

Reducing pesticide use across the EU



Implementation of the EU directive on sustainable use of pesticides

Welcome to this Best Practice National Plan (NAP) II, here we will examine how member states are implementing the Directive 2009/128/EC of the 21 October 2009 on Sustainable Use of Pesticides (SUDP).

PAN Europe had the intention to follow-up on PAN Europe's Best Practice NAP from 2010¹. We wanted to highlight new sustainable policy measures and policies undertaken by Member States to encourage farmers and other entities to reduce their dependency on pesticides. However when reading through the final NAPs to update the best practice guide, we realised that the majority of Member States are using the NAP to gather information on pesticide uses in their country, and 'recycle' already applied policy measures. Sadly, only a few new innovative proposals have been made!

This publication is instead a contribution to the EU debate as the European Commission by 26 November 2014 will submit a report on SUDP implementation to the European Parliament (EP) and the Council (art. 4.3), proposing what needs to be done next to ensure proper implementation of Directive 2009/128/EC of the 21 October 2009, also known as the SUDP.

This analysis has been made exclusively on basis of the so-called National Action Plans (NAPs) on pesticides use reductions that Member States have sent to the European Commission. But reality is that there are huge differences in quality of the written NAPs, some, for example Denmark only introduced new measures, taken as a result of the SUD, while others, as in the case of Bulgaria are including all policy tools of relevance to the SUDP, both new and existing measures. Furthermore, as the baseline is different, for some member states it is the first time they are drawing up a NAP, others have had some kind of pesticide reduction policies for decades, in this publication we will focus on new measures. PAN Europe welcomes comments from Member States regarding this analysis.

I hope this will prove insightful.

Sincerely yours



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President of PAN Europe



1. www.pan-europe.info/Resources/Reports/NAP_best_practice.pdf



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Executive Summary

Member States ambition to reduce pesticide use is extremely low, problems include:

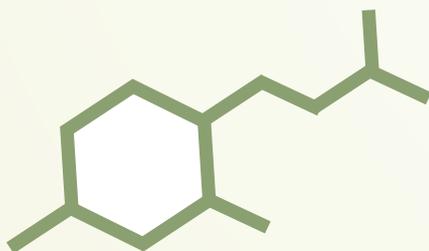
- ▷ A lack of overall objectives in the National Action Plans (NAPs) for pesticide reduction by the majority of Member States, and a failure to set quantitative objectives, targets, and clear timetables for pesticide use reductions as foreseen in the Sustainable Use Directive on Pesticides (SUDP).
- ▷ The majority of Member States argue for implementation of the SUDP by stating that they are enforcing other EU laws (MRLs to be respected in water; MRLs in food to be respected, in other words, they are recycling existing policy tools (financial schemes) without proposing new action, and some are even setting targets lower than the already fixed EU limits under environmental and public law.
- ▷ Success indicators are often soft quantifiable measures (number of training hours, number of guidelines developed, number of certificates issued) important for awareness, rather than more concrete measures like introduction of good agronomics, use of alternative non-chemical products etc.

The shift towards increased use of non-chemical techniques seems more quantifiable in sensitive, public areas (especially parks, sport areas, highly populated areas, sidewalks) mainly cities, while few new actions are being proposed in the agricultural sector:

- ▷ Many Member States (France, Germany, Netherlands, and Brussels) are planning a ban on certain types pesticides use in public areas.

However, although this approach is constructive, big loopholes in the name of 'fighting invasive alien species' are still expected.

- ▷ Member States have a serious lack of concrete engagement in the agricultural sector.



While all Member States have encouraging definitions of what IPM could be, only one Member State (Finland) is considering punishing farmers by cutting their CAP direct payments in the event that EU law is not followed. Furthermore, only one Member State (the Czech Republic) recognizes the need to update mandatory cross compliance rules, to make it more in line with SUDP requirements. And while many Member States claim to be giving more attention to these requirements, none have really moved forward in substantially upgrading the financial support part of their rural development programming. Such measures are important in order to encourage farmers to take a holistic approach to farming, and laying out how farmers are to apply more agronomic practices and use of non-chemical products.

It is outrageous that Member States are taking the opportunity to reduce pesticide dependency, as:

- ▷ Many pesticides have been shown to increase the risk of cancer, especially through effect on DNA mutations or through being reprotoxic². For many pesticides, there is a solid body of evidence for endocrine disrupting properties that are harmful to human and the environment, alone or in combination³. The health effects of these risks (cancer, cognitive and sexual disorders, and mental disorders) are growing⁴ and it's highly likely that these pesticides are contributing to these trends⁵. Pregnant women and children are especially vulnerable to pesticide exposure.
- ▷ Pesticides often contaminate the air, water, sediment, and are harmful to wildlife and beneficial insects (such as bees and natural predators of insect pests), soil micro-organisms. At the same time, EU citizens continue to consider pesticides residue levels in fruit, vegetables and cereals as their main concern regarding food-related risks⁶.

A few scientists have already tried to estimate the economic value of pesticide use:

- ▷ Studies in the UK and Germany have conservatively estimated annual external costs of pesticides use to be US\$257million and \$166million, respectively, paid by sufferers of pesticide-inflicted poor health, by the environment and by citizens⁷.
- ▷ A recent French study⁸ estimates the overall costs of water pollution from nitrogen and pesticides to be 1.5 billion Euro in France.

2. European Parliament study, *The benefits of strict cut-off criteria on human health in relation to the proposal for a Regulation concerning plant protection products*, PE 408.559, 2008

3. Hass et al., *Adverse effects on sexual development in rat offspring after low dose exposure to a mixture of endocrine disrupting pesticides*, *Reproductive Toxicology* 2012, 34:7

4. Colborn T., *Neurodevelopment and Endocrine Disruption*, *Environm. Health Perspect.* 112 (9):944, 2004

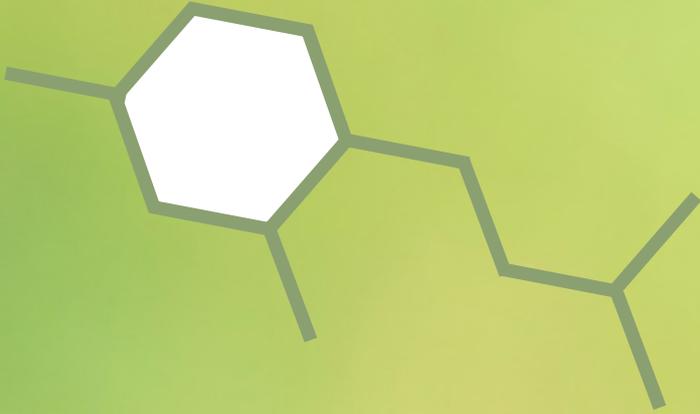
5. Colborn T., *A Case for Revisiting the Safety of Pesticides: A Closer Look at Neurodevelopment*, *Environm. Health Perspect.* 114 (1): 10, 2006

6. *Eurobarometer 354 from 2010 on Food-related risks*

7. Pretty & Waibel, *Paying the price: the full cost of pesticides*, in J.Pretty, editor. *The pesticide detox.*, 39-54 Earthscan, London, UK., 2005

8. www.developpement-durable.gouv.fr/IMG/pdf/ED52-2.pdf

It is therefore not only beneficial for public health, the environment and biodiversity to reduce pesticide use, but the use of pesticides also has a great cost to society. It is therefore very disappointing that Member States are not taking more aggressive action.



