



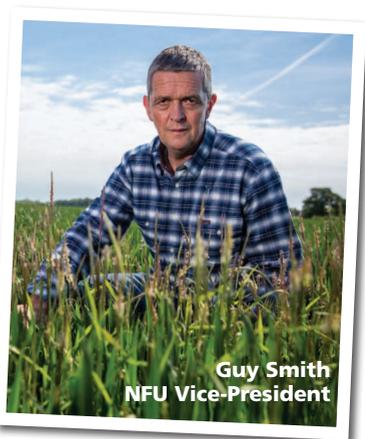
Healthy HARVEST

Safeguarding the crop protection toolbox



INTRODUCTION

The worrying fact is that UK crop production has, at best, stalled over the past thirty years. We are flatlining while the rest of the world seems to be responding to the challenge of feeding a burgeoning global population by ratcheting up crop production. Some sectors, such as cereals and field vegetables, are decreasing. Although the reasons for this are complex, one key driver in this is changes to the regulatory framework in which UK agriculture has to operate. The undeniable fact is that regulation pushes up our costs as farmers and this makes us less competitive against imported food produced to lower standards. The effect of this is to reduce home production, thus increasing imports and widening the UK trade gap in volume and value in food and drink.



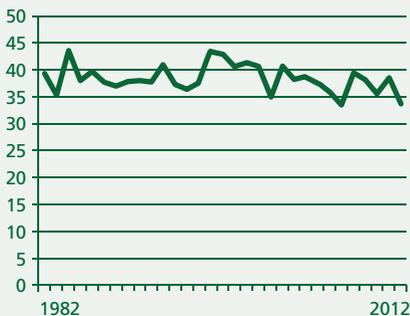
Guy Smith
NFU Vice-President

The banning of active ingredients in agrochemicals used by farmers in crop production is a good case in point. Since 2001 EU farmers have lost more than half of the 850 active ingredients registered at that time. For instance, widely used herbicides such as Trifluralin and Isoproturon are now banned in the UK causing our farmers to turn to less effective chemistry, meanwhile, they are still widely used in the rest of the world. The EU Commission regulations to test and approve agrochemicals have become prohibitively expensive and time-consuming, leaving farmers and growers with a reduced spectrum of products. To make this problem more pronounced, agrochemical manufacturers are decreasing investment in European agriculture (relative to the rest of the world), partly because it is becoming over-regulated.

The fear is that in the five-year life of the new European Parliament the remaining 422 active ingredients could be halved again with neonicotinoids already being pushed towards the exit. It is for this reason the NFU has decided work with key industry partners to launch a new initiative called 'Healthy Harvest – safeguarding the crop protection toolbox'.

CROP PRODUCTION

PRODUCTION OF MAJOR CROPS – UK
Millions of tonnes



PRODUCTION OF MAJOR CROPS – WORLD
Millions of tonnes



* Major crops include: cereals, rapeseed, soya, potatoes, sugar beet
Sources – FAO, Defra

UK TRADE IN FOOD AND DRINK - 2012 PRICES



British farmers and growers demonstrate world beating standards when it comes to environmental responsibility and good stewardship in their use of pesticides. However, our complaint is that there is a lack of sound evidence driving the regulation and a lack of awareness amongst our regulators as to the impact of their actions on our ability to produce crops and compete in global markets. British farmers need to be able to operate on a fair and level playing field rather than being singled out with restrictions not seen elsewhere.

I would urge all our members to help us get the key messages surrounding this issue to MPs and MEPs as well as other key policy makers and opinion formers. Everyone wants a healthy countryside and a healthy agriculture producing a healthy harvest. British farmers have seen too much contraction in the past thirty years. We need to reverse this trend and one way to do that is to keep all the tools in the crop production toolbox.

