Europe's political and legislative framework on pesticides – slow move towards sustainability

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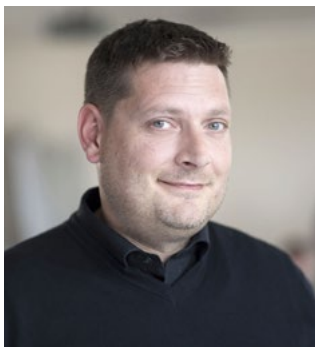
Regulations within the EU have focused on chemical pesticides and the move towards sustainable and low-risk solutions has been at a slow pace. This article traces the evolution of EU regulations and the gradual move towards sustainability.



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On February 12th 2019, the European Parliament adopted a resolution on the implementation of sustainable use of pesticides by 546 to 39 votes. It was strongly critical of the lack of progress in the implementation of the EU sustainable pesticide use Directive (2009/128) and the economic loss of the added value of sustainability.

The resolution was one of several adapted in the recent past on the use and registration process for pesticides in the EU. Feedback and public discussions on these resolutions as well as recent related documentation suggest that the EU's general political and legislative framework on pesticides is often not considered in its full scope, focusing mainly on the EU agrochemical Regulation (1107/2009) and its implementing regulations. This article aims to give a brief introduction on the EU's general legal and political frameworks governing the use and the bringing onto the market of pesticides.

The basic concepts that triggered the need for a registration process for pesticides date back to the Paris Summit in 1972, in which the protection of human health and the environment became an integral part of European politics and established the general framework for the Community Action Environment (CAE). The CAE and inter-related legal acts established the long-term activities, which also govern pesticides, such as establishment of the European Environment Agency (EEA), the European Environment Information and Observation Network (EIONET), and, in later years, the European Food Safety Authority (EFSA).

In parallel, the legal basis for the long-time monitoring and further development of community actions was established by various means such as Directive 91/692,

which standardised and rationalised reports on the implementation of certain Directives relating to the environment. That was published in the same year as the first Directive concerning the placing of plant protection products on the market, Directive 91/414, or the subsequent EU State of Environment Reports (SOER; 1995-2020).

Besides introducing the general principles and data requirements for placing of active substances and plant protection products on the market, Directive 91/414 introduced IPM, although for decades to come, the implementation of IPM was restricted to few areas and, in general, did not get much attention in the regulatory process. However, the definition of IPM, termed "integrated control" in Directive 91/414, did not vary much from the definition applicable under the sustainable use Directive (SUD) 2009/128.

One of the reasons for introducing IPM in 1991 was the onslaught of red spider mites after World War II in European agriculture. For many years, red spider mites were regarded to be the major pest for various crops, triggering extensive use of acaricides, especially in viticulture and pomiculture. Realisation that the red spider mite epidemic was due to the use of pesticides damaging their natural enemies, mainly predatory mites, led to the IPM requirement for plant protection active substances and products not to be harmful to these predators. Currently, conservation biological control of red spider mites is an integral part of Good Agricultural Practice in all EU member states.

After the entry into force of Directive 91/414, it was amended many times and many guidance documents were published. But all of those, including Regulation 396/2005 on the maximum residue levels of pesticides, were focused on chemical active substances. In regard to the registration of biopesticides, sustainable use of pesticides, IPM and related topics, nothing substantial happened in the two decades after entry into force of Directive 91/414.

Regulation 1107/2009, which entered into force in 2011, introduced the new pesticide grouping of low-risk substances. It also introduced basic substances, which comprise those substances that can be used in plant protection but cannot be formulated or sold as plant protection products. But, as with Directive 91/414, apart from mentioning sustainability or IPM as general requirements in crop production, Regulation 1107/2009 itself did not directly establish the regulatory framework to sufficiently foster the developed EU sustainability goals.