Which Member States care about reducing pesticide dependency?

Only few Member States (e.g. Denmark, Sweden) have a long history of policies aimed at reducing the overall quantity of pesticides used.

As part of the 'Environment Grenelle' in 2008, France introduced an overall reduction target (50% reduction between 2008 and 2018, where possible).

Germany and the Netherlands have a history of reducing risks from pesticide use, but for the majority of the Member States (including not only newer Member States but also countries like Austria) implementation of the SUD means forming an overall pesticide reduction policy for the first time.

The fact that member states find themselves in different situations makes it very difficult to establish a common baseline, and to compare systems, and rank them, as each system needs to be improved against its own baseline. This is why the following analysis is carried out topic by topic.



Denmark introduced its first pesticide reduction plan in 1986 to protect the ground water that is consumed directly without any purification treatment. Since that time, Denmark has banned pesticides when it was proved that they reached ground water⁹. This means that only around 80 different active substances are permitted in Denmark, compared to 3-400 in many other Member States. In 1999, an expert committee (the Bichel Committee) prepared a report on reduction of pesticide use. It recommended a reduction goal (measured as the treatment frequency index of 1.7) implemented through a three-pronged strategy: covering spraying-free zones, organic farming, and general use reduction through new technology and better farming practises¹⁰. The recommendations have only partly been implemented, and the goal has still not been reached, though, the early introduction of a pesticide policy has led to the result that Danish products (especially fruit and vegetables) have residue levels of pesticides below the EU average today¹¹.

On the 1 July 2013, Denmark introduced a pesticide tax on insecticides linked to environmental and health hazards¹².



Sweden has the overall objective of becoming a non-toxic environment¹³. The Swedish NAP contributes to this objective through the further expanding on this goal through the following objectives:

- ▷ Concentrations of pesticides in surface and ground water should be close to zero;
- ▷ Pesticide residues in vegetables grown in Sweden should be low and not pose risks to the consumer;
- ▷ Development of sustainable farming systems, which includes alternative methods and techniques, will be developed and applied to a greater extent in order to reduce the dependence on chemical pesticides, as well as a specific target for organic agriculture.

9. In reality only substances entering the lower part of the ground water, used for drinking water, has been banned and therefore for instance the reason why glyphosate has not been banned. www2.mst.dk/udgiv/publikationer/2011/06/978-87-92779-17-5.pdf

10. www2.mst.dk/udgiv/publikationer/1999/87-7909-426-0/pdf/87-7909-292-6.pdf

11. www.food.dtu.dk/~media/Institutter/Foedevareinstituttet/Publikationer/Pub2013/rapport_overvaegning_pesticider_2004-11.ashx

12. <http://eng.mst.dk/topics/pesticides/international-seminar-on-a-new-pesticide-tax/>

13. www.kemi.se/en/Content/A-Non-toxic-environment/The-objective-A-Non-Toxic-Environment/

How are Member States engaging?

2.

PAN Europe, together with its 32 members, has recently read through 24 National Action Plans (NAPs)¹⁴: Austria, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, France, Finland, Germany, Greece, Hungarian, Ireland, Latvia, Lithuania, Malta, the Netherlands (old version), Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

The following analysis does not include the 4 NAPs of Romania, Italy, Belgium, and Luxembourg, as these NAPs were not available at the time of writing. The analysis below is made from the English translations, rather than original language text, making some misinterpretation possible due to translation. The analysis below relies exclusively on the text of the NAPs, and therefore does not mention topics not mentioned in the NAP, though they might be of relevance to pesticides use reduction (for instance organic, some Member States include this sectors others do not).

We encourage Member States to contact us, in the even that they have comments and remarks on our analysis.

2.1. The overall objective of the NAPs

2.1.1. Member States fail to set a goal of overall pesticide reduction

Article 1 of the SUDP states that "This Directive establishes a framework to achieve a sustainable use of pesticides by reducing the risks and impacts of pesticide use on human health and the environment and promoting the use of integrated pest management and of alternative approaches or techniques such as non-chemical alternatives to pesticides".

Some other NAPs incorrectly add other objectives, including:

 Lithuanian NAP: *'The aim of this Plan is to promote the well-targeted and cost-efficient use of plant protection products, to ensure food safety and sustainable agricultural development, to protect human health and the environment from the risks related to the use of plant protection products...'*

 Hungarian NAP: *'Maintenance of plant health safety in Hungary by applying the minimum amount of plant protection products...'*

14. http://ec.europa.eu/food/plant/pesticides/sustainable_use_pesticides/national_action_plans_en.htm



2.1.2. Member States fail setting quantitative targets and timetables

In article 4.1 of the SUDP it is clearly mentioned that “Member States shall adopt National Action Plans to set up their quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.”

This is explained further in the introduction (recitals) of the SUDP which says ‘National Action Plans aimed at setting quantitative objectives, targets, measures, timetables and indicators to reduce risks and impacts of pesticide use on human health and the environment and at encouraging the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides should be used by Member States in order to facilitate the implementation of this Directive. Member States should monitor the use of plant protection products containing active substances of particular concern and establish timetables and targets for the reduction of their use, in particular when it is an appropriate means to achieve risk reduction targets. National Action Plans should be coordinated with implementation plans under other relevant Community legislation and could be used for grouping together objectives to be achieved under other Community legislation related to pesticides.’

Only one member state has set quantifiable objectives in its NAPs:

 Only one country, Denmark, has set overall clear quantifiable objective aiming at a 40% reduction in use from 2011 to 2015.

Other member states have overall objectives that are difficult to measure, for example:

 France’s overall objective of reducing, if possible, by 50% the overall use of pesticides between 2008 and 2018, measured by the NODU indicator calculated as the sum of the quantities of the active substances sold, each expressed in terms of its specific dosage unit, but the wording ‘where possible’ is inappropriate¹⁵.

