

What is the future for sustainable EU Agriculture?

By collating the conclusions of 7 IPM Symposia held in Brussels in or near the European Parliament designed to bring EU Agriculture to a more sustainable place whilst protecting our EU Citizens and the Environment can we find some common threads and ideas?

The Actors:

IBMA (International Biocontrol Manufacturers Association), PAN Europe (Pesticide Action Network) and IOBC (international Organisation for Biological and Integrated Control) have been in the vanguard of efforts to reduce chemical pesticide dependency for several decades and have pioneered the uptake of Integrated Pest Management during this period and particularly since the adoption of the SUPD in 2009. As a visible sign of this commitment, we have hosted 7 annual symposia since 2012 at the EP and with the support of MEP of several political persuasions.

At each of these symposia, committed farmers have given their experiences of using IPM across a vast range of production sectors such as greenhouse and protected crops, orchards and vineyards as well as broad scale arable production including cereals and maize. Everyone of them saw environmental, economic and human health benefits from IPM while laying emphasis on aspects needing improvement. IPM has never been so urgent and the reduction in chemical pesticide use will not happen without its full and dynamic implementation.

IPM aims at the prevention of and reduced build up of plant pests and diseases and the control of weeds. In effect, it can be seen as a hygiene system for plant production. Its tools include rotations, which allow fields to rest and diseases to weaken or die off, the use of high quality seed and clean machinery to prevent accidental disease spread, monitoring, forecasting and early warning systems. Then an approach to disease outbreak or potential outbreak using biological control and only then, if not yet successful, the use of chemical pesticides.

IPM is remarkably similar to the current medical approach to COVID 19, which lays enormous emphasis on personal hygiene and social distancing as the main means of limiting infection and disease spread. Of course, there is a place for chemical control; however, it is as a last rather than the first option. With IPM, we have a system (the only one possible) which can achieve the reductions sought by the Commission under the European Green Deal. We are ready to help the European Commission, Member States and especially farmers in making the needed move towards engaging in serious reductions of EU's pesticide dependency.

The Background:

What can we draw in conclusion from these meetings where eminent scientists, practical farmers risking their own livelihoods, economists and entrepreneurial SME business innovators gave real examples of how a holistic IPM system of agriculture is a reality and not just a dream? To implement this we still need change to occur and it needs support for this to happen. The three organisations, unusually for an NGO, a research organisation and an industry trade association foresaw this need to come together to encourage not only a shift in EU Agricultural Policy but also practice at farm level in EU Member States. The value of this to EU Citizens was recognised by both Greenpeace and the European retail group Co-Op Europe who also joined the effort in 2014 and 2015, and 2015 respectively. Support from the European Parliament from the outset has been invaluable and several MEPs notably Pavel Poc, Andrea Zanoni, Dan Joergensen, Bart Staes, Karin Kadenbach, Sirpa Pietikäinen, Benedek Javor, Martin Hojsik and Fredrick Federley hosted the symposium over the years demonstrating their commitment to shifting European agriculture from an over-reliance on the use of pesticides. The event from 2013 to 2018 was chaired by the former DG Environment Head of Unit for Agriculture, Michael Hamell, who had chaired a session in the inaugural event in 2012, and provided the balance of understanding the science and the bureaucratic processes as well as a realistic expectation of what is possible given resources, political will and management of project management timelines.

A Year on Year Reflection:

There are certainly some common pathways the events took and some areas from each event that need highlighting.

2012 Symposium:

From the very first event in 2012 there was a sense that this is indeed an area where it was recognised that change was politically and publicly justified and needed. DG Sante was represented in the programme by the Deputy Director General Mr. Ladislav Miko, DG Environment by Vesna Valent a Member of the Cabinet of Commissioner Potočnik and DG Agri by Alina Ujapan a Member of the Cabinet of Commissioner Cioliş . In a constructive co-operation Mr. Miko and MEP Mr. Pavel Poc called for the event to be repeated on an annual basis, move to the European Parliament. The recurring themes that **a. regulatory hurdles** were a burden to an emerging SME-rich green industry and inappropriate for such often niche solutions and **b. a lack of ambition in MS NAPs and EU COM policies** promoting that sustainable alternatives to chemical PPPs were available and used effectively by successful farmers but not promoted through innovative agri-environmental policy, that the CAP could be more encompassing of agri-ecological practices, that there was a reluctance to own the problem and that there were vested interests reluctant to change practice

2013 Symposium:

In the second incarnation entitled “Feeding Europe with less Pesticides” in 2013 differences in definition of IPM emerged as being a significant part of the issue.

