Health and Safety Executive

HSE

Weed control and changes to the pesticides control regime

Chemicals Regulation Directorate

This talk is about the safe use of pesticides – making clear we are looking at a particularly category of pesticides – called plant protection products.

Pesticides can be a fairly controversial subject. I'm sure that many of us in this room may well be predisposed towards responsible use of these chemicals. However we have to acknowledge that this is not a view shared by everyone in society.

So I'll outline to you today how:

we ensure society gets the benefits of responsible pesticide use without an unacceptable risk of adverse effects and how the laws governing use will change and the implications for you.

We'll start with a brief overview on drivers for the government approach to controlling pesticides The bottom line is that we are dealing with potential hazardous substances – some have intrinsic properties which on the face of it are pretty unsavoury – carcinogens, toxic, bio accumulative, etc. Not surprisingly this means that they have the potential to harm both human health and the environment. And this a key point of the pesticide debate and one we have to acknowledge – I'm sure you are no doubt approached from time to time by members of the public concerned at the actual or perceived risk of spraying operations, concerns on impact of pesticides on wildlife (bees a current hot topic) or domestic animals, or the presence in foodstuffs or water. But, herbicides of course help manage the growth of weeds in our public spaces, sports grounds and keep transport infrastructure safe.

So how do we reconcile this wish to enable use of these potentially useful chemicals whilst ensuring we minimise the risk of harm. Notice I used the word ***risk*** here, for this is the basis on which the system of controls works. You'll see that it works on a number of levels.

Firstly the regulatory risk assessment process. Any manufacturer wishing to market a pesticide has to submit evidence to the government that it can be used in a way which is safe for users, consumers and the environment. The risk assessment process works by determining likely routes by which users, consumers and the environment may be exposed to the pesticide and then calculating the degree of exposure. The system determines 'safe' limits of exposure. Now there are ways you can control exposure, through setting mitigation measures as a statutory condition of use – such as users wearing protective clothing, avoiding spray operations when bees foraging or preventing applications at times of the year when rainfall could wash off any applications.

This of course is only part of the story. Because once the pesticide is sold, it is then used by operators and for many people this is identified as potentially the most risky stage of the process – relying on the user following the mitigation measures which will be detailed on the label of the product. The risk assessment process, however, relies on the fact that the pesticide will be applied in a responsible fashion. What do we mean by that? Well, users should follow practices that are consistent with those detailed in the Code of Practice. It's a big document, but it does explain user obligations. In the agricultural sector, carrying out 'responsible use' is done very well, but in the amenity sector evidence from survey work suggests less so – not out of any wilful breaking of the law but more out of seeming lack of knowledge.

Voluntary controls. There is a constant demand for more to be done. Government of course, operates to certain principles – need for a regulatory system based on scientific assessment of risk and application of proportionate measures. This not to say however that we do not see a role for measures which build upon the regulatory controls – usually referred to as 'best practice' measures. These have been developed by industry bodies who are expert in the field, and who can ensure that users, or those who let contracts to users, are aware of the risks, the latest scientific and technical developments and can advise on the delivery of the most effective weed control strategies.

Monitoring Finally, there is a regime for monitoring impacts on human health and the environment – workers can report suspected cases of ill-health to the HSE, the public can report cases of poisoning of pets and wildlife, and Government monitors residues in foodstuffs and the aquatic environment.

The good news is that by-and-large the system works well, but from time to time we do get unexpected findings, sometimes this is because of land management changes, sometimes simply that we are able to detect products were not able to in the past.

OK so how to ensure pesticides are used safely.

You will recall that there is a government run-risk assessment process to identify the risks associated with uses of pesticide products and putting in place measures to ensure that the risk resulting form that use falls within acceptable limits – this is essentially done by controlling the exposure of human beings and the environment to the pesticide. BUT - this process works on the assumption that products are applied in a responsible fashion in the first place……

We try to ensure products are applied responsibly through a mixture of legal requirements and guidance. The actual laws themselves controlling use are reasonably simple, and they're built on three basic requirements:

Firstly that the user is ***trained*** – we think this is most important, if the user is trained to understand the risk that comes from the use of pesticides and what the impacts on them or their neighbours might be, and how these can be mitigated, many of the potential problems which might arise can be addressed. Good training also helps the users consider the conditions which exist at the time and location at which the pesticides are being applied, so further contributing to minimisation of risk.