THE SHARE OF CROP PROTECTION
R&D INVESTMENT IN THE
EUROPEAN MARKET FELL FROM:

33.3%
IN THE 1980s TO
7.7%
BY 2005-14

THE NUMBER OF NEW
CROP PROTECTION
PRODUCTS COMING
TO THE MARKET
PER YEAR HAS
DROPPED BY
70%

ONGOING AND FUTURE NFU WORK

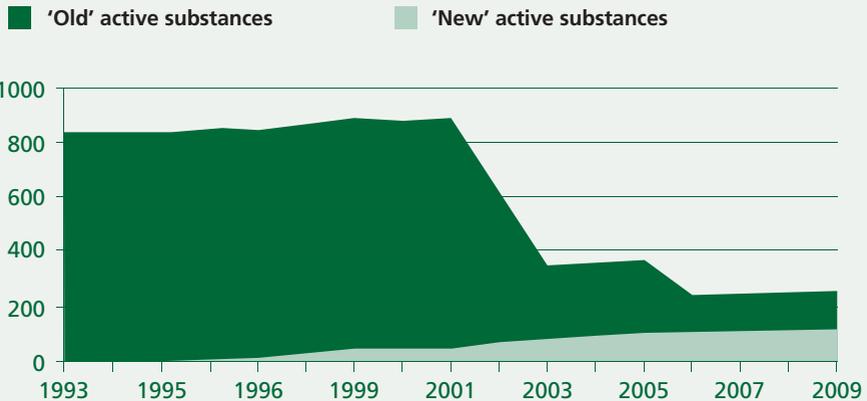
The NFU has lobbied both EU and UK regulators on the need to base the regulation of crop protection products on sound science. As part of our 'Healthy Harvest' initiative the NFU has identified five key areas for increased activity.

- 1 Brussels** – Lobbying at the EU level for movement away from the current hazard-based approach and return to a risk-based assessment process as well as removing the requirement for a list of active ingredients deemed suitable for substitution. We also call for a proportionate, risk based definition of 'endocrine disruption'.
- 2 Westminster** – Lobbying our home regulators to review UK specific measures to ensure a level playing field across the EU for UK farmers and growers.
- 3 At home** – To remind everyone of the importance of crop protection products when it comes to producing home-grown, wholesome, affordable food.
- 4 On farm** – Promote good practice and stewardship to build on the UK's excellent record when it comes to pesticide stewardship including disseminating best practice and encouraging the uptake of Integrated Pest Management and other sustainable practices.
- 5 Evidence** – We will strategically compile, gather and present evidence as to the impact of crop protection regulation on our ability to produce wholesome, affordable food.

To deliver on these priorities the NFU is actively working with the Crop Protection Association and the Agricultural Industries Confederation, levy bodies, research bodies and the food chain in the UK and across Europe.

DEVELOPMENT OF APPROVED ACTIVE SUBSTANCES

Source: European Commission



THE IMPORTANCE OF GOOD STEWARDSHIP

Continually improving all aspects of crop protection product use from planning through to disposal is fundamental to the NFU's call to ensure that growers have 'all the tools in the crop protection toolbox'. Improved stewardship of crop protection products will involve engaging with Voluntary Initiative (VI) messages:

Some important actions that growers need to consider incorporating into their enterprise are:

- Recording and reviewing the crop protection measures on your enterprise by completing a VI IPM plan (or LEAF plan).
- Check you have the most up to date and current guidance relevant to the specific products being used.
- Complying with the legal requirements of the Sustainable Use Directive on certification of operators and equipment testing. Operating to Voluntary Initiative best practice where appropriate (e.g. within arable and fresh produce assurance schemes) for additional equipment testing, such as NSTS, and registration of your spray operator with NRoSO.
- Ensuring that pollution risks are minimised by following VI best practice on handling filling, storage, cleaning and disposal of crop protection products.

For further information on crop protection stewardship visit www.voluntaryinitiative.org.uk





GUY POSKITT, YORKSHIRE – POTATO AND CARROT GROWER

“Nematicides are hugely important to us growing potatoes, carrots, parsnips and sugar beet on a sandland rotation.

“Potato production on the farm would be worst hit by the loss on nematicides, potato cyst nematode (PCN) being a huge problem. Over the years, especially with the loss of products such as Temik, the PCN numbers have continued to rise to such a degree that now more than 50 per cent of our potato land would be un-farmable for potatoes without nematicides. PCN-resistant varieties are now coming through but are very limited in terms of market acceptance.

“PCN can remain in soils for up to 20 years, and without controlling their numbers they could soon accelerate out of control.

“COMMERCIALY, WITHOUT NEMATICIDES IN THE UK POTATO INDUSTRY, OUR ACREAGE NATIONALLY WOULD DROP RESULTING IN MORE IMPORTS AND THE CLOSURE OF PROCESSING FACILITIES IN THE UK.”

“On the carrot and parsnip front the situation is similar if not as defined as in potatoes, but packed tonnage per acre would reduce by five to 10 per cent in an industry that is already under financial pressure. This could result in increased production costs coupled with greater numbers of imports from competitors.”

