

# BCPC Brighton Congress 2017

Graham Matthews\*



*BCPC Brighton 2017 was opened by UK Minister of State for Agriculture, the Rt. Honourable George Eustice MP, whose farming background was clear in his understanding of crop protection. With the UK wondering what the future will be post Brexit, he was quick to say that when we look back in five years' time, we will have made the right decision.*

**T**he British Crop Protection Council (BCPC) celebrated its 50th Anniversary with the 2017 Brighton Congress entitled “Achieving both productivity and safety improvements through better regulation”. The event began with an address by the UK Minister of State for Agriculture, the Rt. Honourable George Eustice MP, whose farming background was clear in his understanding of crop protection. With the UK wondering what the future will be post Brexit, he was quick to say that when we look back in five years' time, we will have made the right decision and very important for Defra (Dept for Environment, Food and Rural Affairs) to do what is right for our own farming. With concern about the precautionary principle adopted within the EU and others talking about needing evidence based decisions, we need to step back and decide on the right strategy for Crop protection. As people are becoming more cautious, more plant protection products are being banned, and

\*IPARC, Imperial College, SilwoodPark, Ascot, SL5 7PY.

companies are reluctant to invest in new products when there is uncertainty about a return on investment. Fewer products will not make it any easier to overcome the increasing problem of resistance to our pesticides.

Integrated Pest Management (IPM) may be a cliché talked about for a long time, but now is the opportunity to put it at the heart of our strategy: using pesticides with more care, thinking about the doses and frequency of application and looking for more selectivity with incentives to improve crop husbandry with better crop rotations and improve soil health with a reduction in soil-borne pests and diseases. He then advocated looking more at the potential of using genetic technology to grow crops with greater resistance to pests and diseases. This is contentious to some, but he felt that our plant breeders have perhaps put too much emphasis on yields in preference for other factors such as resistance to disease. He recalled that there was a lot of excitement of using natural enemies such as *Phytoseiulus* to control red spider mites in glasshouses and *Amblyseius* to control a mite in

strawberries, but he expressed disappointment that the approach had not expanded beyond protected cropping. We need to look again at this area and other approaches such as biocides as supplementary to our chemical pesticides.

Sterile insects have been used since 1948 but now there is interest in releasing genetically modified insects which, when mated with wild populations only produce males, leading to a crash in population, with no chance of the genes escaping in the environment. Oxitec has been pioneering this with using genetic engineering rather than radiation to produce modified mosquitoes for release. Could we be doing more to use this technology to control our pests? We can make IPM the prism through which we make all decisions – regulatory through government and agronomic on farms improving our crop protection but always recognising that use our pesticides will always be part of the programme.

We must make sure that existing registration of pesticides within the EU is continued, to secure trade deals immediately after Brexit. Looking further ahead we have seen that the so called Quad countries - USA, Canada, Australia and New Zealand have a working group to discuss pesticides and share information but decide on legislation independently within each country. This is an idea that we can explore with the EU and to share technical information, recognising that our CRD has renowned technical experience, but each country legislates according to national considerations.

The Rt. Honourable George Eustice continued to say he recognised that there are now hot topics at present such as the neonicotinoids, with presence of residues in soil which could possibly get into water. Glyphosate has been used safely for decades, so the UK government shares the view of EFSA and support its re-authorisation, being disappointed about the reaction of other countries. These are exciting times now at Defra. The UK government is working on a new Agricultural Bill next year and we plan to put research, development and innovation at the heart of our approach and possibly next summer will introduce a White paper on this.

Jon Knight (AHDB) covered “Problems and opportunities for UK crop protection after 2019”. At present the majority of farmers rely on conventional pesticides and very little adoption of IPM had been taken up as it raised questions of profitability for some cropping systems and whether it would be sustainable. It was difficult to forecast what will happen with exchange rates changing and prices for crops depended on what happened on a global scale.

Farmers were also faced with the problem of pests becoming resistant to insecticides, while the range of pesticides has been reduced at the same time the cost of bringing a new active to market has climbed from \$152million in 1995 to \$286million in 2010. He referred to the AHDB publication “Horizon” which has used a model and has examined the potential impact of various scenarios on prices and farm business income and sector structures. In this there are identified parameters within businesses control to help levy payers prepare for Brexit and get ‘fit for the future’. He highlighted some of changes likely although the impact on different crops varied greatly by scenario and by sector.

Specifically, changes in both trade arrangements and the level of support to the industry, as well policy have a major impact. It showed that the top 25% of farm businesses regardless of their size or sector would remain viable post Brexit, certain sectors, such as cereal growers and horticulture were particularly vulnerable due to changes in support payment and labour respectively. So much depends on whether after Brexit, the UK has a trade deal with the EU or not, and if the latter whether World Trade Organisation tariffs apply. He gave examples and then quoted George Eustice’s statement earlier in the year – “the EU’s precautionary principle needed to be reformed in favour of a US-style, risk-based approach, allowing faster authorisation.” And Michael Gove’s view, expressed in July to the WWF, “We now have an historic opportunity to review our policies on agriculture, on land use, on biodiversity, on woodlands, marine conservation, fisheries, pesticide licens-



*Delegates to the 2017 event voiced their opinion it was the best Congress since BCPC returned to Brighton.*

ing, chemical regulation, animal welfare, habitat management, waste, water purity, air quality and so much more” and from his conversations with farmers and land owners - “I know that there is a growing appetite for a new system of agricultural support which respects their work and puts environmental protection and enhancement first.”