 Germany has stated that by 2023, there must be a 30 % reduction in the risks that using plant protection products entails for the environment (base: average value for 1996 – 2005), measuring according to the SYNOPSIS risk indicator for aquatic and earth organisms, but this indicator is ‘on paper’ exercise rather than being able to reduce actual use.

Others Member States have fixed sub-objectives rather than fixing overall quantifiable targets, including:

 The Czech Republic aims for a 10% reduction in food residues from domestic production from 2010 to 2020

 Lithuania has set a 2 % reduction target in overall MRLs values from 2010 to 2017, and land use for organic to increase by up to 2% between now and 2017

The rest of the Member States - especially outstanding in Bulgaria, Cyprus, Estonia, Finland, Hungary, Malta, Spain, and the United Kingdom - completely lack any quantifiable objective, targets, and timetables despite it being a clear requirement of the SUDP.

The European Commission must seek clarification from:

  Lithuania and Hungary regarding their overall objectives as these are not in line with the SUDP.

▷ Almost all member states, regarding details about quantitative objectives, targets, measures and timetables, starting with Bulgaria, Cyprus, Estonia, Finland, Hungary, Malta, Spain, and the United Kingdom.

2.2. Compliance with SUDP is more than compliance with other EU legislation

Article 4.1 of the SUDP specifies that ‘targets may cover different areas of concern, for example worker protection, protection of the environment, residues, use of specific techniques or use in specific crops.’

Recital 3 of the SUDP gives more explanation stating ‘The measures provided for in this Directive should be complementary to, and not affect, measures laid down in Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on

15. Several projects in the French field already show that a 50% pesticide use reduction is possible.

food and feed of plant and animal origin and Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 on the placing of plant protection products on the market. These measures should also not prejudice voluntary measures in the context of Regulations for Structural Funds or of Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD).

In the story behind the strategy¹⁶ it is clearly stated: "One of the shortcomings of the current legal framework is that the actual use-phase of pesticides is not sufficiently addressed, although it is a key element for determining the overall risks. The very purpose of this Thematic Strategy is to address this deficiency."

But, a few Member States are wrongly arguing to reduce risk to human health and the environment by ensuring 'un-even' implementation of other existing EU legislations, for instance:

 The Cypriot NAP has an objective to reduce the percentage of cases exceeding the Maximum Residue Limits, which should follow a declining trend so that until 26 November 2017, the percentage of exceeds will not exceed 3%, while

 The German NAP, has an objective to reduce by 2021, the excess of the maximum residue levels must be reduced to below 1 % in all product groups for both domestically-produced and imported food.

Many Member States are using the SUDP_{only} to ensure compliance with other EU legislation, including:

 The Finnish NAP has an objective to ensure that Maximum Residue Levels in food are respected and to include feed,

 The Bulgarian NAP has an objective to ensure compliance with EU directives on drinking water, surface water and the water framework directive, and

 The United Kingdom NAP has, as one of the overall objectives, to ensure that pesticide pollution of water does not result in the UK failing to meet its objectives under the Water Framework Directive.



That is definitely not acceptable to use one law to ensure non-compliance with another law and should lead to infringement procedures from the European Commission vis-à-vis Cyprus and Germany.



As the philosophy in the law, as explained above, is going beyond what has already been fulfilled in other EU laws, it is disappointing that Member States are therefore not presenting additional measures to reach the objectives of SUDP.

16. http://ec.europa.eu/environment/ppps/pdf/pesticides_en.pdf

2.3. A lack change in national policies on aerial spraying

Article 9.1 of the SUDP states that “Member States shall ensure that aerial spraying is prohibited”, while article 9.2 specifies potential derogations, which among others make it very clear that aerial spraying is not allowed in residential areas.”

Recital 14 of the SUDP gives a little more details by saying ‘Aerial spraying of pesticides has the potential to cause significant adverse impacts on human health and the environment, in particular from spray drift. Therefore, aerial spraying should generally be prohibited with derogations possible where it represents clear advantages in terms of reduced impacts on human health and the environment in comparison with other spraying methods, or where there are no viable alternatives, provided that the best available technology to reduce drift is used.’

On DG SANCO’s homepage it is explained: The aerial spraying of pesticides is prohibited. Derogations are nevertheless possible where there is no viable alternative, or where aerial spraying has advantages in terms of reduced impacts on human health and the environment as compared with land-based application. If a derogation is granted, measures must be taken with regard to information and protection.

It seems that very few Member States are changing their practices regarding aerial spraying. Also it seems that

a lack of reporting on derogation will make it difficult for the European Commission to evaluate potential changes, analyses the many derogations:

 Already ban on aerial spraying in Slovenia, Denmark, Estonia, Croatia and an almost ban in Sweden

 Some are considering change, for instance French NAP mentioned ‘Development of alternatives to aerial treatment with a view to prohibition of the latter under future EU requirements, other than in specific cases’.

 Some Member States, like Hungary¹⁷ and the United Kingdom¹⁸, do not even bother to use the wording “ban aerial spraying with derogation”. While the Hungarian NAP mentions that it is ‘accepts with risk mitigation measures’, the United Kingdom’s NAP speaks about ‘allowed’.

 One Member State, the Czech Republic, does not give any details on what they intend to do on aerial spraying, while, a number of Member States, for instance, the Lithuanian NAP refers to derogations of national guidelines in place, and for which no updates or only a few have been made.

 Certain Member States do not respect the rules defined on when derogations can be given. For instance, Slovakia argues for the need to “spray in large areas”, which does not seem to be among the derogations allowed.

17. The Hungarian NAPs states: “By the conditions of Article 8 paragraph (2), Directive 2009/128/EC allows the Member States to authorise the aerial spraying, at national level, if they strictly respect the risk mitigating restrictions, furthermore if the particular phytosanitary case cannot be solved by other means. Aerial spraying has a long history of several decades in Hungary under very strict legislation and conditions. In view of the structure of Hungarian agriculture, the relief and climatic factors and the temporarily occurring extreme phytosanitary risks, it is justified to maintain the possibility of aerial plant protection activity under the specific system.”

18. The UK NAPs states: “Aerial application of pesticides is not extensive in the UK. Applications tend to be limited to aerial spraying of herbicides to control bracken in upland areas, but may also include the need for other applications, such as fungicide for potato blight, in particular years. (...)”

Aerial spraying is definitely an area, where the EU law is not respected and further regulation and community actions are needed. The European Commission must start infringement procedures against Hungary and the United Kingdom, and ask questions to many Member States where actions are unclear, and derogations going beyond what is defined in the SUDP, starting with Czech Republic, Lithuania and Slovakia.