The second of the 3 requirements is a stipulation that all users take '***reasonable precautions***' to protect human health and the environment when using or storing pesticides – this is a general requirement that places an obligation on the user to assess risks and determine appropriate courses of action – I will explain in a minute what the government means by 'reasonable precautions'.

There are, of course, **other laws** which affect the way in which pesticides can be used – and these are developed by other parts of Government. The most important of these are those relating to protecting workers from the effects of hazardous materials, protection of water (particularly that used for drinking water), and the handling and disposal of waste.

Using pesticides safely (Cont.)

- **Code of Practice** explains how to meet requirements:
  - training
  - Planning and preparation
  - Working practices
  - Disposal of waste
  - Record keeping
- Other sources of advice: Amenity Forum, Crop Protection Association, Environment Agency

The third and final element of the current control arrangements is this document – the **Code of Practice**. (I have some copies on CD here for you to take away) This Code explains to users the kind of things they need to do in order to demonstrate that they have taken reasonable precautions. It is not a legal requirement to do these things – simply advice that by doing so the user would be following standards that a reasonable person would consider to be 'reasonably precautionary'. The Code covers the training of users, planning and preparing for operations to apply pesticides, appropriate working practices, how to dispose of products; and what sort of records should be kept.

Further advice on what all of this means is available from other organisations for example the Amenity Forum (stakeholder grouping committed to developing and promoting best practice), the Crop Protection Association (CPA), (I have 5 copies of their booklet here) - pesticide manufacturers do not want negative publicity associated with pollution incidents, and the Environment Agency.

Things are changing; however, we are in the throes of overhauling the control regime for pesticides – being done as a result of the EU Thematic Strategy. This overhaul is a significant development as it represents a change in the principles that underpins the way pesticides are controlled – previously we had a system which was geared to ensuring there was no unacceptable risk from pesticide use. The policy is now one of seeking to 'minimise' risk. This is achieved through two pieces of legislation:

Firstly that which sets the standards that pesticides must meet and the process they need to go through in order to be authorised for use. Although the process is largely unaltered (evaluations of data by member states culminating in a vote at an EU Committee), the principles which underpin the process are changing. Previously the system had been based on an assessment of ***risk*** – so provided you could build a shield around people and the environment to control their exposure of pesticides to acceptable limits all products were liable for consideration. Under the new rules chemicals that have certain undesirable properties are automatically excluded from the process. This is going to put a major squeeze on the availability of pesticide products in the medium to longer term. The effect in the amenity sector is likely to be less dramatic than that in agriculture – but it will still impact on future product availability.

Secondly the rules governing controls on the use of pesticides are also being reviewed – so essentially the info we saw on the previous slide. Have to say that effect of this will not be quite so dramatic as we have a relatively well developed control system compared to other EU member states. However, there will be change:

Training programmes will be updated to ensure they given an appropriate emphasis to issues identified in the directive. From 2015 only people who hold a certificate of competence will legally be able to buy pesticides. From 2016 spray equipment will need to be tested on a regular basis (although there are exemptions for smaller sprayer equipment). There is a recognition of the fact that particular protection should be afforded to the aquatic environment and drinking water and amenity or conservation areas – not the sort of thing that lends itself to legal requirements so Government is looking at beefing up the guidance which is available. Likewise the final requirement identified here that by 2014 the government should ensure all users adopt an integrated approach to pesticide use.

We also need to bear in mind the potential impact of other legislation such as the Water Framework Directive – it's been on the books for 10 years but is only now starting to bite. The aim is to protect, restore and enhance the quality of UK waters and reduce the amount of treatment required to remove pollutants from drinking waters. Standards here are incredibly tough (because they are not all based on risk) – the residues from a foil cap off a pesticide container can put 22 miles of a stream over the drinking water standard. And new standards are being developed for different pesticides as part of an on-going programme.

It's worth noting here that whilst glyphosate is not on the European review radar, it ***is*** on the WFDs UK TAG radar. This is because glyphosate has been appearing more frequently than before, in untreated surface water.

Changes (Cont.)