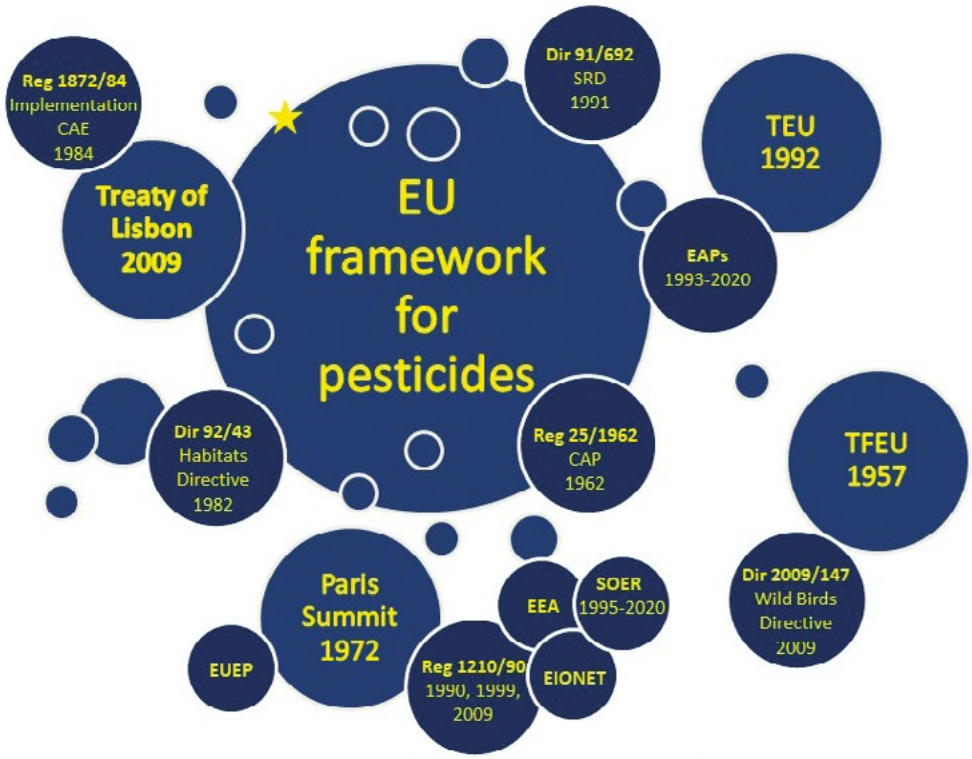
However, Regulation 1107/2009 was not published as a single legislative act but was part of a legislative package. The legislative package contained another three legislative acts (see left hand column of Fig 2a):

1. Regulation 1185/2009 concerning statistics on pesticides;

2. Directive 2009/127 on machinery for pesticide application and especially;

3. Directive 2009/128 (Sustainable Use Directive)

But following the publication of the legislative package, a similar situation occurred as during the years 1991-2009, with no movement towards making the registration



CAP – Common Agricultural Policy; **EAP** - Environment Action Programme; **EEA** - European Environment Agency; **EIONET** - European Environment Information and Observation Network ; **EUEP** - EU Environmental Policy; **SOER** - State of Environment Reports; **TEU** - Treaty on European Union (Treaty of Maastrich); **TFEU** - Treaty on the Functioning of the European Union (Treaty of Rome)

of biopesticides easier. This was especially true in relation to data requirements. For micro-organisms, for example, the "new" data requirements published in 2013 (Regulation 283/2013 for active substances and Regulation 284/2013 for plant protection products) stayed unaltered.

Even the "new" low risk criteria published in 2018 under EU Regulation 2017/1483 have not changed the status for micro-organisms. For micro-organisms, the criteria defined sound straightforward: "An active substance which is a micro-organism may be considered as being of low risk unless at strain level it has demonstrated multiple resistance to antimicrobials used in human or veterinary medicine". Vice-versa, this seems to imply that all micro-organisms not showing multiple resistance to antimicrobials are classified as low risk. However, as recent approvals for microbial active substances have shown, this is not the case and, according to the Commission, extensive guidance on low-risk criteria is under preparation.

