

## **Sustainable pesticide use – progress, shortcomings and implications for registration of plant protection active substances and products**

[Directive 2009/128/EC on the sustainable use of pesticides](#) (Sustainable Use Directive; SUD) was adopted on 21 October 2009 as part of the [EU 2006 Thematic Strategy on the sustainable use of pesticides](#). The Directive aims at reducing the risks and impacts of pesticide use on human health and the environment by introducing different targets, tools and measures such as Integrated Pest Management (IPM) or National Action Plans (NAPs).

Since entry into force, the regular reporting requirements of the Directive were met by various means such as a Commission assessment of the NAPs, two [audit series](#) on sustainable pesticide use performed between 2012-2016, a survey of all Member States as well as fact-finding visits to some Member States in 2017 to investigate the overall progress made with implementation of the Directive and the National Action Plans. *“By 14 December 2018, the Commission shall submit to the European Parliament and to the Council a [final] report on the experience gained by Member States on the implementation of national targets established in accordance with paragraph 1 in order to achieve the objectives of this Directive. It may be accompanied, if necessary, by appropriate legislative proposals”* (Dir. 2009/128, Art. 4).

### History and background

Despite the progress in limiting the risks linked to the use of pesticides and to prevent any undesirable effects, by adapting the 6th [Environment Action Programme](#) (EAP; Decision No 1600/2002/EC) further measures were agreed upon by European Parliament and the Council. The Action Program mainly focussed on two issues: Full implementation and revision of the relevant legal

framework existing at this time as well as the development of a Thematic Strategy on the Sustainable Use of Pesticides.

First and foremost this led to a survey of [Directive 91/414/EEC](#) on the placing of plant protection products on the market replacing it with [Regulation 1107/2009](#) in 2011 (entry into force) and simultaneously bringing into force additional pesticide-related legislation such as [Regulation 1185/2009 concerning statistics on pesticides](#), [Directive 2009/127 on machinery for pesticide application](#) and the SUD.

The 2006 Thematic Strategy on the Sustainable Use of Pesticides identified several new targets that could not be integrated into the instruments existing back then, mainly: Establishment of National Action Plans (NAPs), Involvement of stakeholders, Establishment of a system of training of professional pesticide users, Awareness raising of the general public, Regular and compulsory inspection of application equipment, Prohibition of aerial spraying, Handling and storage of packaging and remnants of pesticides, Development and Establishment of harmonised risk indicators, Establishment of a system of information exchange at Community level, Development of systems for the collection of information on distribution and use of plant protection products, Promotion of low pesticide-input farming, Implementation of Integrated Pest Management (IPM), Definition of areas of significantly reduced or zero pesticide use and the Enhanced protection of the aquatic environment. SUD was the pertinent tool to implement several of these targets.

The EU Thematic Strategy on the Sustainable Use of Pesticides is complemented and flanked by various direct and indirect regulatory, scientific and legislative measures such as the EU action plan for the Circular Economy ([COM\(2015\) 614 Circular Economy](#), [COM\(2015\) 614 Circular Economy Annex 1](#)), [FOOD 2030](#) or the new [EAP 2020](#) for example. On a global scale EU strongly supported and fostered the [2030 UN Agenda for Sustainable Development](#).

Scope, progress and shortcomings of Directive 2009/128 (SUD)

Following the reporting requirements of the Directive, the European Commission published the [2017 Report on Member State National Action Plans and on progress in the implementation of Directive 2009/128/EC \(COM\(2017\) 587 final\)](#) in October 2017 as well as an [overview report](#) highlighting the current progress and shortcomings. The 2017 report clearly shows that progress and shortcomings vary hugely between targets as well as between Member States.

In regards to the establishment of a system of training of professional pesticide users for example the level of compliance is very high in most Member States. The same is the case in regards to regular and compulsory inspection of application equipment which is established in most Member States or the prohibition of aerial spraying.

