

ABSTRACTS

The significance that has to be given to “emerging substances” has been included in the new environmental policies at both National and European levels. Actions belonging to the theme F of AQUAREF fall under this frame as they are dedicated to the “improvement of knowledge on emerging substances”. More specifically these actions are aimed to work as background tasks to evaluate the existing capabilities and the needs of development of analytical techniques in order to ensure the future monitoring of metabolites of pesticides.

To allow the evaluation of the analytical capabilities of laboratories, the first step of the work consisted in the building of a list of metabolites by looking one by one each review report for active substances (plant protection products) and by crossing multiple data sources to ensure a reliable identification of the metabolite. Indeed, there is no list of metabolites that is available.

For that purpose, reports on substances reviewed under AIR-I and AIR-II programs (respectively 7 and 31 substances) have been searched. For substances belonging to AIR-III program, the review process is under progress so that conclusions are not yet available. This work has allowed the identification of more than a hundred metabolites that were evaluated for their risk of transfer to groundwater as mentioned in the marketing authorizations of plant protection products.

In view of getting a more thorough approach, it was decided to consider the active substances having a remote expiration of approval. As a consequence, 25 additional substances have been considered, corresponding to 71 metabolites (some of which are common to previous lists) and an impurity.

Finally, as a third source of data, ANSES opinions were considered, ANSES being now in charge of marketing authorisations for plant protection products. A total of more than 230 reports involving commercial products that may have had an authorized or unauthorized use were considered.

For each metabolite, CAS code and SANDRE code were searched for. The consistency between the information of approval reports and these codes has been checked. Discrepancies were identified.

Hereafter, an evaluation of current analytical capacities of laboratories has been done. The COFRAC website has been consulted to see if one or more laboratory(ies) is (are) accredited. This assessment has been complemented by a review of the ADES database to check if this metabolite has been already monitored or not over the territory. When this metabolite has been searched for, the review aims to evaluate analytical capacities of laboratories.

Finally, as many metabolites are not analyzed, an evaluation of potential developments of analytical methods has been done. The lists of the main distributors of analytical standards have been consulted. This was done to check that the analytical standard exists and thus that the development of an analytical method is theoretically possible.

As a summary, one can bear in mind that the constant evolution of approvals, sometimes with requests for additional data, the time between the EFSA (European Food Safety Authority) evaluation and the conclusion issued by the European Commission make it difficult to obtain a list of metabolites and their relevance for water monitoring. The work here undertaken has created an incomplete list that will have to be fed in the future.

It was stated that only a few metabolites on a total of almost 200 considered have a CAS code and lesser a SANDRE code (about 10%). Only a few parameters are ruled by a COFRAC accreditation: 5 metabolites having a SANDRE code have a COFRAC accreditation by at least one laboratory. The lack of analytical standards that has been stated for many substances appears to be an analytical blocking point for many parameters (less than a third of metabolites have an analytical standard). Nonetheless, these parameters might be viewed as interesting ones under the scheme of national surveillance.

Key words (thematic and geographical area):

pesticide, analytical performance, groundwater, metabolite