2.4. Integrated Pest Management in European Agriculture¹⁹

Article 4.1 of the SUD clearly states that Member States should use the NAPs
“to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.”

Article 14.4 states that
“Member States shall describe in their National Action Plans how they ensure that the general principles of integrated pest management as set out in Annex III are implemented by all professional users by 1 January 2014”.

2.4.1. MS recognise the importance of developing a more resilient agricultural system

Almost all Member States recognise the need to move towards IPM, recognising the importance of agronomic practices:

 **Croatia:** In integrated pest management, all positive factors of the agro-ecological system are employed. If agrotechnical measures are not sufficient, then biological, biotechnical or chemical methods are to be employed.

 **Estonia:** The productivity and quality of crops decreases due to different plant pests, however, chemical control cannot be an objective in itself in order to compensate for the **mistakes made in cultivation**

 **Finland:** In certain cases, farmers have had **difficulties in choosing a plant protection product if the fields in question are monocultures**. Achieving adequate crop rotation also reduces the risk to soil organisms due to reduced demand for the same plant protection products in successive years.

 **Germany:** In part, narrowed crop rotations have been a consequence of the increased level of specialisation among farms, the increase in cultivated areas... A more frequent crop rotation can thus lead to a greater use of certain plant protection products, because such a rotation encourages certain harmful organisms.

 **Hungary:** Selection of **good practices** of crop production based on the relief and conditions of the fields (e.g. minimum tillage, soil tillage, nutrition management based on soil nutrient content, use of natural cultivated or sown buffer zones, ensuring habitats and feed-stuffs for the non-target organisms by means of buffer zones, crop rotation) helps reduce the environmental risk posed by the use of plant protection products.

 **Slovakia:** Over the last 20 to 30 years, mechanical inputs into the soil have been decreased considerably and the number of crops grown has narrowed; **prevention is generally underestimated** and there is a tendency to apply chemical solutions when addressing the health of crops. ...The main measures of integrated pest management include precautionary measures, the protection and promotion of beneficial organisms, the monitoring of harmful organisms, the prioritisation of sustainable biological, physical and other non-chemical methods, the selection of products that are as specific as possible to the target species with a minimum of side effects on human health, non-target organisms and the environment, the use of products at the required level, and checks on the success of the measures used.

 **Slovenia:** On farms included in the integrated production they shall comply with an appropriate crop rotation (e.g. in arable farming 5-year crop rotation), fertilise in accordance with the results of soil analysis and detailed records of all operations carried out shall be kept.

 **Sweden:** The use of **integrated pest management involves preventive measures**, such as well-planned crop rotation and appropriate cultivation techniques, choosing tolerant or resistant varieties, protecting and encouraging beneficial organisms etc.

19. This analysis is made on what is written in the NAPs and does neither include information that MS sent to the European Commission on IPM by June 2013, as still not public, nor elements from the rural development plans post 2014.

2.4.2. But some Member States define IPM incorrectly or limit action

WRONG DEFINITION

According to the SUDP, IPM is a combination of measures which is integrated to insure 'interventions to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment



Estonia defines IPM incorrectly: 'IPM is the combined use of biological, biotechnological, chemical, agronomic and plant breeding methods by which the use of chemical plant protection products is reduced to the extent that is necessary for the retention of pest population at a level that does not cause unwanted economic or crop damage.'

LIMITED ACTIONS



Cyprus limits actions: IPM does emphasise a combination of measures to ensure 'the growth of a health crop with the least possible disruption to agro-eco-systems and encourages natural pest control mechanisms' but limits actions to Precision farming with investigating the possibility of promotion of the use of low-drift nozzle to be supported as part of rural development scheme if the Common Agricultural Policy.

Question regarding the two above realities: what is the difference between conventional and IPM farming?

'Greenwashing' by introducing the principles of IPM into organic farming:



Hungary/Germany: promoting crop rotation in organic farming, and Germany also calling for the need to promote resistant varieties, rather than ensuring that these practices will be introduced in conventional, which are crucial according to figure 1 to ensure the needed move towards IPM



Hungary/Finland: development of monitoring systems and sector specific guidelines to be developed in organic, while



Slovenia: claims that "the basic principles of organic farming and integrated production are similar" (p. 26, Temeljna načela ekološkega kmetijstva in integrirane pridelave so podobna), while reality is that at the current level of IPM there are significant differences in the basic principles of organic farming and integrated production.

The problem is that it is important to not mix organic and IPM systems: The key principle in organic plant production is to use humus and organic fertiliser and pesticides as the source of plant nutrients, applying other methods, including crop rotation. It should therefore make little difference to the agricultural model proposing to introduce crop rotation into organic farming.

Organic farming has experienced constant growth in Sweden. In some regions, the Rural Development Programme objective of having 20 % of the agricultural land under organic production has already been achieved. In 2011, the total certified area of agricultural land which had either been converted to organic production or was in the process of conversion amounted to 481 000 hectares or approximately 15.7 % of the entire area of agricultural land.

While many member states are starting to recognize the importance of non-chemical products, the move towards agronomy is absent in almost all NAPs

2.4.3. Member States recognize the need to support farmers technically:

SUDP states in article 14.2:
'MS must ensure surveillance, monitoring, and advise'

Most Member States already do have public advisory services to examine, monitor and advise:

 e.g. Sweden: forecasting and warning system was established in Sweden in 1987, and monitor today around 1,000 fields throughout Sweden every week during the cultivation season for different harmful organisms. The results of the most recent inventories are compiled and appropriate control strategies are prepared. These are reported on an on-going basis to local advisors by telephone, in status reports and in plant protection newsletters for farmers, with the aim of giving both advisors and users of plant protection products appropriate and rapid information which is tailored to the current situation during the cultivation season. The data that are collected can also be accessed in a database. The crops, the geographical locations and the parameters that are monitored are continuously evaluated and modified. The public authority responsible is the Swedish Board of Agriculture.

Others are starting establishing the IPM framework now, new measures include:

 **Bulgaria:** pest diagnosis, bulletins, establishment of national data base on pests, and to develop mathematic simulation models

 **Slovenia:** decision support system will be upgraded to inform also about alternatives

Others need to expand their IPM services to cover a larger geographic area:

 **Germany:** guaranteeing more training and advice by stating 'the Länder provide crucial support to the content of the National Action Plan, and are making sufficient capacity available for this, particularly staff.'

It is now crucial to ensure that all Länder have official pest management advisory services, a few is not enough!

