

FRC Food Brexit Briefing

Brexit and pesticides: UK food and agriculture at a crossroads

Josie Cohen^a, Nick Mole^b, Keith Tyrell^c
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^a Josie Cohen, Head of Policy and Campaigns, PAN UK

^b Nick Mole, Policy Officer, PAN UK

^c Keith Tyrell, Director, PAN UK



**PESTICIDE
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Executive summary

Brexit has the potential to drastically reshape the UK's relationship with pesticides. For decades, the way the UK regulates and uses pesticides has been largely decided at the European level. Although far from perfect, the EU's pesticide regulatory regime is widely considered to be the strongest in the world in terms of protecting human health and the environment from the harmful impacts of pesticides.

With Brexit looming, the UK has a major decision to make. It could choose to mirror the relatively high pesticide standards of the EU, and perhaps go further by introducing additional measures to reduce pesticide use and the associated harms to health and environment. However, there is a real danger that the Government will instead bow to the pro-pesticide lobby and use Brexit as a chance to deregulate, allowing a greater variety of harmful pesticides to be used on UK farms and enabling pesticides to be present in larger quantities in both domestically grown and imported food.

This Food Brexit Briefing explores the various paths the UK could choose to follow as it grapples with this dilemma. It considers not only whether the UK's existing regulatory regime for pesticides is fit for purpose, but also whether the British Government has the capacity and readiness to take on the various roles that EU institutions currently play to ensure the system works.

While initial concern regarding how Brexit would affect UK pesticide standards focussed on the loss of EU laws and regulations, it has become increasingly clear that the so-called 'governance gap' poses an even bigger threat. The key pieces of EU pesticide legislation will be transposed into UK law via the European Union (Withdrawal) Act, but the institutions, capacity and expertise required to implement them may take years to develop. In particular, the UK is losing the scientific support and advice currently provided by the European Food Safety Authority, as well as a range of important checks and balances conducted by EU institutions, which play a crucial scrutiny role to ensure that decisions are unbiased and do not yield to the vested interests of the pesticide industry.

In addition, a UK standalone system will need to take on a range of functions previously performed by the EU. This includes the huge but crucial tasks of setting the levels of pesticides permitted to remain in food (known as Maximum Residue Levels) and deciding which active substances – the active component of a pesticide product - can be used in the UK. The UK's existing institutions involved in governing pesticides are woefully unprepared to take on these roles from the EU.

Even if the UK is able to get its own domestic regulatory regime for pesticides in order, there is a huge risk that it will be undermined by future trade deals with non-EU countries with weaker pesticide standards. The USA, for example, has a history of attempting to lower other countries' pesticide standards through trade negotiations. The USA has almost three times the number of active substances authorised for use than the UK, and so will almost certainly exert considerable pressure on the UK to lower standards – for example to allow imports into the UK of produce containing residues of currently banned pesticides. With the perfect storm of inexperienced UK trade negotiators, more powerful and well-resourced negotiating partners such as the USA, and a shroud of secrecy enclosing the entire process, trade deals may well be the most likely route through which the UK's pesticide standards will be undermined.

Given these significant threats, it is crucial that the Government dedicates the time and resources necessary to ensuring that, post-Brexit, the UK system is able to protect people and the environment from the harmful impacts of pesticides. Regardless of whether the UK exits the EU with a deal or under a 'no deal' scenario, the UK must decide how closely aligned it wants to remain with EU processes and outcomes related to pesticides. According to the Draft Withdrawal Agreement (published in November 2018), the UK will remain aligned with EU decisions on pesticides until the end of the transition period. However, the future remains uncertain and, 18 months after the Brexit referendum, there is still no detail available as to whether the UK will move to its own standalone pesticide regime in the longer-term. The choice it makes will have a profound impact on UK farmers' trading ability. In 2017, 60% of UK food, feed and drink exports went to the EU. If the UK wishes to maintain this level of trade, it must ensure its agricultural produce meets the residue limits set by the EU for both approved and non-approved active substances.

While the first priority must be to defend existing standards, Brexit is not just a chance to copy the system we already have but a unique opportunity for the UK to adopt important innovations that have been effective at reducing pesticide use in other countries. These include a quantitative target for reducing pesticide use; a pesticide tax calculated on the basis of toxicity to health and environment; and the creation of a body – independent from the pesticide industry – to conduct research into non-chemical alternatives to pesticides (including Integrated Pest Management techniques) and provide farmers with the advice and assistance they need to adopt and maintain them.

Given the complexities of pesticide policy and the uncertainties around Brexit, it is easy to view pesticide regulation as a technical matter which only affects farmers. However, this seriously misjudges the issue. How the UK chooses to govern pesticides after Brexit will have profound implications for the health of UK citizens and the natural environment for generations to come. It's absolutely crucial that we get it right.

Key recommendations

The UK Government must ensure that Brexit does not result in pesticide standards being undermined. In particular, the Government should:

- Design and implement new UK systems, or strengthen existing systems, to carry out all functions pertaining to regulating pesticides previously performed by EU institutions in order to ensure that Brexit doesn't lead to a 'governance gap', where the UK lacks capacity to implement pesticide legislation and regulate effectively.
- Ensure that no weakening of UK pesticide regulations or standards occurs as a result of trade negotiations with non-EU countries.
- Maintain the EU's 'hazard-based' (rather than revert to a 'risk-based') approach to pesticide regulation in general, and active substance approvals in particular. This means that if an active substance is judged to be intrinsically dangerous then its use should be banned with no need for further assessment.
- Take the opportunity provided by Brexit to go further than the existing UK system by introducing three key innovations which have been effective at reducing pesticide use in other countries:
 - Introduce a clear, quantitative target for reducing the overall use of pesticides in agriculture.
 - Create a new government body to assist with the development and adoption of Integrated Pest Management (IPM) techniques by UK farmers
 - Introduce a pesticide tax or levy to drive reductions in pesticide use and fund research, development and innovation, including – but not limited to – a newly-created Integrated Pest Management (IPM) body.
- Use Brexit as an opportunity to move away from the opacity of the EU arrangements and create the world's most transparent regulatory regime for pesticides, thereby breaking the undue influence of the pesticide industry and building public trust that decisions are the result of an unbiased process.

For a full list of recommendations, see [pages 21-24](#).

Introduction

Brexit represents a potential turning point in the UK's relationship with pesticides. For decades, the UK's pesticide policies have been set largely at the European level and the imminent EU exit ushers in an era of uncertainty. On the one hand, the UK is potentially removing itself from the strongest regime of pesticide control in the world in terms of protecting human health and the natural environment from the harms caused by pesticides. On the other hand, it is leaving a regulatory system which has allowed its countryside to be doused in toxic chemicals, contributing to alarming declines in wildlife from farmland birds to flying insects; a system under which the health of UK citizens is still threatened by direct exposure to pesticides used on farms and in urban public spaces, as well as by cocktails of chemicals in food.

In terms of protecting against pesticide-related harms, Brexit comes with both threats and opportunities. The pro-pesticide lobby sees it as a chance to slash regulation, thereby weakening the standards the UK has had in place as an EU Member State, which it views as too precautionary.¹ If this happens, UK citizens and wildlife will be exposed to a wider variety of more harmful chemicals in higher levels, not only present in the food we eat but also contaminating our natural resources such as soil and water.

In contrast, the majority of UK citizens actually wants fewer pesticides in their food, farms and fields post-Brexit. Polling conducted in 2017 revealed 63% of people want to keep EU regulations on pesticides, compared to just 16% who wanted them relaxed. This strong preference for retaining European pesticide standards was articulated by both Leave and Remain voters.²

Brexit is a once-in-a-generation opportunity to bring about a paradigm shift in the way the UK farms and reframe the way we think about pesticides. With some relatively simple interventions the UK could drastically cut its pesticide use and bring

in the measures required to better protect public and environmental health, while also ensuring the UK has a sufficient and sustainable supply of healthy foods.