Jon Knight thought that some are concerned about re-establishing a risk assessment of new pesticides, thinking it would lead to a relaxation of standards and yet the UK has been the initiator of sound scientific evaluation of pesticides and played a leading role with registration procedures for decades. He concluded that agriculture is about to undergo a major change in the way in which it operates and consequently its profitability, so there will be a need for a new approach to production for farming to remain viable. Crop protection is a key part of this but the challenge with IPM as a policy, is the potential to reduce the risk of impact of pest management on the environment and human health and develop sustainable agriculture. To achieve this a coherent long-term plan (10 years) to transition to biologically based IPM pro-

duction systems is needed with farm support for transitioning to new approaches. Research and development will require investment and incentives for development of new technologies, combined with payments for more environmentally benign production. All this will require training of advisors and others so that farmers can adopt the new technologies.

In his talk, Professor Lin Field, Rothamsted Research, began by describing why the neonicotinoids had become one of the most widely used class of insecticides. Their selectivity to insects, their systemic activity allowing use as seed treatments in preference to sprays and the fact that pests have taken a long time to develop resistance to them. For some time, there has been concern about a decline in bees worldwide which has been influenced by many factors including the presence of Varroa mites in honeybee hives, diseases, as well as weather conditions and availability of food. However, it was easy to blame the insecticide for bee decline, when very low levels of a neonicotinoid were measured in nectar and pollen. Very effective lobbying then began, but in 2012 Defra concluded that the studies



did not provide unequivocal evidence that sub-lethal effects will have serious implications for colonies. Nevertheless, EFSA recommended in 2013 that neonicotinoids should only be used on crops that were not attractive to bees.

In June the following year, the Guardian newspaper commented that “The world’s most widely used insecticides have contaminated the environment across the planet so pervasively, that global food production is at risk, according to a comprehensive scientific assessment of the chemical’s impacts”. This was based on a press release issued ahead of the assessment published in October (with only 15 references). Meanwhile earlier, Professor Godfray and eight co-authors had published a much more detailed review (with 256 references) which had concluded that there was limited evidence to guide policy makers and it was necessary to understand the consequences of changing neonicotinoid use, considering pollinator colony-level and population processes and the likely effect on pollination ecosystem services, as well as how farmers might change their economic practices in response to restrictions. This was followed up with a similar publication, but the press and activists continued to assert that this group of insecticides should be banned. Headlines such as “Strongest evidence yet that neonicotinoids are killing bees” continued, written by people who had

obviously not read or understood the data in the whole paper.

Lin Field concluded that the effect of neonicotinoids and other insecticides on non-target insects is complex and varies with different species, different compounds and the scale being studied. Many factors interact and have affected the decline of bees and we need to find ways of controlling pest insects minimising effects on non-targets.

Peter Campbell (Syngenta), continued the neonicotinoid story by referring to a legal case in which the European Commission was challenged to prove scientifically that there is an unacceptable effect under realistic field conditions of use, before it takes action. There was also a need to conduct an impact assessment on farmers, the environment and the organisms the restriction should protect before imposing restrictions in use. He also referred to an unpublished Bee Risk Guidance document from EFSA, which Member States have refused to adopt for over 4 years.

As a consequence of the ban on seed treatments, farmers have used more older generation insecticides which were sprayed in a less targeted way and are less effective. This has increased their costs and led to a significant reduction in the area of oil seed rape being sown. Meanwhile there has been no positive impact on bee populations as a result of the ban. Indeed, higher losses of bees were recorded in the year following the ban.

Since the ban, field trials with thiamethoxam seed treated oilseed rape showed no sub-lethal effects were detected on the foraging behaviour of honeybees and there were no effects on bumblebee colony development or on solitary bee reproduction. However, EFSA would not accept these studies. The Commission has proposed to ban all outdoor uses of thiamethoxam, clothianidin and imidacloprid, which will also affect crops, such as winter cereals, sugar beet and vegetables that are of low bee attractiveness. This is particularly alarming for growers of sugar beet as the single neonicotinoid seed treatment can give season long protection of both foliar (virus carrying aphids) and soil pests, so no sprays would be required. Much depends now on the European court case and the reactions of Member States.

Professor Steve Bradbury from Iowa State University then gave an interesting account of the regulatory system in the USA based on the integration of laws, risk analysis and governance. The risk analysis covers an assessment, communication and management of human health and environmental risks of concern to public, private and non-governmental organisations and society at local, national and global scales. This is guided by the National Academies of Sciences, Engineering and Medicine (NASEM). He pointed out that the profusion of biotechnological products over the next 5-10 years can potentially overwhelm the US Regulatory system, as the safe use of these new products requires rigorous, predictable and transparent risk analysis processes that mirror the scope, scale, complexity and speed of the biotech developments.