Some Member States have interesting proposals regarding dissemination of information (including behavioural changes):

 France aims to:

- ▷ Structure existing epidemiological surveillance systems and build a new system for **surveillance of the unwanted environmental effects of farming practices**, in conjunction with, and complementary to existing environmental surveillance systems, with special emphasis on biodiversity and water quality.
- ▷ The dissemination of information on low-pesticide methods and the improvement of current techniques are the first measures to be implemented in order to achieve the goal of a 50% reduction of pesticide use in the next a 10-years. Specifically, the plan intends to take advantage of **experience acquired in a number of networks and production systems (e.g. organic and sustainable farming)**, including from outside of France.
- ▷ Identify the levers and barriers to the general use of integrated production, with one point of action being the 'Drafting of national scenarios for the reduction of pesticide use by mobilising **agronomical expertise** for their evaluation in order to guide public policies.'

 Sweden aims to²⁰:

- ▷ Develop a knowledge base on research activities, trials and development work. This is to include the necessary applied research (including testing) and research and development of a more fundamental nature, such as control thresholds, preventive measures, cultivation systems. Among others, topics to be studied include, the actual cost to the environment of plant protection measures and the effects of plant protection products on individual organisms and ecosystems. Calculations covering several years, which demonstrate the profitability of new crop rotations or cultivation systems, are required in order to ensure that they gain acceptance among farmers.
- ▷ A knowledge overview will be conducted including ongoing research and development in the field of plant protection and, on this basis, to identify the need for research and development to promote agricultural, forestry and horticultural production that is sustainable and competitive in the long term. Both new and existing harmful organisms will be covered by the project, which will give an overall picture of the research and development requirements for integrated pest management.

20. See also PAN Europe interview on hidden costs of pesticides www.youtube.com/watch?v=iWAFKLOxAfM

SUDP art. 14.5 states: 'Member States must develop sector specific guidelines'

All, Member States seem to recognize the need to develop sector specific guidelines, but rather than preparing this in a multi-stakeholder forum, many unfortunately intend to take a shortcut by building on already established commercial guidelines, some of which may be dependent on specific interests.

WHAT COULD BE A GOOD IDEA

  Slovakia/Croatia: sector specific guidelines to be based on IOBC (though there are many loopholes)

WHAT SEEMS LIKE A BAD IDEA

     Bulgaria, Hungary, Malta, Slovenia, and the United Kingdom: intend to build on commercial IP labels to establish sector specific guidelines, but it is questionable if these will be updated from 2014

 Slovenia: will increase the number of guidelines to also include cereals, but it is unclear if the other guidelines will be updated.

2.4.4. The financial engagement towards holistic approaches to IPM lacking

SUDP states in article 14.5 that: MS must establish 'appropriate incentives' to encourage farmers to apply more advanced, also called crop specific, IPM on a voluntary basis

While many member states are starting to recognize the importance of non-chemical products, by defining bio-control as success indicators:

 **Estonian economic indicator:** 'increase the percentage of users who apply biological control plant protection products and alternative pest management techniques'

 **Lithuanian economic indicator:** increase in the number of registered biological plant protection products

 **Spanish success indicator:** number of hectares of agricultural land and woodland using alternative pest control systems (mass trapping, sterile insect technique, biological control or chemical sterilization, etc.)

 **Germany:** 'Indicator nb (13)' indicating the extent to which **biological plant protection** measures are being used. 'Indicator nb (27)' indicating domestic issue of active substances for both chemicals and biocontrol products.

 **UK:** Cumulative numbers of active substances and products approved as biopesticides, in any one year, by type and by type and use.

Real reductions in pesticides use will still be dependent on real actions proposed

The move towards agronomy is absent in almost all NAPs: (example of crop rotation; 1st priority of annex III of SUDP defining IPM)

     MS (UK, Portugal, The Netherlands, Greece, and Estonia) do not mention crop rotation;

  Two MS (Spain and Malta) only mentioned crop rotation when speaking about sector specific guidelines;

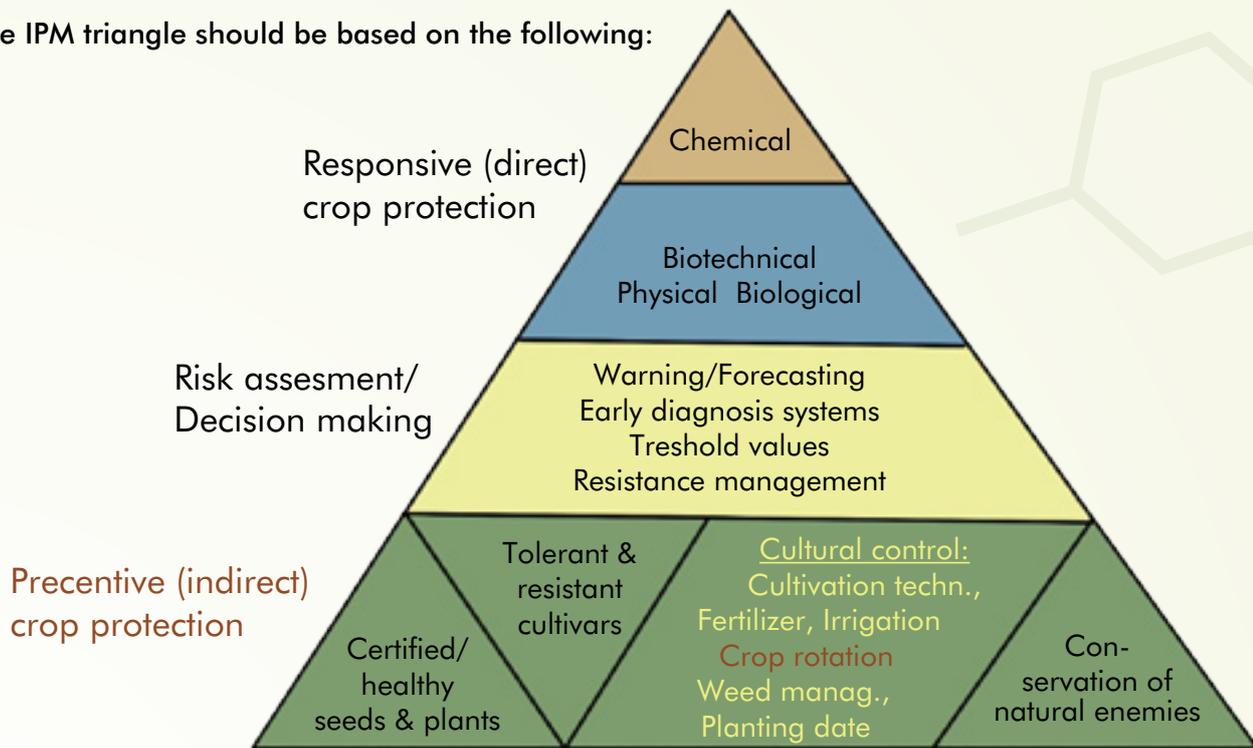
 One MS (Ireland) mentions crop rotation when speaking about the need to ensure that advisers are trained;

  A few MS (Hungary and Germany) stress the need to promote crop rotation in organic farming

 Only Finland explicitly mentions that they intend to give increased attention to crop rotation in Rural Development Plans.