HEDD PUGH, MID WALES – LIVESTOCK FARMER

Hedd Pugh and his son Dewi run a 700ha hill beef and sheep farm in two units in the Upper Dyfi Valley of Mid Wales.

“The soil is a reasonably fertile brown earth but farming is constrained by steep slopes and a constant battle against the bracken, which finds the soil and climatic conditions ideal. Bracken reduces the farm’s grazable area and increases the risk of disease and livestock losses as a result of bracken poisoning. Control or at least containment of bracken, despite the cost, is vital for the successful grassland management on both holdings. The need for control is now even greater as agri environment scheme requirements have necessitated a reduction in overall livestock numbers.

“Mechanical control and cutting are not an option due to the terrain. Chemical control through the judicious, well planned and responsible use of Asulam both aerially (with consent) and by tractor mounted sprayer in August is considered essential. Since 1985, an approved contractor has sprayed around 120ha, twice from the air supplemented by on-the-ground applications where possible. Without it large tracts of the farm would be covered in dense bracken in summer and well into autumn. It would also make late summer gathering of sheep nigh on impossible and increase their vulnerability to fly strike and ticks. It should also be remember that ticks represent a risk to humans and pets because of Lyme’s disease. Biodiversity would suffer as thick continuous and extensive bracken beds do no favour to flora and fauna diversity, nor indeed to walkers who use this land classified as open access land under the CROW act.

“Unchecked, a single bracken frond can spread one metre per annum. With a combined frond and rhizome mass of more than 25 tonnes per hectare, I shall let you do the maths! On this farm, like many others, chemical control is the only economic option to prevent this from occurring. The sooner Asulam, the only approved chemical for selective bracken control, regains current full approval the better. Emergency authorisation for use of the chemical in a specific year and period, although welcome, merely adds to uncertainty of long-term strategic control of this problematic weed.”