The path the UK ends up taking in terms of pesticide regulation will greatly depend on the nature of its future relationship with the EU. The simplest way forward, given the UK's constraints in terms of time and capacity, would be to mirror the EU's existing system. This is the route currently proposed for the transition period in November 2018's Draft Withdrawal Agreement.³ However, it is unlikely to be extended indefinitely into the future because, although it would ensure a continuation of relatively frictionless trade for agricultural produce, it would leave the UK beholden to EU decisions without a seat at the table.

Under this scenario, Brexit could actually result in EU standards becoming more stringent. Among EU Member States, the UK is notoriously pro-pesticide and has often been the main voice opposing the introduction of stricter measures. Post-Brexit, the EU's position on pesticides will be driven by Member States such as Denmark and France that have traditionally been more precautionary in their approach. For trade purposes, therefore, the UK could find itself having to meet increasingly strict standards set by an EU over which it no longer has any formal influence.

The UK Government continues to send mixed signals about the future. It has promised there will be no weakening of environmental standards and the Draft Withdrawal Agreement even includes a 'non-regression provision' which commits both Parties to not weakening environmental protections as they stand at the end of the transition period⁴; meanwhile Ministers have made worrying statements about dropping UK food standards to facilitate trade deals.⁵

Brexit need not usher in an era of deregulation and weak environmental standards. Now is the time for the UK Government to set out a clear vision for a sustainable future for farming, food production and

pesticide regulation, so it can protect the health of its citizens and become a world leader in environmentally friendly agriculture.

The major threats posed by Brexit to the UK's pesticide standards

The current pesticide regime is not perfect, but it provides a strong, institutionally well-supported and hard-won body of protections against the harms pesticides pose to human health and the environment. As a priority, the Government must ensure that Brexit does not lead to a weakening of UK pesticide standards, either by relaxing regulations (overtly or covertly), as the result of a governance gap, or as a condition of trade deals with non-EU countries. We have identified seven major risks Brexit poses to the current regime.

1. The fundamental danger of a shift from a hazard-based to a risk-based approach

Brexit poses an existential threat to the way the UK regulates pesticides.

As an EU Member State, the UK is currently supposed to follow a 'hazard-based approach' to pesticide regulation. This means that if an active substance is judged to be intrinsically dangerous – for instance by being able to cause cancer or persistent pollution – then its use should be banned with no need for further assessment. In short, the hazard-based approach presumes that some risks are just unacceptable.

While the EU regime can be described as one of the strongest in the world, it is far from perfect. The hazard-based approach forms the theoretical basis for decision-making but its application is often flawed. The EU has adopted a range of different

hazard criteria – including active substances being carcinogenic, repro-toxic, mutagenic or endocrine-disrupting, as well as criteria for persistence and bioaccumulation – but many of the definitions and thresholds urgently need to be strengthened to ensure that hazardous chemicals don't slip through the regulatory net.

Despite these inadequacies, however, the EU's hazard-based approach remains one of the best systems available and, if fully applied, would offer decent levels of protection to public and environmental health. In contrast, other jurisdictions follow the much weaker 'risk-based approach'. This is based on the idea that risks can be assessed, quantified and managed, so that, for example, carcinogenic or endocrine-disrupting substances can be permitted if the risks associated with them are deemed to be sufficiently low and manageable.

The contrasting outcomes of those two approaches are plain to see. For example, based on figures from 2017, the total number of active substances that can be legally used in the USA, under its risk-based system, is almost three times higher than that allowed in the EU (roughly 1,430 vs 486).⁶

There is a great deal of pressure on the Government to downgrade the UK system to one based on risk. It's coming both from the pro-pesticide lobby in the UK and from potential trading partners such as the USA, which are keen to open up the UK market to a much wider array of pesticides. Ending the hazard-based approach to pesticides would have the single biggest impact in terms of weakening the UK's pesticide protections and would undermine government commitments to deliver a 'green Brexit'.

2. Secondary legislation may be used to weaken standards

In principle, all the European Regulations and Directives pertaining to pesticides will have been copied across into domestic UK law via the European Union (Withdrawal) Act 2018 on the day after the UK exits the EU. The Act grants the Government

power to make amendments to EU legislation to ensure it functions in the UK context. For example, mentions of EU bodies such as the European Food Safety Authority (EFSA) will need to be removed and replaced by UK institutions. To do this, the Government plans to use 'secondary legislation' (which does not require a separate Act of Parliament), mainly in the form of what are called statutory instruments.

Despite promises from the Government that it will restrict its use of secondary legislation to amending procedural aspects of European legislation, concerns persist that changes will have the effect of weakening standards. The European Union (Withdrawal) Act grants limited scrutiny powers to Parliament over secondary legislation, but tens of thousands of individual statutory instruments are likely to be needed to fill the gaps. Parliament will not have time to examine even a small proportion of them, meaning that many will pass unscrutinised. Whether the Government will use this as an opportunity to weaken the UK's existing protections on pesticides remains to be seen. However, civil servants have told PAN UK in private that they are focussing on drafting statutory instruments to ensure what they call 'day one readiness' and that there is no appetite, nor capacity, to make significant changes to the UK's pesticide regime in the short term.

3. Key environmental principles may be lost: the Precautionary Principle and 'polluter pays'

There are some areas of the EU's *Acquis Communautaire* (the accumulated body of EU treaties and laws, declarations and resolutions, international agreements and judgments of the Court of Justice) that will not be coming across into domestic law. Most significantly for pesticide regulation, a number of key environmental principles which are contained in the Treaty on the Functioning of the European Union have been excluded. They were originally adopted as an environmental 'backstop' designed to underpin EU legislation and help guide decision-making by policy-makers, courts, local

authorities and private sector actors. The principles are described as follows:

*'Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the Precautionary Principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.'*⁷

Central to protecting health and environment from the harmful impacts of pesticides is the Precautionary Principle, which should be invoked in the context of scientific uncertainties. Exact definitions of the principle vary but the sentiment remains the same. The EU defines it as the following:

*'It relates to an approach to risk management whereby if there is the possibility that a given policy or action might cause harm to the public or the environment and if there is still no scientific consensus on the issue, the policy or action in question should not be pursued. Once more scientific information becomes available, the situation should be reviewed.'*⁸

In terms of pesticide regulation, without the Precautionary Principle, policy-makers are trapped in a cycle in which pesticides are allowed onto the market, despite uncertainties and the absence of scientific consensus, and the onus is then on public health scientists, or concerned citizens, to prove that particular compounds and/or products are causing harm before any restrictions can be imposed. Given the toxicity of pesticides and the potential harm that they can cause, we should not have to wait until harm has been proven to occur before restricting their use. Rather, pesticides must be proven to do no harm, to the best possible level of scientific investigation, before they can be used. Whilst the task of proving safety can be difficult, this approach should be based on a system whereby, post-approval, the first signs of harm are taken into account and investigated, while a suspension of use is imposed and the areas of concern and

uncertainty addressed.

The other principle particularly relevant for pesticides is the ‘polluter pays’ principle. When implemented properly, this ensures that those responsible for harming the environment are held accountable for their actions by having to pay for damage they’ve caused. It not only ensures that negative impacts are remedied, where possible, but also acts as a powerful deterrent to companies and other actors when considering whether to undertake activities which are potentially environmentally damaging. However, it must be noted that some of the negative impacts caused by pesticides – such as the development of malignant tumours or the extinction of particular species – are, at best, problematic to quantify economically and, at worst, irreversible.