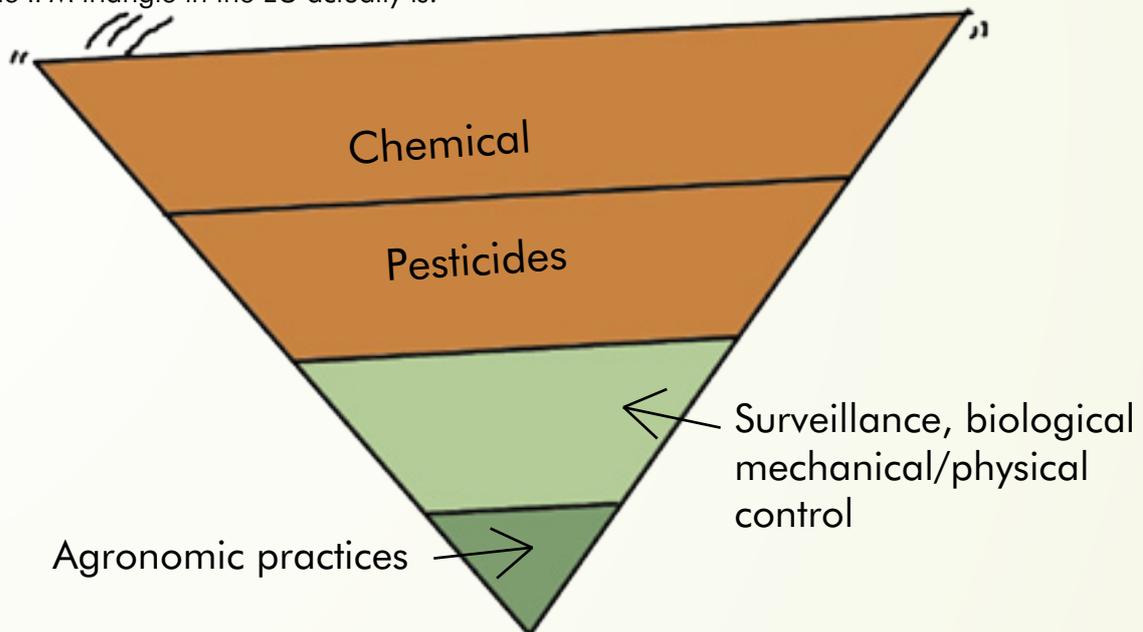
The level of IPM ambition highlighted in point 2.4.1 does not correspond to the action proposed!

The IPM triangle should be based on the following:



Meissle et al. 2011. Pest Manag.Science, 67

How the IPM triangle in the EU actually is:



It is crucial that Member States pay more attention to the delivery of agronomic practices, in the implementation process, by proposing both mandatory and voluntary measures for farmers to undertake, and the European Commission needs to make sure that this happens.

2.5. Cities – where a change towards less use of pesticides seems possible

Article 12 of SUDP states that 'Member States shall ensure that the use of pesticides is minimised or prohibited' in the specific areas including: areas used by the general public or by vulnerable persons (parks, playground, schools, sport areas, etc.); protected areas (such as conservation areas) and recently treated areas.

2.5.1. Few Member States have already banned the use of chemicals in cities

Few Member States are already banning use of chemicals in cities, including:

 **Germany:** as a matter of principle, the use of plant protection products on non-agricultural land (including e.g. playing fields or sealed areas, which according to the NAP applies to railways) is prohibited; it is permissible solely if an exception is granted. In practice, railways companies normally receive exceptions from the Federal Railway Agency, for safety reasons.

 **France:** has introduced a law banning use of pesticides in green spaces, forests, and public walking paths starting on 1 January 2020, except when used to combat invasive species.

 **Netherlands:** According to the new Dutch NAP, a ban on herbicide use in parks will be applied from 2017, while golf courses and recreation area the same, but they might have some derogations.

 **Brussels Capital Region:** In 2013, a regional ordinance foresees an immediate ban on the use of pesticides in sensitive areas (schools, playgrounds, hospitals) and a total ban on the use of pesticides in public areas as from 2019. Pesticides will still be authorized in order to fight invasive species in the event that there are no alternatives.

2.5.2. Many MS are proposing new actions thanks to the SUDP

Many national action plans contain clear quantifiable objectives on ways forward:

 **Cyprus:** from 30/6/13, ban on use of pesticides in public parks, schools, in water bodies and conservation areas.

 **Bulgaria:** no use of hazardous pesticides in sensitive areas, protected areas, pasture and meadows.

 **Lithuania:** Ban on the use of pesticides close to educational and healthcare facilities, use in sport fields limited to low risk substances, ban in protected wetland reserves, soil reserves, animal, bird and fish reserves as well as in karst area land falling under group III and IV.

Others are taking a more prudent – less quantifiable - approach:

 **Denmark:** use reduced to minimum in public areas, with a specific future target for golf courses.

 **Finland:** combat invasive species in sensitive areas with biological control organisms

 **Slovenia:** roads and railways: use of non-chemical methods

 **Estonia:** obligation to use low-risk plant protection products with priority given to methods for biological pest control

UNACCEPTABLE

 **Hungary:** introduction of precision farming

 **Malta:** parks, schools, conservation areas apply pesticide at night time! Preference for biological control, herbicides not allowed in public playgrounds, as well as toxic and very toxic pesticides

 **Croatia:** Define possible restrictions to the use of pesticides in specific areas through protected area and NATURA 2000 area management plans and by incorporating nature protection measures and conditions in natural resource management plans.



Banning pesticides in public areas is a positive development, which is now leading to a larger number of activities being organised at the local, regional and national levels, which illustrate alternatives methods of pest control. The European Commission could have a role in providing exchange on this matter on the European level.



3.

What should a good NAP look like?

We would have liked to be able to hold up a particular country for having a NAP that others should emulate, but unfortunately, no country has developed a NAP that fully respects the SUDP. Instead, each NAP has elements of interest, which pulled together into one NAP could have finally helped make the needed changes towards an EU agricultural sector less dependent on chemical inputs.