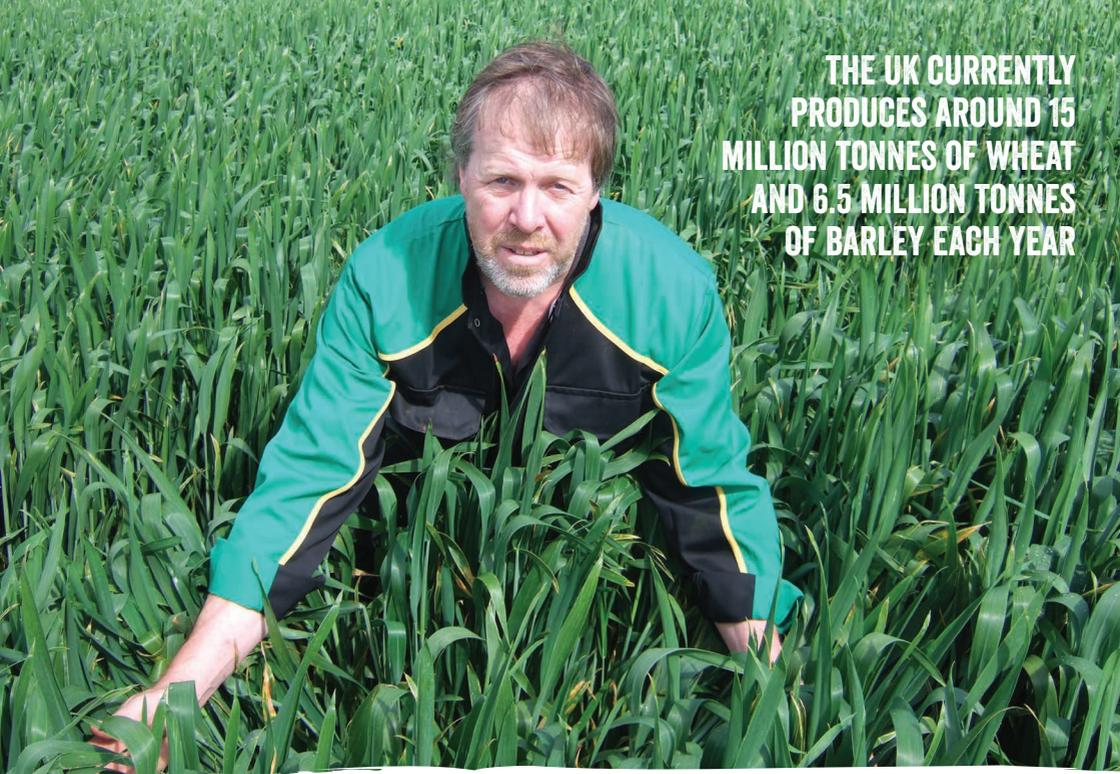
TOM BRADSHAW, ESSEX – ARABLE FARMER

Tom runs a substantial contract farming business from his family farm's base holding near Colchester. He is at the cutting edge of precision farming, fully engaged with responsible pesticide stewardship to protect the environment and to make sure crop protection products work in future. Oilseed rape has been grown in Essex since before the Romans arrived, and for Tom it is a valuable break from cereal crops in his rotation, reducing and breaking the life cycle of weeds, insects and crop diseases. Rapeseed is crushed to produce very high quality oil, used for cooking, as an ingredient in a number of food products

and as a renewable fuel. The meal left after crushing is an important source of high protein animal feed to substitute some of the three million tonnes of soyameal we import into the UK annually.

WITH LOOMING THREATS TO INSECTICIDE AND ALSO HERBICIDE AVAILABILITY IT IS A REAL CHALLENGE TO STRUCTURE A CROP ROTATION THAT IS SUSTAINABLE LONG-TERM

Seed treatment had replaced the need for Tom to apply insecticides to emerging rapeseed crops at the height of summer. This had taken pressure off him and the seven farming businesses he works with, which have collaborated over staff and machinery to reduce costs to stay competitive. The use of seed treatment insecticides was restricted in 2013 to exclude flowering crops like rapeseed, and this has affected subsequent planting decisions. The risk of failing to control crop-munching insect pests like cabbage stem flea beetle is too high to rely on applying insecticide to emerging rapeseed plants during the cereal crop harvest period with a boom-sprayer. The result is a 60 per cent reduction in the crop planted by Tom and the farmers he works with locally, and by relying on only one remaining type of insecticide, encouraging reduced efficacy and the development of pesticide resistance in insect pests, an issue already confirmed in Germany. With looming threats to insecticide and also herbicide availability it is a real challenge to structure a crop rotation that is sustainable long-term but also allows the business to stay internationally competitive.



**THE UK CURRENTLY
PRODUCES AROUND 15
MILLION TONNES OF WHEAT
AND 6.5 MILLION TONNES
OF BARLEY EACH YEAR**

MIKE HAMBLY, CORNWALL – ARABLE FARMER

Mike farms in a family partnership at Callington, Cornwall, producing cereals, oilseed rape and beef. Today's wheat and barley crops, such as those grown by Mike, can trace their origin back more than 10,000 years. The domestication of these cultivars for use in agriculture and their subsequent arrival in the UK occurred some 6,000 years ago. Today the UK currently produces around 15 million tonnes of wheat and 6.5 million tonnes of barley each year for different markets including a broad range of food products, animal feed and renewable fuel.

Mike has a legal responsibility to limit the presence of naturally occurring mycotoxins, that form in diseased cereal and other crops, to ensure there is no contamination of food above legal limits for human or animal consumption. To control fungal diseases such as fusarium in wheat, Mike uses integrated management tools; such as selecting varieties that have a naturally higher disease resistance, crop rotation and appropriate cultivation systems all to limit the requirement for applied plant protection products. However, in years of high disease pressure it is vital for Mike to have access to fungicides that complement the crops natural resistance to ensure the delivery of a high quality and safe product.

Mike is concerned that the removal of key fungicides will further limit his ability to produce wheat and other cereals that offer the highest level of food safety to consumers whilst enabling him to be competitive within a global market place.

ALI CAPPER, HEREFORDSHIRE – APPLE AND HOPS GROWER

“Apple orchards, hops, in fact all fruit and veg crops suffer from being classed as ‘minor crops’ by UK and EU pesticide regulators. It is inexplicable that size of acreage defines priorities. Across the EU, fruit and veg accounts for about three per cent of available land area and yet 20 per cent of agricultural production. The fruit and veg sector is not minor and the NFU continues to lobby to change this prioritisation.

“Apple tree scab is the most economically important disease of commercial apple production. Failure to control it can result in very significant economic losses: either because of apple quality or yield. The eating apple market has changed over the last 10 years with retailers requiring varieties that are available for 12 months of the year and that can be grown in both hemispheres. Unfortunately most of these varieties are very susceptible to apple scab (e.g. Gala, Braeburn, Kanzi, Cameo, Jazz).