Anne Alix talked about mitigating the risks of plant protection products in the environment. The MAGPIE project has developed a toolbox to support Member States implementing measures that efficiently lower pesticide transfers in the environment and provide farmers with a wider and safer set of crop protection methods to increase safety but preserve productivity. (<https://www.setac.org/magpie>).

David Cary, Chief Executive of the International Biocontrol Manufacturers Association presented “A need for proportionate regulation for low risk biological inputs to agriculture” and Martyn Griffiths (Bayer S.A.S.), reviewed



the Regulations under 1107/2009 and 396/2005 by highlighting a lack of harmonisation of evaluation methods, growing complexity of legislation and problems in the mutual recognition of products and overall zonal system. Most applications of new products are taking over 18 months with only a fifth of authorisations being completed within 18 months or less. Jean Pierre Busnardo (DuPont Crop Protection), continued this theme and was concerned with changes needed, as in the absence of advance pest management, annual losses of between 26-40% of the world's potential crop production could double. Reducing annual crop loss by 1% could help feed 25 million people! He pointed out that the greatest threat of crop protection tools was not the regulations but the need to remove red tape to lower costs and make the laws simpler and easier to understand.

The second day allowed Defra to discuss the progress and opportunities for Pesticide Regulation in the UK as a result of Brexit. After an introduction by Dave Bench (CRD) Gabrielle Edwards (Chemicals, Pesticides and Hazardous Waste, Defra) set out what the EU exit meant regarding regulation of plant protection products. Article 50 established a two-year period to March 2019 which continues our reliance on the EU PPP regulatory framework, but from Day 1 we need to have in place our own regulations. In the longer term we can review and reform the UK regime. Defra will use the same rules and data requirements but will look for ways to improve flexibility in how the regimes are applied with co-operation with the EU and other regulatory regimes, as any substantive reform will require new legislation. In 2013-14, the UK had the most applications and made the most decisions on PPPs than any other Member State, demonstrating its reputation as a trusted regulator. Defra was interested in help from delegates on a number of issues that have implications for establishing a national regime.

The views of the Crop Protection Association were then presented by Anne Fletcher (on behalf of scheduled speaker Janet Williams) regarding the opportunities of the EU Exit as a result of the politicisation of the regulatory process and misuse of the precautionary principle, making the latest developments in agricultural technologies un-

available to EU farmers. This has led to a fall in the investment by industry on developing new products for the EU market from 33% of around £4bn globally each year on R&D to 7% today. The EU Exit provides an opportunity for the UK to become a global leader in crop protection R&D, developing a regulatory environment that encourages investment in innovation.

The position of the European crop Protection association (ECPA) is that it does not want to lose the UK resource from the system for authorisation for products, so the UK needs to be kept involved in the evaluation process. The UK must not become isolated in the global marketplace by UK-specific regulatory requirements, and harmonisation and collaboration with the rest of the world, where appropriate, will help to avoid this as UK growers need access to innovations to compete not just with the EU, but on the global market. In an ideal world the emphasis should be on risk rather than hazard in approving crop protection products for use. The actual, potential harm posed by any specific substance, rather than just the intrinsic hazard associated with a product, needs to be assessed taking into account factors such as exposure and potency. Good stewardship and best practice were key to a healthy environment. The idea of global co-operation, such as through the QUAD based jurisdictional regulation, mentioned by the Minister was needed.

It was pointed out that there are other specific technical, regulatory barriers that if overcome, could benefit producers whilst ensuring existing levels of protection for consumers and the environment. For example, the EU legislation (1998/83/EC) currently stipulates that the maximum concentration of any pesticide active substance allowed at the drinking water tap is 0.1 ppb, yet this limit has no scientific relevance for human health or the environment. If the UK were to adopt a more scientifically-valid, risk-based health and environment standard for pesticide levels in water post-EU exit, it would enable farmers and growers to have access to innovative products that cannot currently be brought to the EU or UK, with no reduction in the protection of the environment or consumer health. In the transitional period a number of decisions are needed because of legislative inoperabilities, such as the effect

on using MRLs, so stakeholder consultation should begin urgently to enable Government to find the best solutions.

Delegates were then able to comment on a set of questions from Defra/HSE and write out on flip charts their views.

In closing the Congress, Colin Ruscoe (BCPC Executive Chairman) referred to the Minister's support for a risk assessment system rather than the precautionary principle and maintaining a toolbox of agrochemicals within an IPM programme. Hopefully this will counter the recent misrepresentation of scientific results by the press and others, in both the glyphosate and more particularly the neonicotinoid situation, which have had a significant adverse impact with financial losses by farmers. He concluded by noting that delegates had voiced their opinion it was the best Congress since BCPC returned to Brighton, and looked forward to the prospect of exciting developments with new sensing technology, robots, precision farming and biopesticides.