In response to widespread public concern over the decision not to transpose the environmental principles into UK law post-Brexit, the Government announced that it would consult on the option of reintroducing the principles via ‘a statutory and comprehensive policy statement’.⁹ At the time of writing, Defra is considering the consultation responses and it remains to be seen how much legal weight the Government will choose to ascribe to those principles, and then what might happen in practice. In the meantime, however, in July 2018 Prime Minister Theresa May announced Government plans for a new Environment Bill, the first since 1995. The Bill is expected to replace the proposed policy statement on environmental principles.¹⁰ Advocates for enshrining the principles into UK law were further heartened by the Draft Withdrawal Agreement, which commits the EU and UK to respect both the Precautionary and ‘polluter pays’ principles in their environmental legislation.¹¹ While this is only a draft agreement and holds little legal weight, it bodes well that UK Government negotiators agreed to have it included.

Crucially, and regardless of whether the principles make it into the final Environment Bill, the EU regulation governing which active substances receive authorisation (Placing of Plant Products on the Market Regulation 1107/2009) contains numerous

strong reiterations of the Precautionary Principle¹² which will almost certainly be transposed into UK law via the EU (Withdrawal) Act. This at least creates a ‘backstop’ in case the Government chooses to exclude the principles from the Environment Bill and instead embeds them into a weak policy statement. However, this ‘backstop’ only applies to the authorisation process for active substances and will not cover any other aspects of the regulatory regime, including the authorisation of pesticide products (the manufactured products that contain active ingredients along with other substances).

4. A ‘governance gap’ could leave the UK without the institutions and bodies needed to implement regulations

In many ways, more worrying than the gaps in legislation caused by Brexit is the potential loss of access to the EU’s vast array of institutions. Laws can be copied across, but the expertise and capacity to implement them can take decades to develop. In order to function, the EU’s pesticide regime relies on the combined knowledge and workforce of 28 Member States. If the UK chooses to break all ties with EU institutions, it will create a significant governance and expertise gap which greatly diminishes the ability of the UK system to protect citizens and the environment from pesticides.

The UK could potentially lose access to an array of contributions currently provided by EU bodies after Brexit. Most significantly, these include managing the process around authorising active substances and setting, monitoring and updating tens of thousands of Maximum Residue Levels (the levels of pesticides permitted to remain in food). The Draft Withdrawal Agreement commits the UK to remaining aligned with all decisions on both authorisations and MRLs until the end of the transition period, but what happens afterwards remains unclear.¹³

Senior UK Government officials have indicated to PAN UK that, at least in the short term, they are not planning to create any new bodies through which to regulate pesticides. Instead, the Government intends to assess the existing EU system in terms of the outcomes it delivers, examining the purpose of

each function and then designing ways of achieving that same purpose through existing UK regulatory bodies. For example, the EU process to authorise active substances is designed to promote transparency and independence, and enable peer review of scientific data as well as an accessible appeals process. According to the Government's stated approach, any UK process would be designed to fulfil these same functions. However, it remains to be seen to what extent the UK's post-Brexit regime will be able to replicate those characteristics, given the loss in capacity and expertise, and the UK's risk management culture.

If the UK does not have the time, or is not willing to invest adequately, to create institutions to fill the gaps left by Brexit, then it must, at the very least, ensure that systems are in place to fulfil all the functions previously carried out by European institutions. While this will cost less than setting up new bodies, putting the necessary systems and staff in place will still require a major increase in funding for the relevant UK bodies such as the Health and Safety Executive and its Chemicals Regulation Directorate¹⁴, Defra and the Food Standards Agency, and the UK Expert Committee on Pesticides and Expert Committee on Pesticide Residues in Food.

The other option is for the UK to maintain alignment with the EU pesticide regime past the transition period and into the future. While this remains unlikely, the Draft Political Declaration outlining the future EU/UK relationship does leave the door open for this kind of alignment, stating that the UK 'will consider aligning with Union [EU] rules in relevant areas'.¹⁵

Another important facet of the 'governance gap' is that the UK could lose its ability to influence EU decision-making processes. As it stands, all UK bodies involved in processes related to the EU pesticide regime will have to relinquish their role at the start of the transition period.¹⁶ In particular, the UK will no longer have a say in decisions on approvals of pesticides (unless it becomes a member of the European Free Trade Association or the European Economic Area). Post-Brexit, the UK will no lon-

ger be able to act as what is called a Rapporteur Member State within the EU approvals system.¹⁷ Rapporteur Member States play an important role in assessing and verifying applications for pesticide authorisations and referring them for approval to EFSA. They are therefore influential in determining which chemicals can be used, and in what ways. Nor will UK regulators have access to the toxicological information and other vital scientific studies that are submitted to the EU, unless the UK can reach some kind of deal with the EU. The Political Declaration does commit both Parties to exploring the possibility of UK authorities cooperating with EU agencies such as the European Chemicals Agency.¹⁸ So, for example, the UK could attempt to get an agreement under which it isn't beholden to EU decisions on pesticides but does collaborate with EFSA on reaching scientific consensus on pesticide authorisations. However, whether the EU would agree to such a collaboration is unclear.

5. Devolution adds a layer of complexity and uncertainty

Environment and agriculture are fully devolved policy areas, meaning that they are both decided by the devolved administrations in Scotland, Wales and Northern Ireland. This adds a set of complexities and uncertainties into discussions around the UK's future pesticide regime, and many questions remain unanswered. For example, will any pesticide standards agreed by the UK negotiating team in Brussels cover all four countries or solely England?

In March 2018, the UK Government published a list of returning EU powers and detailed where it proposed that those powers would sit post-Brexit. Pesticide regulation was one of 24 areas identified as being "...subject to more detailed discussion to explore whether legislative common framework arrangements might be needed, in whole or in part...."¹⁹

A common legislative framework and regulatory regime for pesticides across the four nations of the UK would be the most coherent approach. Even when taken as a whole, the UK could struggle to find the capacity to create a functioning pesticide

regime that sits entirely separately to the EU's. Given this challenge, creating separate regimes for each of the four nations would be illogical and could add complexity by introducing inconsistencies between the four nations. In addition, pesticides don't respect national boundaries. Contaminating the water and land of any one country will potentially harm the natural environment and human health in nearby countries, so a common approach is to the benefit of everyone.

The joint system agreed should create minimum standards for all four countries of the UK, while providing the freedom for any of the devolved governments to introduce additional protections. This would mirror the existing EU system under which Member States cannot adopt weaker standards than Europe but can choose to be more restrictive.

Despite pesticides being identified as an area requiring more discussion between Westminster and the devolved administrations, the authors of this report are not aware of any such conversations having taken place. However, this doesn't mean they aren't happening – the current system of Joint Ministerial Committees (a set of committees that comprises ministers from the UK and devolved governments) is opaque and stakeholder engagement is weak. If the UK plans to manage its pesticide regime via such a system, major changes should be made to ensure that it is transparent and accessible to all relevant stakeholders, including farmers, public health, environment and civil society groups.

6. Trade deals may impose lower pesticide standards

All of the countries slated by the UK Government as priorities for new trade deals (for example the USA and China) have significantly weaker pesticide standards than the UK currently enjoys under the EU regime. This means that when negotiating Trade Agreements with third-country governments there will be considerable pressure on the UK to lower standards in order to allow imports of produce containing residues of banned or unapproved pesticides.