A visionary definition was tabled by Prof. Joop van Lenteren namely, “a durable, environmentally and economically justifiable system in which pest damage is prevented through the use of natural factors limiting pest population growth, IF NEEDED, supplemented with other preferably non chemical methods”. ”. This definition is indeed

more ambitious and importantly also discourages the inevitable use of a single additional IPM tool to attempt to brand a chemical PPP regime as an IPM system. Such practice does not represent the real change in thinking and approach that defines IPM.

The Chair also drew our attention to some vital points:

IPM practice exists and works in horticulture and the basic tenets apply to arable farming

The farm sector was clearly in favour of IPM including biological control and non-chemical means, and cited health reasons, financial reasons and also environmental reasons.

They do need assurance that farm income and yield will be maintained and they need advice and training in ways that they can understand.

The SUPD is a directive that could offer more but linkage issues with other initiatives are either weak, not sufficiently exploited or non-existent for various reasons.

Blockages were identified in being able to truly implement IPM as the default system of pest and disease management;

The regulatory system, having been designed for chemical PPPs is seen as unfit for biological control substances and products.

There are insufficient funds being channelled into biocontrol and other alternatives to chemical PPPs.

There is a lack of centres for knowledge and dissemination of that knowledge.

There is a lack of awareness within society of the benefits of IPM. This is exacerbated by non-inclusion of external costs in assessing the value of PPPs to plant production.

The lack of ambition of MS NAPs and the EU COM CAP. Both of these areas could be significantly strengthened to ensure true implementation of the SUPD.

2014 Symposium:

The 2014 Symposium entitled “Feeding Europe with fewer pesticides” gave an opportunity to take stock with where we are in the transition of EU agriculture to a more sustainable system, look at some success stories and set the pathway for future progress. The crop sectors addressed were vegetables, viticulture and even a cereal crop, maize for management of diabrotica. The disappointing rural development plans for 2014-2020 and the very disappointing MS NAPs were reflected on.

Where we are now was summed up by the Chair (Michael Hamell) as “Despite substantial legislative support little progress has been made as evidenced by the less than ambitious MS NAPs”.

IPM is intensely knowledge based, which is stalling implementation due to the absence of all pieces of the jigsaw being in place. Parts of the retail sector have been able to inform and drive customers to support change. This is very evident in the horticultural sector and till now, absent in the arable sector.

Success stories were presented in several sectors with high adoption and reliance on IPM systems-based plant protection. The success stories were generated from the viticulture,

maize, fruit, potato and horticulture sectors and the role of specifically targeted agri-environment schemes were highlighted.

Despite considerable progress, the SUPD is still under-delivering and needs to be further monitored and strengthened to deliver intended results.

CAP legislation is an underused resource in delivering change of habit from farmers for IPM, the reduction of reliance on chemical PPPs and an increase in the use of alternatives.

2015 Symposium:

The 2015 symposium entitled “Feeding Europe while reducing pesticides dependency” was where the consortia supporting the event expanded to include Euro Co-Op and Greenpeace and was where the question was put that Civil Society is entitled to ask: “Why is it taking so long to arrive at a more sustainable agricultural practice with the inputs of good practice outweighing the use of chemical PPPs?”

There was a focus on apples where it can be demonstrated there is rarely a need for chemical PPP intervention and yet evidence of some very disturbing use patterns were highlighted. It was demonstrated that 30-35 pesticide applications annually have been recorded. This is totally unsustainable and not the image civil society nor policy makers have of the healthy apple, although minimal consolation can be drawn from the data that residue levels have been improving. Attention was drawn to the fact that using 30 – 35 pesticide applications a season for apples is neither sustainable nor a desirable situation for citizens or the environment. Alarming long-term effects were highlighted in that residues of pesticides no longer approved in the EU are being detected in soil analysis.

What was described as a “Catch 22” situation where there are no plans to include the SUPD in the cross-compliance mechanism of the CAP. The CAP allows for inclusion when the legislation is implemented so that non implementation especially of IPM effectively allows both the MS and EU institutions off the hook as far as this aspect of cross compliance is concerned. The message sent to producers on this and the rowing back on inclusion of compulsory rotations is weakening the call for MS to require rotations as a basic tool for IPM. There is acknowledgement of the usual suspects in failing to bring IPM to its pre-eminent place as the standard of EU agriculture, namely: a broken and chemically directed regulatory system, lack of research, lack of control centres, lack of dissemination and education and commercial priorities and sensitivities in preventing true uptake of IPM.

