment this process has not yet been harmonised at European level.

Revision of indicative standards required

The standards in the current Dutch national legislation relating to surface water quality were virtually all derived in accordance with the latest WFD methods. For a single substance, the Maximum Permissible Concentration (MPC) is still used; this is the standard that was adopted before the WFD came into force. Many other Dutch substances are evaluated on the basis of an indicative MPC. This kind of water quality standard is usually based on a limited number of studies that were adopted without further evaluation. In the case of substances that exceed such an indicative water quality standard and are therefore regarded as being problematic substances, a revision of this standard according to the latest methodology could show that they are actually not problematic substances. However, there are also substances that are not regarded as problematic substances on the basis of the (indicative) MPC that possibly *will* be problematic if a standard is derived in accordance with the WFD methodology. It is recommended that new standards will be derived for the following substances: azoxystrobin, boscalid, DEET (biocide), desethylterbutylazine, diflufenican, etoxazole, ETU, fenpropimorph, fipronil and glyphosate.