This pressure is not only emanating from government negotiators but also from powerful, pro-free trade organisations pushing a deregulation agenda. For example, the 2018 report *The ideal US-UK Free Trade Agreement*, published by influential think tanks with close links to the UK and US governments, labels the inclusion of provisions on environmental protections as 'problematic' and emphasises the need to avoid regulatory requirements posited as unnecessarily burdensome.²⁰

In fact, we have already seen, in previous bilateral trade negotiations involving the EU, how third-country governments and pro-pesticide lobby groups have attempted to use negotiations to weaken European pesticide standards. One of the key tactics has been to classify higher standards as non-tariff trade barriers or 'trade irritants', and to try to eliminate them by proposing aligning standards down to those least protective of human health and the environment. Meanwhile, the guise of 'regulatory cooperation' has been used to attack the Precautionary Principle, with pressure being placed on the EU to replace its hazard-based system with a weaker risk-based approach.

Other threats to UK pesticide standards posed by post-Brexit trade deals include: a weakening of laws on the use of carcinogens and other substances of high toxicological concern; allowing the import of food with higher residue levels; reducing requirements for authorising active substances; slowing or stopping efforts to regulate endocrine (hormone) disrupting chemicals; and blocking access to information that is vital to developing non-toxic alternatives to pesticides.

Given that the European Commission's Directorate-General for Trade currently represents the populations and markets of 28 countries, employs almost 700 staff²¹ and has decades of experience negotiating trade deals, the EU has so far been able to resist attempts to weaken its pesticide standards. Whether the UK, which hasn't been responsible for its own trade policy for 40 years, will be able to do the same is questionable – especially given the political pressure to conclude agreements quickly and the imbalances in economic power.

The US Government in particular appears to have the UK's post-Brexit pesticide standards firmly in its sights and has repeatedly called for the UK to deregulate. During a UK visit in November 2017, US Commerce Secretary Wilbur Ross declared that the 'removal of both tariff and non-tariff barriers will be a critical component of any trade discussions between us'.²² In fact, the USA has enshrined this approach in legislation. The US Trade Priorities and Accountability Act requires that pesticide regulations (referred to in trade parlance as 'phytosanitary measures') are 'not more restrictive on trade than necessary to meet the intended purpose'. The Act also requires a 'science-based justification be provided for sanitary or phytosanitary measures if the measure is more restrictive than the applicable international standards'.²³

Heightening the concern that post-Brexit trade deals will lead to a weakening of pesticide standards is the opaque nature of trade negotiations. At the time of writing [Nov. 2018], the UK Government is prevented by EU rules from reaching trade deals with non-EU countries, or even negotiating future trade deals with them. After Brexit, however, the UK Government appears intent on giving itself the power to negotiate and sign trade agreements, without proper oversight or scrutiny from parliamentarians, civil society or the public. There is a Trade Bill making its way through Parliament, so this may well change but the Government has so far been resistant to attempts to make the process transparent or participatory.

With the perfect storm of inexperienced UK trade negotiators, more powerful and well-resourced negotiating partners and a shroud of secrecy enclosing the entire process, trade deals are arguably the most likely route through which the UK's pesticide standards will be undermined.

7. There will be costs to industry and the UK market may be marginalised

Unless it either remains part of the current EU regulatory system or simply accepts decisions taken by the EU regulatory authorities, the UK must establish its own system for undertaking the

approval and re-approval of active substances. This will mean that any manufacturer wishing to sell its products in the UK as well as within the 27 EU Member States will have to submit the relevant dossiers and information twice and go through an approval process in both jurisdictions, instead of the current single application to the European Commission. This would probably have considerable implications for pesticide manufacturers both in terms of cost and time, both of which would almost certainly increase as and when the UK and EU systems diverged.

Some manufacturers may in fact decide that going through the process in the UK is economically unviable, given that the UK market is dwarfed by the EU. This is particularly likely to affect small and medium enterprises which might not bother seeking approvals in the UK. This could result in a reduction in the variety of available active substances for UK farmers and growers and therefore increase issues of resistance. Whilst this might result in a reduction in available pesticides, it could also hinder the introduction of less toxic pesticides that could replace older, more toxic, chemicals.

Key opportunities: the chance to go further

The Government must secure the UK against all these risks. But Brexit need not just be about copying the system we already have. It presents a unique opportunity to go further, to redefine our relationship with pesticides and better protect health and the environment from their harmful impacts.

The Government should take the opportunity to introduce three key innovations which have been effective at reducing pesticide use in other countries:

1. A pesticide-use reduction target and improved monitoring system

The Government should introduce an overall

strategy for reducing the quantity and frequency of pesticide application, coupled with a robust system for monitoring usage.

Although a wide variety of actors is involved in monitoring and regulating pesticide use across a range of sectors, the UK lacks a single framework under which to coordinate their efforts. As a result, pesticide policy-making is fragmented between bodies such as Defra, the Health and Safety Executive (HSE) and the Environment Agency. This makes it difficult to take into account, let alone mitigate, the cumulative impacts of all the various pesticides that are being used, because there is no one body with overall responsibility for overseeing pesticide policy and minimising the harms they cause.

The introduction of a pesticide-use reduction target could drive a range of specific improvements and help coordinate the activities of multiple stakeholders around the achievement of that target. It would help consolidate existing Government activities and avoid the current situation where one initiative undermines another. For example, the Government's stated intention in the 25 Year Environment Plan to reduce pesticide use²⁴ could be rendered meaningless by commitments in the Agriculture Bill to improve productivity.²⁵

In accordance with the recommendations in the 2017 paper by Defra Chief Scientific Adviser Professor Ian Boyd, the monitoring required to assess progress on meeting a reduction target would improve our understanding of how pesticides affect the environment at a landscape scale and enable us to design regulation accordingly.²⁶ Crucially, a clearly defined target would also provide UK farmers with certainty as to the Government's direction of travel in terms of pesticide use, enabling them to make longer-term decisions.

Setting a target for reducing pesticide use would also help to drive R&D innovation in non-chemical pest and disease control techniques. It would support the development and uptake of Integrated Pest Management (IPM) techniques and could stimulate support for the organic sector as a way of

meeting the reduction targets.

A range of countries (including nine EU Member States) have already adopted reduction targets in response to widespread public concern over the health and environmental impacts of pesticides. In 2008, France made a commitment to halve overall pesticide use by 2018.²⁷ Although the target has not yet been reached across all sectors, it has driven important reductions and focussed the French Government's attempts to reduce pesticide-related harms around a common goal. Meanwhile, in 2011, Denmark adopted a target for overall pesticide use reduction of 40% and research suggests this target has been met. As in France, the Danish target has been a driver for innovation.²⁸

Given the high levels of current UK pesticide use, significant reductions could be achieved through relatively low-cost and simple interventions, such as ending the use of glyphosate as a pre-harvest desiccant, preventing the use of treated seeds and banning the use of all non-agricultural pesticides. Reduction targets could be introduced based on particular areas of concern. In the absence of outright bans, introducing reduction targets and expedited phase-outs for specific active substances identified as posing a high risk to biodiversity, water quality, soil fertility, operator health or more widely human health should be a priority. Further reduction targets should also be adopted for active substances where there are developing issues of resistance or low or declining efficacy.

There is growing public support for the introduction of a clear, quantitative target for reducing the UK's overall use of pesticides: in a 2018 survey more than 50,000 people called for a reduction target to be introduced^{29, 30}

A UK pesticide reduction target could readily be included in the UK's post-Brexit policy framework, notably within the updated National Action Plan for Pesticides, the Agriculture or Environment Bills, or the metrics used to measure progress on the 25 Year Environment Plan.

The key to the ability of any target to drive change is how the reductions are measured. Currently the Government reports pesticide use in three ways: kilograms of active substance applied, area of land in hectares to which pesticides are applied, and the number of times crops are treated.³¹ While these metrics give some indication of the scale of use, they fail to take into account the toxicity of the pesticides being applied and are therefore unable to provide an accurate picture of the toxic load being born by our environment. In order both to effectively measure pesticide usage and to work as an indicator for a pesticide use reduction plan, the UK Government urgently needs to adopt a more sophisticated monitoring system. There are a number of such systems currently in use in other countries, and investigation is needed to determine which system would best suit the UK. Brexit provides an opportunity to adopt a new monitoring system to assess pesticide impacts effectively.