There is a consensual call to move agriculture from a system dominated by monocultures to a more balanced holistic system and to look at better monitoring, forecasting and warning system and inclusion of supplementary techniques such as “beetle banks”. The viewing of the biological control industry as a niche player in an otherwise broadscale, mature and well funded chemical control industry is placing unnecessary barriers to the belief in and expansion of a more sustainable and beneficial set of tools. The pesticides industry was called on to end this by producing a visionary document on adoption of IPM before recourse to chemical intervention. The vision for arable farming has to change. If that vision is not enlarged to embrace sustainability, then the norm will remain in place and IPM will continue to be seen from the top of the triangle or pyramid rather than from its base. Biodiversity is

not surviving but collapsing. If it continues to be pushed to field margins, beetle banks and a tiny percentage of large, often featureless farms, its collapse is assured.

The EU Com were called on to be equally visionary with preparation of a roadmap to full IPM and that this should extend beyond horticulture into arable cropping and eventually intensive grassland farming which dominates in large measures especially in the grazed dairy systems of Europe.

2017 Symposium:

The 2017 Symposium was again organised by the core organisations PAN Europe, IOBC and IBMA after a break of a year 2016 without a symposium. It had 2 streams “success stories” and “uncomfortable realities”. It was entitled “Unlocking the IPM triangle using green tools first” a reference to the IPM triangle developed by the 3 organisations to simplify, visualise and gain greater understanding and adoption of IPM practices and systems. It also had a focus on grapes and vines.

The positive areas highlighted included reference to apple orchard redesign, implementation of insect control systems in vineyards based on pheromone deployment, examples of good practice spread across many EU MS with Luxemburg, Italy, Portugal and Germany given as good examples and the self-imposed pesticide reduction target of 50% in France given prominence. Luxemburg reported that its vine sector is now almost fully IPM.

However the uncomfortable realities were aired as being the lack of importance given to rotations and not being required under the current CAP, non-inclusion of undersowing and intercropping, lack of recognition of contribution of protection, enhancement and augmentation of beneficial insects having a role in pest and disease management, lack of wide implementation of monitoring, modelling, forecasting and warning systems, lack of spread into other areas of agriculture of biological control and the fact that chemical control though seen as the last resort in IPM remains overwhelmingly as the most significantly practiced approach to crop protection.

The European Parliament was urged to fill the void by a lack of action by the EU COM despite repeated calls for action whilst the EU COM was urged to deliver a report, originally due in 2014 on SUPD implementation including MS NAPs. This lack of urgency gives a clear impression that the EU COM and MS don't really care and are not seriously addressing IPM. EU COM were requested for more engagement of other DGs, namely Agri, Envi and RTD to work alongside Sante to gain more commitment to enacting change. The EU COM should report to the EP and the Council with a plan to use a range of available policy instruments. The PPP industry were again encouraged to prepare a vision of creating a fully sustainable industry by 2025 and to look at IPM as a business opportunity not as a constraint as it now does. NGOs were encouraged to look at exploiting the potential of IPM to address various issues including but not limited to water pollution, biodiversity decline, soil depletion, air pollution and benefit to human health. The Chair furthermore requested the consortia to be ambitious and address arable farming in the 2018 symposium.

2018 Symposium:

The challenge to focus the 2018 symposium on arable cropping was taken up and that year's symposium was entitled "Working with nature in arable crops". Several issues were addressed by the speakers and panellists and highlighted in the conclusions.

Despite representing about half of all EU agriculture the concept of IPM in arable crops is often seen as beyond the reach and capabilities of IPM. This misperception is not refuted and often encouraged by the chemical PPP sector. Issues with soil decline from a productivity, structural, organic matter and ability to support microbial and soil organism standpoint were given by FAO and INRA perspectives and point a very gloomy picture of the effects of intensive farming and chemical PPP usage over long periods. INRA, in particular, highlighted very serious declines in soil microbial content and activity after the use of some PPPs which could have devastating long term implications. Farmers are willing to adapt practices to move to an IPM systems-based approach citing economic, human health, cost reduction and soil protection as the key drivers to change. They strongly emphasised that it works but requires a strengthening of education and advice offered to the sector. The issue of costs in bringing niche biological products to the market in particular still needs to be addressed by policy makers.

The European Parliament was encouraged to report on the implementation of the Commission of the report and also the SUPD. Farmers organisations were asked to step up their efforts in demanding the tools for farmers to implement IPM and enhance sustainability and the NGOs to again demand full implementation of IPM. However, the loudest call was for efforts at all levels to be made to promote soil protection particularly in arable crops that it is not merely a substrate. It is unhealthy and is lacking structure, function and devoid of all lifeforms apart from the severely disadvantaged crop to be grown in it.