In addition, progress in the reduction of pesticide use in specific areas frequented by the general public or by vulnerable groups, protected areas or recently treated areas frequented by agricultural workers according to Article 12 of the SUD. In this context the pesticide ban in Ecological Focus Areas (EFAs) was a matter of serious discussions in 2017. EFAs were established as part of the Common Agricultural Policy ([CAP 2020](#)) objectives for sustainable management of natural resources and climate action whereat 30 % of direct payments to farmers are tied to [greening](#) of which EFAs are a part (see also [Regulation on Greening & EFS](#)). Where the arable area of a holding exceeds 15 ha, 5 % of the area must be designated as EFA. EFAs can be fallow land, field margins, hedges and trees or buffer strips. It is also possible to assure the EFA-requirement indirectly through cutting the use of agricultural inputs or better soil protection e.g. in areas covered by catch crops, which are fast-growing crops grown between plantings of main crops or nitrogen-fixing crops. Commission even planned pesticides-free EFAs. This met with high opposition and a veto by Parliament was proposed.

However, in the respective voting in June 2017 the resolution objecting to the Commission's delegated act was rejected, the pesticide ban in EFAs entering into force!

Whereat huge progress could be observed for several objectives of SUD as detailed above, other targets obviously fall short compared to the aims set out by SUD. This is especially true for the *"promotion of low pesticide-input farming and the creation by Member States of necessary conditions for implementation of Integrated Pest Management"* (IPM) and the enhanced protection of the aquatic environment.

In the 2017 report Commission highlights that, besides organic farming, IPM, which is mandatory for professional users since 01 Jan 2014 in EU (SUD, Art. 14) *"is a cornerstone of the Directive, but compliance with the principles of IPM at individual grower level is not being systematically checked by Member States. Furthermore, Member States have not yet set clear criteria in order to ensure that the general principles of IPM are implemented by all professional users."*

SUD defines Integrated Pest Management as a strategic approach using *"careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. Integrated pest management' emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms"*. The respective general principles of Integrated Pest Management are set out in Annex III of the SUD.

However, some sub-goals are already met, e.g. in regards to publicly funded systems for forecasting, warning and early diagnosis for pest and disease control or the implementation of IPM in the national farm advisory systems, a mandatory requirement of [Regulation 1306/2013](#).

One of the main challenges regarding the implementation of the principles of IPM seems to be the current lack of appropriate control instruments as well as clear rules and guidance. According to many national authorities another major hurdle is the lack of sufficient non-chemical low risk pesticides which would broaden the range of IPM tools available to growers. In regards to low risk active substances and low risk plant protection products several developments took place in the recent past. For one, the criteria defining low risk active substances were revised by [Regulation 2017/1432](#), amending Annex II of Regulation 1107/2009 accordingly. For another, the lack of low risk substances and products available, the reasons and possible solutions, were subject of intensive political discussions in the recent past (e.g. [Motion for a European Parliament resolution on technological solutions for sustainable agriculture in the EU \(2015/2225\(INI\)](#); [European Parliament resolution of 15 February 2017 on Low-risk Pesticides of biological origin \(2016/2903\(RSP\)\)](#)). In addition to efforts to foster low risk substances and products on an EU wide level, e.g. by establishing a faster approval/authorisation process, there are already several national actions ongoing to promote registration of low risk plant protection products. In Denmark for example a funding programme to support the costs of authorising non-chemical pesticides is in place since 2010 which refunds up to 100 % of the total costs associated with gaining authorisation for a new pesticide. In France, the General Council for Food, Agriculture and Rural Areas (CGAAER) made extensive proposals how to increase availability of low risk products.