2. Support the development of Integrated Pest Management (IPM)

*The Government should create a new independent body for research, development and dissemination of IPM techniques. It would be essential that this is not a pesticide industry-led body, such as the current Voluntary Initiative, which has failed to reduce either the use or the impact of pesticides since its inception.*³²

Integrated Pest Management (IPM) is an approach to managing pests, diseases or weeds in which chemical pesticides are used only as a last resort, if at all. It sits in direct contrast to the main approach of conventional agriculture, in which pesticides are often the first weapon of choice for dealing with unwanted organisms.

The adoption and implementation of successful IPM strategies is an extremely effective way to reduce pesticide use.³³ IPM was supposed to have been at the heart of the UK's approach to agriculture since the adoption of the EU Directive on the Sustainable Use of Pesticides in 2009. However, successive UK governments have failed to put in place the measures required to encourage wide-

spread and genuine uptake of IPM by conventional farmers. As a result, despite claims that the majority of UK farmers are using IPM, in reality, many are only using one or two techniques and the use of synthetic pesticides in agriculture remains the principal approach for pest management.³⁴

Since the Brexit referendum, the UK Government has restated its commitment to making IPM central to the UK's approach to crop protection.³⁵ Brexit is a major opportunity to put in place the incentives and mechanisms necessary to ensure that IPM genuinely flourishes. With strong leadership from Defra, and a realignment of agricultural subsidies and other Government support for farmers, the UK has an opportunity to become a world leader in agroecological and non-chemical farming innovations.

No single intervention would increase the uptake of IPM as effectively as the creation of an independent extension service for research, development and dissemination of IPM techniques. It would need to be Government-run and adequately funded, providing advice for farmers, entomologists and agronomists. However, the UK has seen a dramatic decrease in state funding for agricultural research and extension facilities for farmers. As a result, the research agenda has been driven by the agrochemical industry and therefore focused on the development and marketing of new synthetic pesticides and agricultural biotechnology.

An excellent example of such a body in Denmark has led the way by developing a dedicated IPM and pesticide reduction advice service for farmers. Danish farmers can receive heavily subsidised advice on IPM focused on their specific crop protection challenges. The project funded 1,400 'IPM advisory packages' in 2010-2015. In total, advice was supplied to farmers cultivating approximately 15% of Denmark's arable land.³⁶

3. A pesticide tax

The Government should raise the funds to support an IPM research and extension service through a more effective application of the 'polluter pays' principle.

The introduction of a pesticide tax has been proven to be an effective tool for helping to reduce the use of pesticides in a number of other countries.³⁷

Denmark first introduced a pesticide tax in 1996. In 2013, its tax was adjusted so that it no longer just reflected a proportion of the price paid but is calculated on the basis of the toxicity to health and environment of specific pesticide products. In other words, the amount of tax applied to pesticides varies according to the potential each substance has for harming the environment and/or human health. The most toxic pesticides – those that haven't been filtered out by the hazard criteria during the initial risk assessment, or those that drive the most damaging impacts such as contaminating water courses – have the highest rate of tax applied to them.

This provides farmers with a financial incentive to use pesticides that are the least toxic, while ensuring that farmers using substances that present the greatest risk to the environment are made to pay the most. The approach also drives innovation in developing non-chemical approaches; and provides funds to pay for the development of an IPM advisory body to reduce farmers' reliance on pesticides.

As part of a pesticide reduction strategy, therefore, a pesticide tax can be an invaluable tool. In a post-Brexit scenario, revenues raised could help to meet any shortfall resulting from the loss of CAP payments while delivering public goods and a more sustainable UK agricultural system by funding an IPM extension service for farmers.

The way forward – what do we know and what are the options?

Like all things Brexit-related, it is hard to predict what might happen with UK pesticide regulation. The two broad scenarios facing the UK at the time of writing (November 2018) are as follows. In the

first, the UK manages to agree a deal with the EU which comes into force on 29th March 2019 and includes a 'transition period' which lasts until 31st December 2020, or perhaps longer. The second scenario, is that the UK exits the EU without a deal in March 2019. While those two scenarios have the potential to lead to widely different outcomes in the long-term, neither is likely to result in significant changes being made to the UK's pesticide regime in the short term.

UK leaves the EU under the November 2018 deal

In mid-November, the Government released the Draft Withdrawal Agreement, which set out the conditions of the transition period. As predicted, the Agreement confirmed that, for this period at least, the UK will remain aligned with all EU approvals of active substances and MRLs. It also states that the UK 'shall not act as leading authority for risk assessments, examinations, approvals or authorisations', meaning that it remains beholden to EU decisions on pesticides that it no longer has any influence over.³⁸

Although almost entirely focussed on the transition period, the Agreement does include an extremely welcome commitment by both the UK and EU to prevent any reduction in the levels of environmental protections as they stand at the end of the transition period. It lists a range of specific areas that this 'non-regression provision' applies to including: environmental impact assessment; nature and biodiversity conservation; the protection and preservation of the aquatic environment; and the prevention, reduction and elimination of risks to human health or the environment arising from the production, use, release and disposal of chemical substances. It also states that the UK shall 'respect both the Precautionary and 'polluter pays' principles in its future environmental legislation.³⁹

Following the Draft Withdrawal Agreement, came the Political Declaration – a much shorter document setting out the overarching principles of EU/UK relations after the transition period. The Declaration describes how the future relationship will be

based upon ‘deep regulatory and customs cooperation’ and makes numerous mentions of ‘provisions ensuring a level playing field’ in terms of trade. It also states both Parties’ ongoing commitment to both consumer and environmental protection.⁴⁰

Coupled with the ‘non-regression provision’ described above, these statements would appear to suggest that, post-Brexit, the UK will not radically weaken its pesticide standards. However, there are also statements within the Political Declaration which have the potential to undermine these apparent commitments to maintain high standards. Most concerning is Clause 18 which states that ‘The Parties will retain their autonomy and the ability to regulate economic activity according to the levels of protection each deems appropriate in order to achieve legitimate public policy objectives such as public health... the environment...consumer protection.’⁴¹ Given that, as an EU Member State, the UK Government has a long history of resisting stricter pesticide regulation, this clause could well be used in the future to weaken UK pesticides standards by arguing that the current levels of protection are inappropriately high. In addition, the Declaration guarantees the UK’s right to develop its own trade policy, leaving open the threat of post-Brexit trade deals leading to a weakening of protections.⁴²

Despite the publication of these long awaited documents, many questions remain, most crucially whether the UK will choose to extend its alignment with EU decisions on pesticides past the transition period. The Declaration seems to suggest that long-term alignment could be an option in ‘relevant areas’.⁴³ The areas being considered are not listed but, given the potentially negative impacts on trade, coupled with the complexities and costs of creating a UK standalone regime, choosing to remain aligned with the EU pesticide regime into the future should certainly be under serious consideration.