2019 Symposium:

The latest symposium was held in 2019 and after seven symposia and constant calls for change some encouragement was seen in the incoming 2019 EU Commission with a very public focus on climate change, environment, sustainability, farm to fork, new green deal and toxic free future. We were still however awaiting the details of the promises being brought to life.

Florence Jacquet (INRA) outlined 10 years of policy tools in France to reduce dependency on pesticides and the new ambitious Ecophyto II programme. She stated that a cropping system redesign was required to manage new ways of farming as indicated by INRA's "Towards chemical pesticide free agriculture" work that is being conducted alongside several leading European research organisations.

Erik Mathijs (Leuven University) talked about business models and the importance for change in agricultural practice to go hand in hand with a change in business model to enhance farmer motivation to change.

Helle Orsted Nielsen (Aarhus University) reviewed the past 30+ years of Danish agro-environmental policies and looked at motivation of farmers to change. She concluded that farmers measure success in different ways (incl. economic, production, and environmental). How they measure success will condition susceptibility to sustainable practices and responses

to policy instruments. Policy tools therefore need to include incentives for all types of motivations.

PAN Europe and IBMA did however have certain aspects each organisation wished to conclude on.

PAN Europe called on MEPs to reintroduce EU Green Deal pesticide use reduction goals and integrate these into the SUPD. They also called for these mandatory use reductions to be introduced into the CAP alongside rotations and ensuring a significant role for leguminous crops. The circle is completed by then bringing them into the farm to fork, biodiversity strategy and other initiatives.

IBMA reflected on the near 100% uptake of IPM and biocontrol in protected cropping and the good progress in speciality crops such as fruits and vines. Uptake is slower in arable crops and the need for farmer to farmer networks where farmers can learn from other farmers with advice from researchers and extension services is key to success. Good examples on individual farms exist but the lack of available biocontrol products is limiting expansion. IBMA reiterated the call for proportionate regulation for biological PPP solutions.

Important Themes and Key Messages

In looking at the progress over the years some has happened but has been too slow. It needs to quicken in pace considerably.

Chemical PPPs must only be seen as a last use resource in plant protection which itself should be seen as within the concept of protecting our food production, our environment and the health of our society.

Regulatory adaptation needs to be made to change the balance of inputs to agriculture and encourage not discourage the innovative researchers and SMEs producing biological plant protection tools from the unsustainable chemical inputs to the sustainable products to be used in future EU agriculture.

The EP and EU COM need to ensure that policy points to a joined up effort and drive to bring best practice to the agriculture practiced in the EU using all the statutory instruments in a joined up and encouraging manner to improve or retain productivity, protect our environment and public health. Of particular importance are the SUPD and the CAP.

Economic incentives and disincentives are very powerful and should be deployed to bring about strategic change to a different form of agricultural practice employing new models that look at farming practice bringing in all costs and looking at new practice being incorporated into the models without a cost burden being placed on the farmer for their adoption or occasional failure during an implementation period.

Member States need to play their part honestly and with responsibility, commitment and a passion for a better future for their industry, environment and public health and engagement. There is a real need for facilitating education and knowledge transfer and this has to be organised or supported at MS level.

Vested interests in carrying on with outdated systems and using only on-farm cost models and therefore neglecting environmental and human health costs as they are not captured. The conventional PPP industry now needs to engage in a vision of sustainable agriculture based on IPM and to adapt strategies to achieve it, especially in the area of biological control building on the farm practices inherent to IPM. Current practice must be changed and those parties with long term interests need to engage pro-actively in a greener agriculture for the future rather than looking at one on one product comparisons and aggressively defending status quo even when detrimental to human health and the environment.

Visionary bodies such as NGOs with a passion for a better environment, farming system and a genuine concern for the society we are all part of should continue to exert pressure for change.

Above all farmers need to be at the centre of the change in farming systems, given appropriate support, information, good effective safe tools, insurance or compensation and feel confident to lead the way to making the necessary sustainable changes EU agriculture must see as we tackle the various challenges and deliver safe food, keep a diverse living natural environment and support a healthy community and workforce.

We have seen passionate farmers that have embraced IPM and the tools needed for a robust pest management programme. Their transition hasn't always been easy. They have needed help to embrace a new farming model. They do not regret making a change. They have been happy with the resultant environmental benefits including more biodiversity, the human health aspects, the productivity and the economic aspects. These farmers produce diverse crops, protected salads, outdoor vegetables, vines and fruits, and cereals. They want more tools and support for the European agriculture they see in the future.