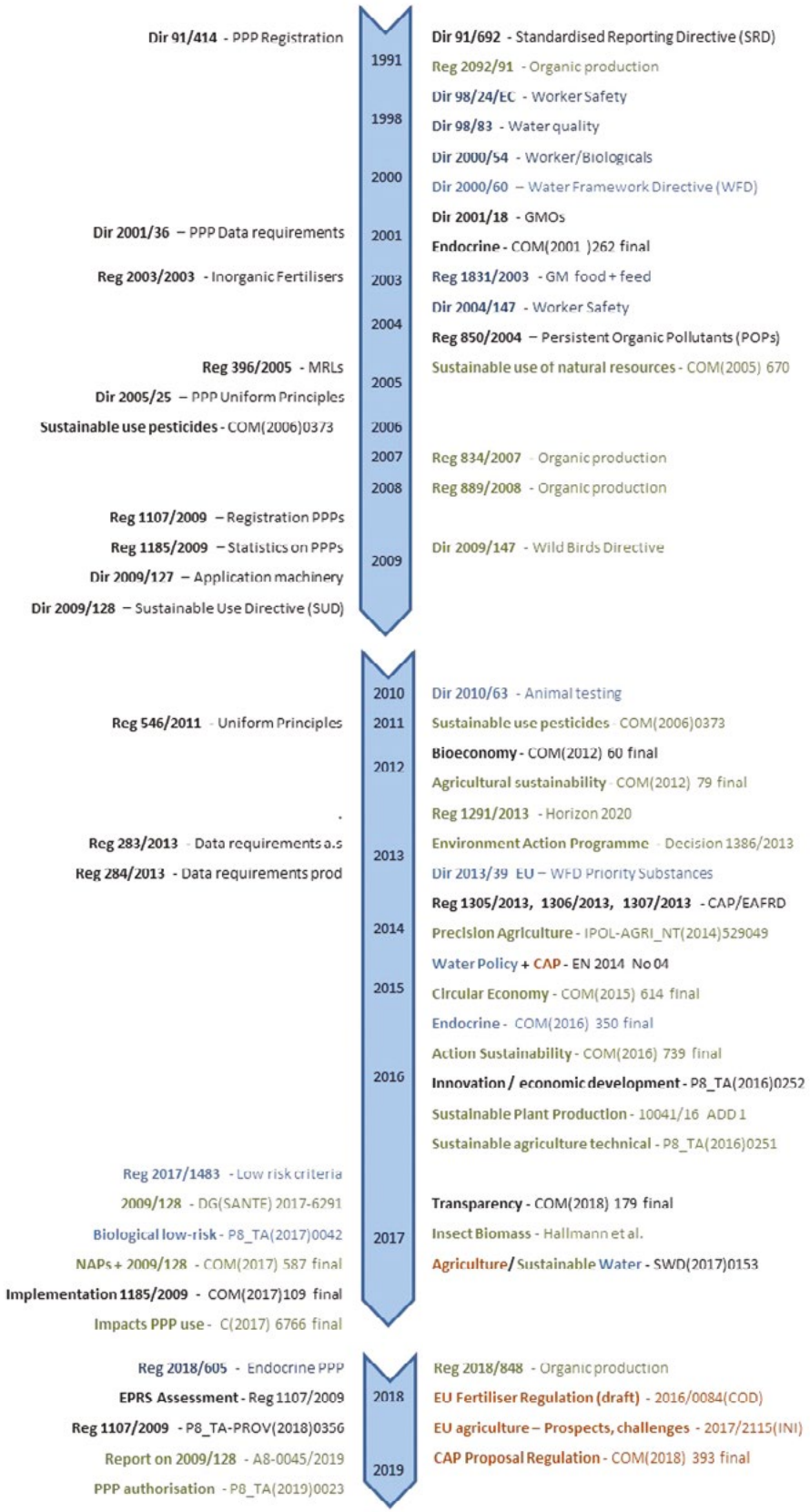
Furthermore, similar to the 20 years under Directive 91/414, a multitude of general legislative acts pertaining to community action were adopted without much influencing the registration process for pesticides. One example is the establishment of the so-called Ecological Focus Areas (EFAs) in the framework of the Common Agricultural Policy (established by Regulation 1307/2013), in which the use of plant protection products is banned in certain productive EFAs.

In regard to pesticides, the added value of sustainability in general, as well as sustainable agriculture and pesticide use in particular as major driving forces for EU economy, are focal points of interest. This is especially evident, for example, in the respective EU actions on bioeconomy, circular economy (for instance, the draft EU fertiliser Regulation), environment and climate action (LIFE; Regulation 1293/2013), sustainability, innovation and economic development, harmonised risk indicators for pesticides (draft Directive; Ares 2018), transparency and sustainability of the EU risk assessment in the food chain (proposal for regulation COM(2018) 179) or greening (draft CAP regulations).

The SUD was originally introduced to align these EU actions and programmes to the registration requirements and procedures for pesticide registration and use. But, as only very little has happened in regard to the sustainable use of pesticides and IPM since 2009, the clear voting results and the strong criticism of the European Parliament is not surprising. Also, the time of adoption of the respective parliamentary resolutions is not surprising since Article 4 of Directive 2009/128 already includes the requirement of the Commission reporting to Parliament on the Directives goals, such as the implementation of IPM or National Action Plans (NAPs) for sustainable pesticide use, the deadline for which was December 14th 2018.