UK leaves the EU with no deal

In October 2018, the UK Government published its long-awaited Guidance on regulating pesticides if there’s no Brexit deal. Containing few surprises, it

provides the overview that:

‘In a no deal scenario, the UK would establish an independent standalone PPP regime, with all decision making repatriated from the EU to the UK... In the short-term, the UK regime will make changes from the EU regulatory framework only where they are required to operate in a UK-only context. In a no deal scenario the UK would not be legally committed to medium or long-term regulatory alignment with the EU. Divergence from developing EU legislation would be possible in due course’⁴⁴

In this context, PPP stands for ‘Plant Protection Product’ – a term used to describe pesticide products – and the phrase ‘PPP regime’ refers to the entirety of the UK system for regulating pesticides. Defra’s Guidance therefore confirms that, in the short term, the key pieces of EU legislation pertaining to pesticides would come across into UK law without any significant changes and that ‘all current active substance approvals, PPP authorisations, and MRLs in place on 29 March 2019 would remain valid in the UK after we leave’. HSE will continue to operate as the national regulator, and processes currently conducted by the EU will be converted into UK processes. This includes the scientific support currently provided by EFSA for which ‘New arrangements for independent scientific assurance would be put in place’. The EU system of adding decisions on authorisations and MRLs into the annexes of the relevant regulations would be replaced by a new statutory register in the form of a publicly available online database. In order to give time for the UK to establish a national renewals programme, all approvals of active substances due to expire in the three years after Brexit would automatically receive a three-year extension.⁴⁵ Worryingly, this last point could see harmful active substances banned by the EU remain on the UK market for up to three additional years.

UK adopts model followed by other non-EU countries

When considering the future relationship between the EU and UK in terms of pesticides, it’s helpful to look at the policies and practices of other countries

that are not part of the EU but have some alignment with its pesticide regime.

Turkey is for the most part completely aligned with EU regulations on approvals for active substances and MRLs. Given the amount of trade that Turkey undertakes with the EU, this close alignment is a pragmatic policy that helps avoid infringements of EU MRLs and facilitates as frictionless trade as possible.⁴⁶ Turkey simply copies all EU regulations, approvals and MRLs into domestic law, removing the necessity to maintain its own complex systems but maintaining a robust and effective regulatory regime. This is, in effect, the system that will be in place directly after Brexit and during any transition period. Is it one that the UK will stick with? It seems unlikely given the demands in the UK for ‘taking back control’.

Norway meanwhile has adopted the EU Regulation on the Placing of Plant Products on the Market Regulation 1107/2009 into domestic legislation with just a few adaptations.⁴⁷ Norway is a member of the European Free Trade Association (EFTA) and can therefore act as a Rapporteur for pesticide approvals in the EU, giving it some say in EU approvals. Copying the Norway model would remove the need to create a UK standalone authorisation system, and would therefore be an attractive proposition. However, adopting such an approach would mean the UK would have to join EFTA, which is politically problematic for some within the UK.⁴⁸

Another option repeatedly floated by Defra is that the UK establishes working relationships with other countries’ pesticide regulators. Under this model (sometimes referred to as the ‘QUAD model’), the UK would conduct joint assessments of toxicological data alongside other countries in order to establish a common scientific understanding of the evidence, but each country would then make its own decisions regarding the authorisations of both active substances and products. The extent to which this model would impact upon the UK’s pesticide regime would depend on which regulators the government chose to collaborate with, and which would be willing to collaborate with the UK. It would make most sense to establish rela-

tionships with regulators with some commonality of approach with the UK, the most obvious being the EU. However, if such relationships were formed with countries that have adopted less precautionary approaches to pesticide regulation, this would certainly threaten the UK’s standards.

The big questions

Senior Government officials have indicated that the UK Government views Brexit as a chance to set a new direction of travel in the way the UK regulates pesticides in the longer term, and that current discussions are setting the baseline for future changes.⁴⁹ Therefore, the conversations the Government is having now, whether with farmers, civil society or the pesticide industry, are crucial. There are five main areas of debate and speculation:

Will the UK retain the hazard-based approach to pesticide authorisations?

(For a description of the differences between a hazard-based and risk-based approach, [see page 7](#).)

The EU’s adoption of a hazard-based approach to authorising active substances in 2009 was vehemently opposed by the UK Government, the National Farmers Union and the global pesticide industry. Their major fear was that the new system would mean a wholesale culling of active substances that no longer met the stricter hazard-based criteria for approval. Wild estimates of hundreds of active substances being taken out of use were put forward, along with some more outlandish predictions such as the death of the British carrot industry resulting from this more precautionary approach to regulation.⁵⁰

However, those dire forecasts from the pro-pesticide lobby have not come true and, whilst a few active substances have been taken out of use or have not been put forward by manufacturers for re-approval, the vast majority remain unaffected. It remains the case, however, that there was a whole-

sale reassessment of the risks of active substances prior to the introduction of the PPP Regulation and so many have actually not yet been assessed against the new hazard criteria (for example, Tebuconazole).⁵¹

Unsurprisingly, Brexit has resulted in renewed calls from the pro-pesticide lobby for the UK to abandon a hazard-based approach, and in this report we identify the possibility that the Government will acquiesce to this pressure as a major risk.

Whose science will be trusted?

The pro-pesticide lobby has been extremely effective at presenting its calls to weaken pesticide regulation as if they were in the interests of ‘science’, rather than profit. It regularly calls for decisions around authorisations to be ‘science-based’, a seemingly sensible and innocuous demand which conceals its real agenda, and ignores the fact that science alone can never settle policy questions.⁵² In contrast, and in order to represent themselves as the ‘defenders of progress and innovation’, pro-pesticide advocates seek to portray all calls for higher pesticide standards as the hysterical demands of anti-science luddites.

In reality, this debate centres on whose science is adequate and trustworthy. All decisions regarding active substances can be described as being ‘based on science’. However, recently there has been a welcome move at the EU level away from taking decisions solely based on evidence provided by pesticide manufacturers and towards including research from independent scientists without links to the pesticide industry.

While the UK Government appears to have adopted the language of the industry – regularly referring to ‘science-based regulation’⁵³ – its interpretation of this concept since the Brexit referendum has been haphazard. For example, it voted for the reauthorisation of glyphosate in 2017, arguing that the decision was based on the best available science, thereby ignoring the judgement of the International Agency for Research in Cancer that glyphosate is a probable human carcinogen⁵⁴, as well as wide-

spread claims of industry manipulation.⁵⁵ In contrast, just a month before, Defra announced the UK Government’s support for the ban on neonicotinoids stating ‘we want our decisions to be informed at all times by rigorous scientific evidence’.⁵⁶ To what extent the UK Government will allow the pesticide industry to dominate and manipulate the scientific evidence-base for authorising active substances post-Brexit remains to be seen. However, under current procedures, this will be hard to ascertain since almost all meetings held by the HSE’s Expert Committee on Pesticides are closed to the public. This sits in contrast to the Food Standards Agency’s scientific advisory committee meeting which are required to be open.⁵⁷

Will EU markets be lost as a result of a new UK pesticide regime?

Maintaining the ability to trade with the EU with the greatest degree of freedom possible is vitally important to the UK: in 2017, 60% of UK food, feed and drink exports went to the EU.⁵⁸ Meanwhile the EU’s priority appears to be ensuring that the UK does not drop its agricultural standards to the point that UK farmers are able to undercut their European counterparts by producing and selling cheaper food with a much higher negative environmental and social footprint. The Political Declaration is therefore littered with references to ‘ensuring a level playing field for open and fair competition’.⁵⁹ If this agreement were to be implemented, these provisions would theoretically prevent the UK Government from relaxing pesticide regulations so that UK farmers were able to access a much wider variety of active substances than European producers.

At present the trade in agricultural products between the UK and EU is relatively unrestricted. However, if the UK chooses to adopt a weaker pesticide regime than the EU’s, this will inevitably change. The EU has comparatively strict regulations in place regarding the presence of pesticide residues in imported produce. If an active substance is not approved for use in the EU, then the residue limit for that particular active is effectively set at zero. If the UK wishes to maintain the current level of trade with the EU, it must ensure that the residue limits

set by the EU are complied with, or UK farmers will lose their biggest export markets. It should be noted that compliance with EU residue limits does not require the UK to ban specific active substances – other measures, such as pre-harvest use windows, could result in compliance, but these approaches can be complex and require more careful management than a blanket ban on use.