AIM TO REDUCE INPUT DEPENDENCY



e.g. Austria: a significant proportion of chemicals to be replaced by non chemical alternatives, biocontrol among others

SET QUANTITATIVE REDUCTION TARGETS AND CLEAR TIME TABLES



e.g. Denmark: 40% reduction in use from 2011 to 2015
A general reduction level in the EU of 50% does seem feasible, see testimonies on:
www.youtube.com/watch?v=qLTkVYDDOHM

APPLY A HOLISTIC APPROACH TO FARMING



e.g. Switzerland: mandatory and voluntary support for farmers
Green component consisting of 4 years mandatory crop rotation, 7% ecological focus areas and establishment of cover crops, with farmers financially encouraged to apply more holistic approaches to farming as part of rural development schemes

RECOGNISE THE NEED TO ASK FARMERS TO TAKE MANDATORY STEPS AS PART OF CROSS-COMPLIANCE



e.g. the Czech Republic NAP

By 2015 the systems of measures for agricultural activity limiting the risk to the environment in the context of supports and controls shall be harmonised, in particular the control conditions in the framework of cross-compliance and the standards for maintaining a good agricultural and environmental condition (GAEC) with the measures for compliance with the general principles of integrated pest management.

SUPPORT FARMERS TECHNICALLY, FINANCIALLY AND MORALLY

for taking holistic approaches as part of rural development programme as a combination of agronomic practices, use of biocontrol..), exchange of experience with organic farmers

ELABORATE COMPLETE SUCCESS INDICATORS OF UPTAKE OF NON-CHEMICAL ALTERNATIVES

Complete indicators could be

- 1) number of farmers, number of hectares applying crop rotation, number of farmers, number of hectares reserving land for ecological focuses; and
- 2) number of farmers, number of hectares applying biological control as well as how many alternative products allowed in the market.



BANNING PESTICIDES – A MORE EFFICIENT WAY TO REDUCE USE OF PESTICIDES:



In Sweden, plant protection products are not currently used to kill harmful organisms in the soil, except in the case of ornamental plants and nurseries. **Instead, farmers and growers take preventive measures, such as crop rotation, tolerant or resistant varieties and sowing and planting in fresh soil.** The objective of stopping all use of plant protection products for disinfecting soil, except for the purpose of forcing ornamental plants and for use in nurseries, was achieved before Directive 2009/128/EC came into force. The objective is to prevent the use of chemical plant protection products for soil disinfection from starting again in Sweden. However, it must still be possible to continue using these products for ornamental plants and in nurseries, because this usage is very limited. Under the terms of the Government's proposal for an ordinance, chemical plant protection products can only be used for treating soil to kill harmful nematodes in crops intended for the production of food or feedstuffs, if the Swedish Board of Agriculture has granted an exemption for their use.



4. The way forward

4.1. The European Commission must ensure that EU law is respected

The Commission's role is to ensure that EU law is properly applied by individuals, national authorities, and other EU institutions. The Commission can impose sanctions on individuals or companies who break EU law. It can take formal action against national authorities if they are suspected of being non-compliant, asking them to remedy the situation by a certain date. This may involve taking them to the European Court of Justice²¹.

Article 18 of the SUD specifies that *'The Commission shall put forward as a priority for discussion in the expert group on the thematic strategy on the sustainable use of pesticides the exchange of information and best practice in the field of sustainable use of pesticides and integrated pest management.'*

In the story behind the strategy, it is specified that this thematic Strategy Expert group will be set up consisting of Member States and other Stakeholders and *'will serve as a consultative forum and draw up guidance on best practices. It will also monitor implementation of the Thematic Strategy through:*

- ▷ *exchange of data and information by the Member States on progress achieved and on incidents having consequences for the health of professionals, private users, or for the environment;*
- ▷ *harmonisation of technical guidelines;*
- ▷ *establishment of a set of indicators to measure progress and establish quantitative risk reduction objectives.*

DG SANCO has however only elaborated one expert group meeting since 2009, instead SANCO has been arranged several workshops for Member States, without the involvement of stakeholders. Further, no guidance paper on best practices has been finalised as was originally foreseen.

Furthermore, so far, DG SANCO has 'only' taken legal actions against Member States to ensure that they deliver the plans. It has not taken legal action against Member States for the content presented in the NAPs.

21. http://ec.europa.eu/eu_law/introduction/commission_role_en.htm

Finally, it is clearly defined in the recital 6 of the SUDP stating 'The exchange of information on the objectives and actions Member States lay down in their National Action Plans is a very important element for achieving the objectives of this Directive. Therefore, it is appropriate to request Member States to report regularly to the Commission and to the other Member States, in particular on the implementation and results of their National Action Plans and on their experiences. On the basis of information transmitted by the Member States, the Commission should submit relevant reports to the European Parliament and to the Council, accompanied, if necessary, by appropriate legislative proposals.'

Therefore it is time for the European Commission to start taking action.

4.1.1. Start infringements procedures against DE, CY, HU and the UK

 Germany, and Cyprus, who, in their NAPs focus on reducing excess of Maximum Residues Levels of pesticides, counteracting the compliance of EU Regulation No 396/2005 respecting compliance with maximum residue levels of pesticides in or on food and feed of plant and animal origin.

 Hungary and the United Kingdom who have still not introduced a principle ban on aerial spraying, contrary to article 9.1 of the SUDP calling on "Member States shall ensure that aerial spraying is prohibited".

4.1.2. Question lacking targets, timetables and measures of the NAP in BU, CY, EE, FI, HU, MA, ES and the UK

It is time that the European Commission ask questions of **Bulgaria, Cyprus, Estonia, Finland, Hungary, Malta, Spain, and the United Kingdom** to identify their quantifiable their objectives, targets, (new) measures and timetables.

4.1.3. Ask for clarification where action is not clear

The European Commission need to ask **many Member States** where actions are unclear, and derogations are not explained and/or where derogations seem to going beyond what is defined in the SUDP.

The European Commission must identify potential data gaps making it possible for the EU to ensure compliance of the SUDP, allowing a complete revision to be done by European Parliament and Council in 2014.

4.1.4. Question the IPM baseline, and the moves towards IPM

- ▷ Questioning the IPM definition made by **Estonia**: 'IPM is the combined use of biological, biotechnological, chemical, agronomic and plant breeding methods by which the use of chemical plant protection products is reduced to the extent that is necessary for the retention of pest population at a level that does not cause unwanted economic or crop damage.'
- ▷ Questioning the NAPs in **Hungary/Germany/Finland** about the sense of introducing promoting crop rotation in organic farming, rather than ensuring that these practices will be introduced in conventional, which are crucial according to figure 1 to ensure the needed move towards IPM?
- ▷ Question **all Member States** on what specific measures they have taken, new actions on agronomic practices and nonchemical products, on voluntary and mandatory elements of the CAP to ensure the needed moves towards IPM as foreseen in the SUDP and by updating of the rural development schemes on IPM, illustrated in figure below.