The Parliament is likely to take action to assert a more thorough implementation of the SUD in the near future. This will also affect the registration process for pesticides as the parliament clearly stated that, inter alia,

- "the current practices of the Commission and the member states regarding the approval of active substances and authorisation of plant protection products are not compatible with the objectives and purpose of the directive [SUD]",
- "these current practices impede attaining the highest possible level of protection and achieving the transition to a sustainable agricultural sector and a non-toxic environment",



- "that the implementation of the directive is not sufficiently aligned with related EU policies in the field of pesticides, agriculture and sustainable development, notably but not exclusively the common agricultural policy (CAP) and the plant protection products regulation",
- "the current regulatory framework, including data requirements, was designed for the assessment and management of chemical PPPs [plant protection products], and is thus ill-fitting for low-risk biological active substances and products; whereas this ill-fitting framework is significantly slowing down the market entry of low-risk biological PPPs, often deterring applicants; whereas this hinders innovation and hampers the competitiveness of EU agriculture",
- "the lack of availability of low-risk PPPs, including biological ones, hinders the

development and implementation of integrated pest management (IPM)",

- "the observed sharp decline in insect numbers has negative impacts on the entire ecosystem and on biological diversity, but also on the agricultural sector and its future economic wellbeing and output",

- "Europe currently stands at a crossroads that will determine the future of the agriculture sector and the Union's possibilities of achieving a sustainable use of pesticides, most notably through the reform of the CAP; whereas reforming the CAP brings with it a substantial potential to strengthen the streamlining and harmonisation of policies as well as the implementation of the Directive, and to facilitate the transition towards more environmentally sustainable agricultural practices".

Furthermore, in its resolution, the Parliament calls on the Commission and member states to

- "complete the implementation of the Directive without further delay",

- "adhere to the established timelines for delivering revised NAPs; urges those member states that have not yet done so to deliver without further delay, this time with clear quantitative targets and a measurable overall objective of an immediate and long-term effective reduction in the risks and impacts of pesticide use, including clearly defined annual reduction targets",

- "propose an ambitious EU-wide binding target for the reduction of pesticide use",

- "further develop guidance on all the IPM principles and their implementation",

- "establish guidelines on the establishment of criteria for measuring and assessing the implementation of IPM in the member states",

- "place greater emphasis on the promotion of the development, research, registration and marketing of low-risk and biological alternatives, including by increasing funding opportunities within Horizon Europe and the Multiannual Financial Framework 2021-2027 [...]".

The Parliament explicitly recalled

- "the importance of the added value of ecologically sustainable and safe plant protection techniques,

- " to submit, before the end of its current mandate, a specific legislative proposal amending Regulation 1107/2009, outside of the general revision in connection with the REFIT initiative, with a view to adding a definition and a separate category for 'naturally occurring substances' and 'nature-identical substances', the criterion for which would be the existing presence and exposure of the substance in nature, as well as to establishing a rigorous fast-track evaluation, authorisation and registration procedure for low-risk biological pesticides, in line with Parliament's resolutions of 15 February 2017 on low-risk pesticides of biological origin and 13 September 2018 on the implementation of the plant protection products regulation".

Furthermore, the Parliament highlighted that "the potential of using intelligent technology and precision farming as means to better administer PPPs and to prevent the dispersion thereof in areas where they are not needed, for instance by means of drone or GPS precision technology; stresses, moreover, that the uptake of such solutions could be improved in member states if better incorporated into training courses and certification schemes for pesticides users in the NAP".

It is, however, important to note that the Commission's communication and EU parliamentary resolutions issued in 2018/19 have not been about greening and sustainability at all costs. On the contrary, a closer focus, for example, on risk reduction is also demanded, "as extensive use of low-risk substances might be more harmful than limited use of high-risk substances" (P8_TA-PROV(2019)0082). Also, as often implied, an excessive influence of NGOs is not the reason for all of these recent EU actions but the more than 40 years of scientific research, screening, monitoring and adoption of legislation that resulted in sufficient knowledge to bring IPM and sustainable pesticide use within the regulatory registration process.

It is essential to consider that definition of IPM according to the SUD highlights that integrated pest management means careful consideration of all available plant protection methods - mechanical, physical, biological and chemical - to keep the use of plant protection products and other forms of intervention at levels that are economically and ecologically justified. It is these combinations of all available plant protection methods that would make IPM an economically and ecologically valuable future farming tool.