How will Maximum Residue Levels (MRLs) be set?

In the short term, as we have seen, the UK will maintain the MRLs set by the EU. However, in the longer term there are a number of options. The UK could:

- Adopt the same MRLs as the EU and transfer them into a statutory UK MRL database, effectively maintaining the status quo and allowing the least complicated method for trading with other EU Member States. However, continuing to mirror the EU system post-Brexit will mean the UK adopts MRLs over which it has had no say. An alternative option would be for the UK to join either the European Free Trade Association or the European Economic Area, which would give the UK a say in setting MRLs. However, this could be politically problematic for the UK.
- Adopt the MRLs set by the UN's CODEX Alimentarius Commission (Codex). However, Codex standards are significantly less stringent than those set by the EU or even those of the USA, so this route would most likely lead to higher levels of pesticide residues being allowed on food consumed in the UK. In any event, the UK will need to comply with EU MRLs for any products it exports to the EU.
- Develop a bespoke UK system. As already discussed in this Briefing, there have been numerous reports of the UK potentially adopting lower standards in order to facilitate agricultural trade deals. The high-profile issues have been chlorinated chicken and hormone treated beef, but this concern is equally relevant to pesticide residues.⁶⁰ The USA, as an example,

uses a high number of pesticides that are not approved for use in the EU and yet still manages to export produce to the EU without having to grow specifically for the EU market. In order to facilitate trade, a standalone UK MRL system for imports could allow residues of banned active substances to be present. But again, this would only apply to imported or domestically grown products destined for the UK consumer; products destined for the EU would still need to comply with EU MRLs.

These last two options could lead to a deeply concerning situation for UK consumers. If the UK adopts its own, weaker system or the Codex MRLs, then it could allow produce with both higher residues and residues of previously banned pesticides to be imported. At the same time, UK farmers who wish to continue to trade with the EU would need to grow produce which contains residues at levels low enough to meet the EU's criteria for export. In effect, the UK would be importing worse and exporting better!

How will the UK find the capacity to undertake the work currently carried out by the EU?

Lack of capacity is a huge issue facing the UK. At present, the authorisation of active substances is undertaken by the EU with the involvement of Member States that act as rapporteurs during the assessment phase of the approvals process. This task is currently shared out among all 28 Member States, but it is worth noting that the UK currently does far more than its fair share, undertaking roughly 30% of the overall workload.⁶¹ If the UK created its own process of authorising active substances it would need to find the extra capacity to cover the remaining 70%. It has been estimated that approximately 60 decisions on active substances would need to be made each year under a UK standalone system.⁶²

A number of bodies are involved in the UK's domestic pesticide regulatory regime. Of note are the Chemicals Regulation Directorate (CRD), which deals largely with product approvals; the Expert

Committee on Pesticides (ECP), which is involved in scrutinising product approvals as well as other technical aspects of pesticide policy; the Expert Committee on Pesticide Residues in Food (PRiF), the body charged with monitoring and reporting on pesticide residues in produce sold in the UK; and Fera (formerly the Food and Environment Research Agency). Until we know what any future deal with the EU might look like, it is impossible to predict what will be required to ensure a functioning UK pesticide regime. However, it is possible to outline some key functions performed by EU bodies that any new UK regime would need to perform in order to fill the governance gap (Figure 1 illustrates the current approvals process).

In the first instance, the UK would require a scientific body that could undertake the toxicological analysis currently carried out by Rapporteur Member States and by EFSA. Whilst there is significant expertise in the UK, developed over many years acting as a Rapporteur Member State, there is a lack of capacity to carry out the extra work required to replace all the functions currently undertaken by EU bodies. Currently, the CRD undertakes the approvals process for products in the UK and could theoretically expand its remit to cover active substances, in collaboration with the Department of Health's Committee on Toxicity, and its sub-committees on mutagenicity and carcinogenicity. However, this would require a significant increase in funding and capacity-building.

Secondly, there is the issue of scrutinising the authorisation process for active substances. As it exits the EU system, the UK faces the possibility of losing important checks and balances along the approvals pathway unless it significantly increases capacity to conduct independent scrutiny of pesticide approvals. This would require at least one scrutiny body to be established, independent of industry or government influence, to question and challenge the evaluations provided by the CRD under the above scenario. The UK currently lacks a body that could undertake this work. The ECP does not, as it is presently constituted, fit the bill since it does not meet sufficiently regularly to cover the amount of work that would be required, nor is it independent

of the pesticides industry. However, changing the terms of reference for the ECP could, at least in the short term, provide a solution. Given the amount of time that would be required of a new body, experts would need to be employed or seconded, and paid appropriately from government funds. It would also require a broader range of expertise drawn from concerned stakeholders, such as NGOs, academics, scientists, agronomists, toxicologists and consumer bodies.

Given concerns about the EU approvals process, such as the lack of transparency in decision-making and over-reliance on industry-generated toxicology data, any new UK system could address these weaknesses by being completely transparent in the decision-making process and have inbuilt opportunities for post-approval challenges, for example when concerns about an authorised active substance arise as a result of new scientific studies. The approvals system would need to run in parallel with its EU equivalent. Any lag in approvals or non-approvals could result in the UK becoming a dumping ground for surplus stocks of active substances no longer approved in the EU but still authorised in the UK. This is a problem that occurs regularly in less-developed countries with weak regulations.

Finally, there is a good case for creating an Approved Substances Database. This was suggested at a Defra stakeholder workshop in July 2018, and is the approach set out in Defra's Guidance on regulating pesticides if there's no Brexit deal.⁶³ Initially, a UK approvals database would be based entirely on the EU equivalent and mirror it exactly, essentially just cutting and pasting all existing authorisations. Therefore, it would require close alignment with the current EU system in the short term.

This would appear to be a pragmatic way to proceed, given the UK's lack of capacity. Following the initial creation of the database, and once a UK system for authorising active substances was in place, it would be possible to add or remove active substances. Such a system could also help increase transparency and provide information for stakeholders involved in the use, sale and regulation of

pesticides in the UK.

Under the EU system, notifications of all changes related to the authorisation of active substances are issued as annexes to the relevant regulations by the European Commission. If it wished to follow the same model, the UK would have to use statutory instruments to notify changes to approvals. Adopting a statutory database, which could be amended with relative ease, would be a useful way of getting around that requirement. As is currently the case, changes to the database could also be reported via the HSE Regulatory Updates system.

Recommendations in full

As the UK is facing an uncertain future, we include both short term and long term recommendations, many of which depend on the extent to which the UK chooses to remain aligned with the EU. We also specify the general principles the UK should adopt, regardless of its future relationship with the EU.

In the short term the UK Government should:

- As set out in the Draft Withdrawal Agreement, remain aligned to the EU list of approved active substances, thereby ensuring that UK farmers are able to continue trading with EU Member States and making sure that highly toxic active substances aren't authorised for use while the UK is in the process of getting its own, stand-alone system in order.
- As set out in the Draft Withdrawal Agreement, maintain alignment with EU MRLs, again ensuring that UK farmers are able to continue trading with EU Member States and that UK citizens aren't subjected to higher levels of pesticide residues in their food while the UK builds the considerable capacity and expertise required to set its own MRLs.
- Design and implement new UK systems, or strengthen existing systems, to carry out all functions pertaining to regulating pesticides

previously performed by EU institutions in order to ensure that Brexit doesn't lead to a governance gap. In particular, before transitioning to a UK standalone system, the Government must ensure that the UK has a scientific body able to undertake the toxicological analysis currently carried out by Rapporteur Member States and by EFSA, and at least one body which is independent of industry or government influence and whose role it is to scrutinise the process through which active substances are authorised.