“Growers have a limited range of modes of action in products used for controlling scab, with no new fungicide groups expected on the market. We have a good record of preventing fungicide resistance to apple scab in the UK, and this is because we use protectant fungicides with multi-site activity, which means they, themselves, are highly unlikely to suffer from resistance, but they also protect the other site-specific chemistry from resistance. An example of a long-standing multi-site fungicide is Captan, which has been used on apples since its discovery in the early 1950s. It is the

most frequently used fungicide on apples in the UK and has recently been re-registered in the UK but the harvest interval has been doubled from 14 to 31 days, which means that it cannot be used late in the season. This is a worrying change. Scab has a sexual phase during leaf fall in the autumn, and it is at that stage that any sensitivity shifts in the population could occur. Not having a multi-site fungicide available may increase the risk of resistance to other fungicides occurring. Failure to adequately control apple scab would have severe economic consequences for UK apple growers.”



“APPLE TREE SCAB IS THE MOST DAMAGING DISEASE IN COMMERCIAL APPLE PRODUCTION”

ROBERT LASSETER, DORSET – ARABLE AND LIVESTOCK PRODUCER

Careful use of integrated crop management principles within a mixed farming system has not halted the creeping but relentless progress of blackgrass infestation on Robert's farm near Weymouth.

Robert puts a strong emphasis on traditional control measures focused on controlling grass weeds, starting with a four-course rotation of spring sown barley, winter barley, oilseed rape and wheat. Ploughing is used to incorporate well composted farmyard manure and bury fresh weed seeds.

While Robert feeds the majority of his cereal crop to his own pig herd, it's essential his arable cropping is competitive in global markets for cereals and oilseeds, to stay economically viable. Access to herbicides is key to making winter cropping work, those lost to UK and EU agriculture in recent years have put more pressure on fewer products at home, while internationally our competitors can access a full suite of herbicides, coupled with the considerable advantage of accessing herbicide tolerant crop varieties.

Already having lost key herbicides like IPU and Trifluralin, with diverse modes of action to reduce herbicide resistance developing, this has already seriously damaged Robert's ability to prevent the development of grass 'super weeds'. The real prospect of more herbicides being irresponsibly withdrawn can only lead to the loss of Robert's ability to produce arable crops competitively.



MAKING THE CASE

Use these points to talk to your MP, MEP and other influential opinion formers.

In his Foresight Report in 2008, the then Government Chief Scientist, Sir John Beddington, talked of the world facing a 'perfect storm' of food shortages unless production was increased. The inconvenient truth is that British crop production is flat-lining when society desperately needs it to be increasing.

WE WANT: a regulatory environment that will allow this increase rather than one that stifles it. We need joined up thinking from regulators to keep the tools in the crop protection tool box.

Some fungicides that farmers use have similar chemistry to treatments used to control ailments such as athlete's foot in humans. Yet, bizarrely, some of those fungicides are currently under threat of being banned.

WE WANT: decisions that evaluate crop protection products to be made using sound science.

The number of crop protection actives available in the EU has fallen by more than 50 per cent since 2001 and they are not being effectively replaced.

WE WANT: a regulatory framework that allows the use of a comprehensive range of crop protection materials to continue to produce a reliable supply of wholesome, affordable food.

UK growers do not have access to many crop protection products available in other EU member states.

WE WANT: a level playing field for farmers across the EU.

The threat of restricting metaldehyde is a UK-only issue.

WE WANT: the UK and EU to revise their approach to the Water Framework Directive.

Pests and diseases are showing increasing resistance to crop protection materials. Herbicide resistant blackgrass, first seen in 1982 is now found on 16,000 farms in 34 counties.

WE WANT: regulators to account for future challenges when it comes to crop production.

Investment in crop protection in Europe has fallen from 33.3 per cent of worldwide investment in the 1980s to 7.7 per cent today.

WE WANT: regulators to be aware that over-zealous regulation drives away investment and is in danger of turning the EU into an agricultural backwater when it should be the world's powerhouse of agricultural development and innovation.

Many herbicides such as Trifluralin are no longer available in the EU but are still used widely elsewhere in the world.

WE WANT: our regulators to use the same risk-based approach to crop protection regulation as used elsewhere in the world so as to allow EU agriculture to remain competitive.

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