SPECIFIC ON IPM IMPLEMENTATION AND THE CAP, RURAL DEVELOPMENT:

- ▷ Some MSs offer financial support as part of the rural development programmes to farmers who try to avoid overuse of pesticides (through precision farming).
- ▷ Many MSs (Austria, Cyprus, Czech Republic, Estonia, Germany, Hungary, Italy, Latvia, Portugal, Slovakia, Slovenia, Spain) already offer financial support to Integrated Production as part of the Rural Development Program of the Common Agricultural Policy, but few seem to be holistic, and none seems to be dynamic, increasing the IPM measures requested over time!

Country/Region	Instrument	What	Amount €/ha
IT/Emilia Romagna	F&VCMO	use of selected pesticides combined with an integrated production system	Arable: €100/ha Vegetables: €300/ha Fruit: €550/ha
Austria (*)	Agro-envir. in Rural	crop rotations (annual crops), restrictions on fertiliser and pesticide use, training and record keeping	Potatoes: €150/ha Strawberries: €250/ha Fruit and hops: €300/ha Vines: up to €400/ha
France	AE	Biological control agents, beneficiaries, sexual confusion	Vegetables: 105€ Fruit trees: 70€ Grapes 79€
Belgium (Flandre)	AE	Sexual confusion against the codling moth (min 5 years and 1 ha)	Pipfruit: 250
Luxembourg	AE	Biological control agents to fight Cochylys+Eudemia on grapes	120 or 200 €/ha depending on the exact intervention needed

4.1.5. Develop harmonized indicators on non chemicals

The European Commission needs to proceed with discussions with stakeholders and member states in the development of harmonised risk indicators as foreseen in article 15 of the SUPD specifying 'Harmonised risk indicators shall be established'.

Rather than 'soft measures' like the number of training hours, numbers of guidelines developed.

It is time to consider REAL IPM measures, for example:

- ▷ The number of farmers/hectares applying crop rotation; and
- ▷ The number of farmers/hectares applying biological control, and as part of that
- ▷ The area farmed organically

4.2. The European Parliament and the Council must ensure the needed change

The new European Parliament will be involved in the implementation twice during its five years mandate:

- ▷ 26 November 2014: Commission will submit its report on NAP implementation to the European Parliament (EP) and the Council (art. 4.3)
- ▷ 26 November 2018: Commission will submit a report on NAP implementation to the EP and the Council. It may be accompanied, if necessary, by appropriate legislative proposals (art. 4.4)

Members of the European Parliament as well as the Member States through the European Council, must make sure that the following objectives have been reached: *'Member States have taken all necessary measures to promote low pesticide-input pest management, giving wherever possible priority to non-chemical methods, so that professional users of pesticides switch to practices and products with the lowest risk to human health and the environment among those available for the same pest problem'* as foreseen in the SUPD.

If these objectives have not been reached, they need to propose action to ensure that this happens, for as scientists from nine European countries concluded in a study from 2009: *"If biodiversity is to be restored in Europe and opportunities are to be created for crop production utilizing biodiversity-based ecosystem services such as biological pest control, there must be a Europe-wide shift towards farming with minimum use of pesticides over large areas."* (Geiger et al, 2009)²²;

In 2011, the European Commission compiled a survey on the art of implementation of the SUPD into national laws.²³ This report is insufficient, as it only analyses forms rather than content (how many respected the deadlines..). When content is analysed, is only analyses soft measures (number of training hours, number of training courses, number of certificated issued..), not the real measures and to what expend these are successful.

Furthermore, this report lacks all references to any particular Member State.

The European Parliament and the Council need to make sure that the report that the European Commission will transmit will analyse the questions posted above, and propose solutions forwards.

With that being taken up in recital 4 of the SUDP which highlighted that ‘Economic instruments can play a crucial role in the achievement of objectives relating to the sustainable use of pesticides. The use of such instruments at the appropriate level should therefore be encouraged while stressing that individual Member States can decide on their use without prejudice to the applicability of the State aid rules.’

Denmark introduced a pesticide tax as starting in July 2013, applied not to the value of the insecticides, but linked to its environmental and health toxicity. An information seminar for other member states has already been arranged²⁵.

Also, the EU institutions must not forget that certain Member States even apply VAT levels, which is beyond the average rate –as is the case in Slovenia, Poland and Portugal. This is an indirect subsidy and should be stopped, especially important to stop now when the EU agreed on a resource efficiency communication calling on creating more with less, delivering greater value with less input.

VAT levels applied in the MS for pesticides and fertilisers²⁶

	BE	BG	CZ	DK	DE	EE	EL	ES	FR	HR	IE	IT	CY	LV
Pesticides	12/21	20	21	25	19	20	13	10	10/20	25	23	22	5	21
Fertilisers	12/21	20	21	25	19	20	13	10	10/20	25	0/23	4	5	21

	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Pesticides	21	15	27	18	21	20	8	6	24	9,5	20	24	25	20
Fertilisers	21	3	27	18	21	10/20	8	6	24	9,5	20	24	25	20

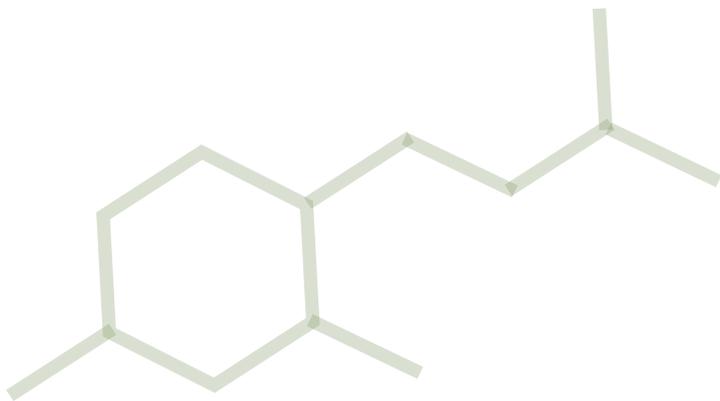
24. http://ec.europa.eu/environment/ppps/pdf/pesticides_en.pdf

25. See the workshop held in DK to inform other member states: www.mst.dk/English/Pesticides/pesticidetaxseminar.htm

26. http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/how_vat_works/rates/vat_rates_en.pdf

As part of this, the two EU institutions must not forget the recommendation made in the story behind the thematic strategy²⁴ saying ‘taxation should be investigated further in order to establish a ‘banded’ taxation system as a proxy for true externalities in the future’.





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