In the longer term, the UK Government should:

1. Maintain and/or strengthen existing standards

- Maintain the EU's hazard-based approach (rather than revert to a risk-based approach) to pesticide regulation in general, and active substance approvals in particular. This means that if an active substance is judged to be intrinsically dangerous then its use should be banned with no need for further assessment.
- Ensure that no weakening of UK pesticide regulations or standards occurs as a result of trade negotiations with non-EU countries.
- Enshrine environmental principles, most notably the precautionary and polluter pays principles, into UK law.

2. Ensure that a future UK standalone system would protect people and environment

- Establish a new independent body for monitoring pesticide use and enforcing pesticide regulations, which is separate from the body that deals with pesticide authorisations, thereby removing the conflict of interest built into the current system. Ensure that this body has agronomic expertise and, in particular, knowledge of non-chemical methods of pest and disease prevention and control.
- Ensure authorisations are based on a strict interpretation of the precautionary principle and do not authorise – or grant re-approval for – products which pose risks to human or

environmental health where safer, non-chemical methods are available.

- Use Brexit as an opportunity to create the world’s most transparent regulatory system for pesticides, thereby breaking the undue influence of the pesticide industry and building public trust that decisions are the result of an unbiased process. In particular, introduce greater transparency to allow independent scrutiny of toxicological and other data prior to authorisation of any active substance or formulation
- Follow the EU’s lead in moving towards making it mandatory that third-party scientific assessment is taken into account, both pre and post approval of an active substance.
- Fast track authorisation of less hazardous pest management products such as bio-pesticides.
- Introduce strong penalties and robust enforcement to ensure that any contamination of the environment by users of pesticides – including farmers and amenity users – is dealt with firmly and will act as a deterrent to misuse.
- Establish a common legislative framework and regulatory regime for pesticides across the four nations of the UK, which creates minimum standards for all four nations of the UK, while providing the freedom for any of the devolved governments to introduce additional protections. This would mirror the existing EU system under which Member States cannot adopt weaker standards than Europe but can choose to be more restrictive.

3. Reduce the use of pesticides and increase the uptake of IPM techniques by UK farmers

Take the opportunity provided by Brexit to introduce three key innovations which have been effective at reducing pesticide use in other countries:

1. Introduce a clear, quantitative target for reducing the overall use of pesticides in agriculture with a focus on phasing out the pesticides which are most toxic to human health and environment.

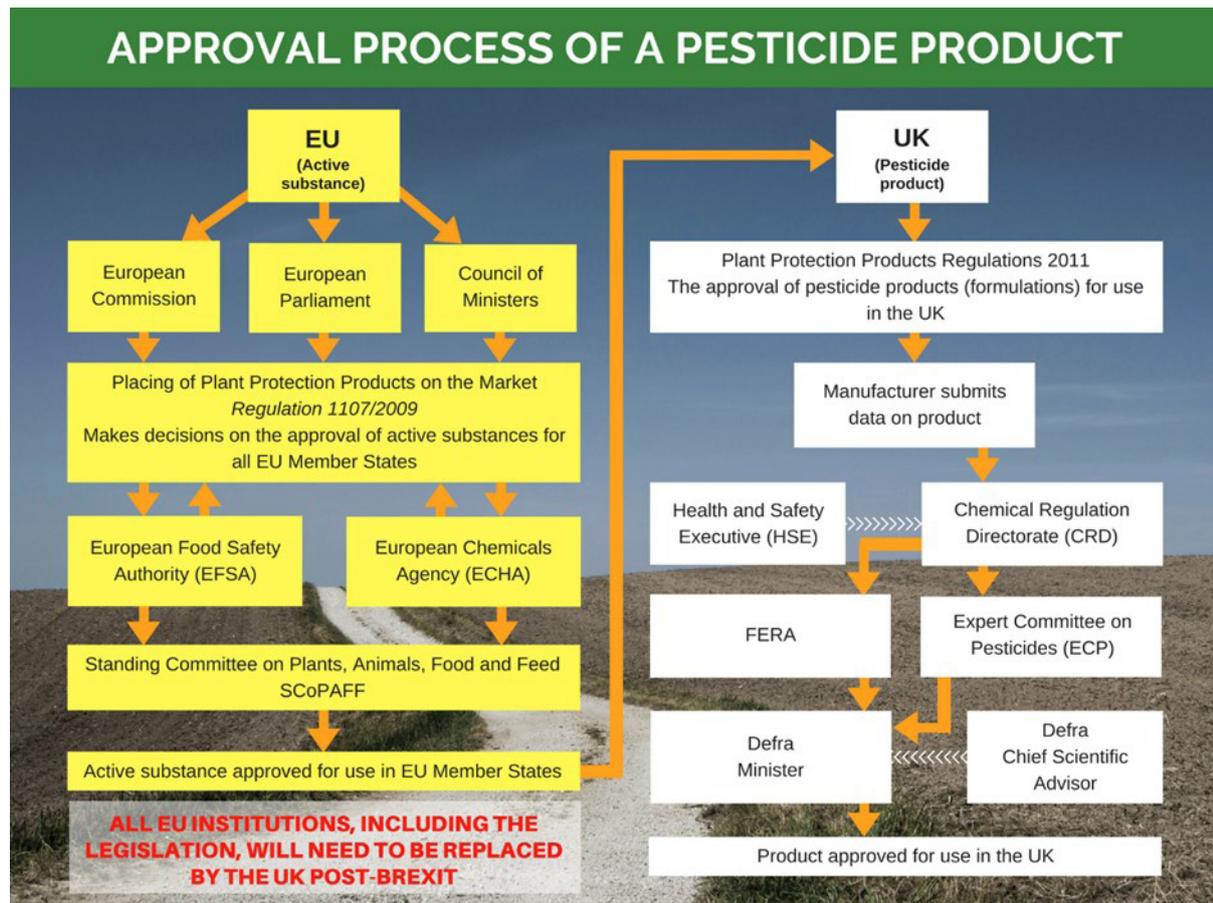
2. Create a new government body to assist with the development and adoption of Integrated Pest Management (IPM) techniques by UK farmers.
3. Introduce a pesticide tax or levy to drive reductions in pesticide use and fund research, development and innovation, including – but not limited to – a newly-created Integrated Pest Management (IPM) body.
 - Strengthen the UK National Action Plan with a particular focus on banning all non-agricultural uses of pesticides.
 - Use future farmer payments, as enabled by the Agriculture Bill, to reward farmers for low pesticide use and employing IPM techniques.
 - Increase support to the British organic sector to increase the area of land organically managed.
 - Support British growers by introducing a government procurement requirement that mandates the use of organic and /or local produce in central and local government facilities, schools and hospitals.

4. Improve monitoring systems

- Establish a robust monitoring system for pesticide use which is able to assess the toxicity of the pesticides being used and their potential for harm to human health and the environment, including whether they pose a threat to water bodies.
- Create a human health monitoring system for those who routinely work with pesticides, including farmers, farmworkers and amenity operatives, and establish a reporting system for others exposed to pesticides including the general public, farming families and rural residents.
- Strengthen the government residue-testing scheme and fund and conduct research into low-dose and combinatory effects of pesticide residues, particularly on children.

Figure 1: EU and UK pesticide authorisation processes

This figure illustrates the process through which a pesticide product is approved for use in the UK. A pesticide product begins its life as an active substance and the left-hand column of the figure shows the main EU bodies and regulation involved in authorising active substances. The authorised active substance is then mixed with other ingredients to form a pesticide product. Pesticide products are authorised at the national level and the right-hand column of the figure gives an overview of the UK process.



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contact@foodresearch.org.uk

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