As in case of IPM, the lack of measurable targets in many NAPs prevent the full implementation of SUD in regards to Article 11 of SUD on measures to be taken to protect the aquatic environment and drinking water supplies from the impact of pesticides. This is partly due to the diverse, country-specific conditions and targets and the respective national approaches to implement respective measures as highlighted, for example, in the [Commission staff working document on agriculture and sustainable water management in Europe](#). In general, measures to be taken to protect the aquatic

environment and drinking water supplies from the impact of pesticides are subject not only of SUD, but of several legislative frameworks such as the [Water Framework Directive \(2000/60/EC\)](#), [Directive 2006/118/EC for Groundwater](#), [Directive 2008/105/EC on Environmental Quality Standards in Surface Water](#) or [Directive 1998/83/EC for drinking water](#). Depending on national/regional requirements, the focus can vary considerably between Member States. According to the Member States over one million water samples were tested for pesticide residues in 2014 and 2015 and extensive measures were taken for example in regard to buffer zones or drift reducing equipment. Some Member States, such as Denmark, established extensive monitoring and research programs. Under the Danish Pesticide Leaching Assessment Programme, authorised pesticides are tested in regard to leaching to groundwater at six representative test fields in line with normal agricultural practices. Based on these studies, for some previously authorised pesticides authorisations were withdrawn, for others conditions of use have been modified. In Member States such as Denmark, protection of groundwater is an issue of national importance as all drinking water is sourced from groundwater, which is, besides some exceptions, not treated before consumption ([Final report fact-finding mission Denmark \(DG\(SANTE\) 2017-6007\)](#), [2015 Organic Action Plan for Denmark](#)).

#### Implications of SUD for plant protection product registrations

In its 2017 report to the European Parliament and the Council on Member State National Action Plans and on progress in the implementation of SUD, COM concludes that *“the Directive [2009/128] offers the potential to greatly reduce the risks derived from pesticide use. However, until it is more rigorously implemented by Member States, these improvements are limited, and certainly insufficient to achieve the environmental and health improvements the Directive was designed to achieve”*. To amend this, extensive measures are already under way or foreseen for the near future.

As a good part of the instruments and tasks provided by SUD are part of the NAPs, the revision of these based on the audit results is one of the most important tasks for Member States. In the general process of NAP review, which is required at least every 5 years, only France and Lithuania presented revised NAPs until now. Revisions are intended until end of 2018 by 25 Member States. As identified by the 2017 report there will be a focus especially on those tasks for which significant gaps were identified, such as aerial spraying, information to the public, the gathering of information regarding poisoning cases, measures to protect the aquatic environment or implementation of Integrated Pest Management.

Commission already indicated that several EU actions are scheduled. These include, for example, extensive monitoring of Member State obligations by Commission. Commission also will give consideration to infringement actions. In addition, as already quoted before, *“by 14 December 2018, the Commission shall submit to the European Parliament and to the Council a report on the experience gained by Member States on the implementation of national targets established in accordance with paragraph 1 in order to achieve the objectives of this Directive. It may be accompanied, if necessary, by appropriate legislative proposals”* (Dir. 2009/128, Art. 4). Commission already indicated that it will initiate various supporting actions, such as a web portal linking to the currently available relevant information on [IPM](#) and [Sustainable use of pesticides](#) at EU and Member State level (already launched in Oct. 2017), provision of a [guidance on monitoring and surveying of impacts of pesticide use on human health and the environment](#) (C(2017) 6766 final; already published Oct. 2017), support to Member States for development of suitable risk indicators or a more strict inclusion of SUD targets in the system of cross-compliance as eligible through the [Regulation on the financing, management and monitoring of the common agricultural policy and repealing \(Reg. 1306/2013\)](#).

It has to be considered that efforts in regard to sustainable use of pesticides in most cases are not based on general “green thinking” and related to ideological ideas on biodiversity, green environment, etc. Rather, economic considerations and requirements as for example in case of the price and availability of drinking water, financial consequences of pesticide resistance or insufficient pollination are triggering efforts to make agriculture more sustainable. Therefore, new and stricter regulations on sustainable use of plant protection products are to be expected in future.

By Dr Lars Huber, Head of Biostimulants, Fertiliser, IPM

**For further reading on related issues, please [visit our website](#).**