- Labels of professional amenity products
  - Identified by the industry in response to SUD consultation
  - Seeks to clarify how products should be applied to hard surfaces such as pavements and road gullies
  - Implementation of this change will be seen in three ways:
    1) Labels will make clear how the product should be applied
    2) Guidance diagrams will be included with the product literature
    3) Training programmes will be revised to reflect the new guidance

Another change took place late last year

Key finding from the consultation over the implementation of the SUD was the need for more information, guidance and advice for the professional amenity user

Decision taken to improve the descriptions of professional amenity products to clarify how pesticides should be applied to hard surfaces such as pavements and road gully's.

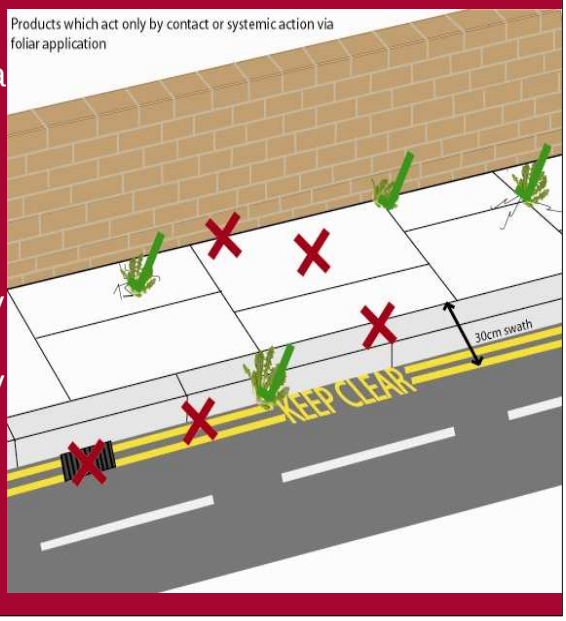
It was also decided to include helpful diagrams to supplement the changes to labels

As a result of these label changes we've been in touch with all the main training providers – City & Guilds and BASIS to ensure that all their training programmes and literature adequately reflect these changes. So you should hopefully see this coming through in any future training courses or continued professional development that you or your colleagues may attend.

Label Changes (1)

a) Products which act only by contact or systemic action via foliar application:

"Apply this product carefully. Ensure spraying takes place only when weeds are actively growing (normally March to October) and is confined only to visible weeds including those in the 30cm swath covering the kerb edge and road gulley – do not overspray drains".



There are three types of pesticides used on amenity hard surfaces

Here we see the text that will now apply to all contact or systemic action via foliar application. In other words the weeds need to be visible for the pesticide to be effective

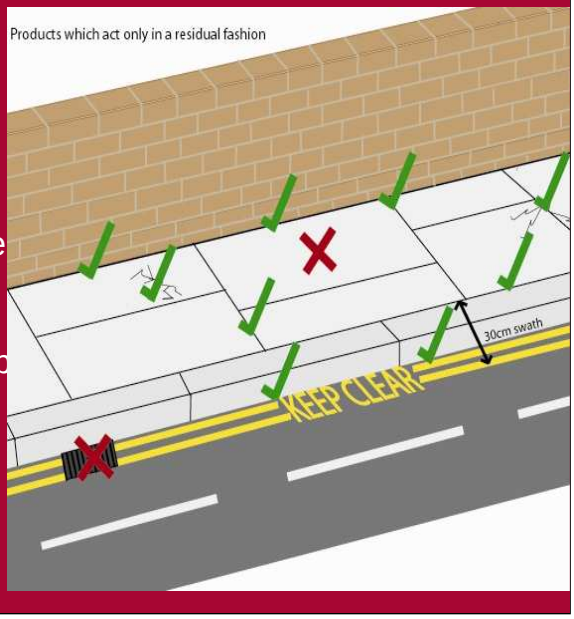
Therefore, spray applied on the middle of the paving slabs, between the pavement and the wall or on the kerb or road gully where no weeds are present is simply a waste of product.

More importantly, there is more risk of the unused product being washed into the road drains and therefore reaching local watercourses

Label Changes (2)

b) Products which act only in a residual fashion:

"Apply this product carefully. Ensure spraying takes place only to areas of potential weed growth (e.g. gaps between paving stones, kerb edges and road gulleys) and/or a 30cm swath covering the kerb edge and road gulley – do not overspray drains".



Here is the text for products that act in a residual fashion.

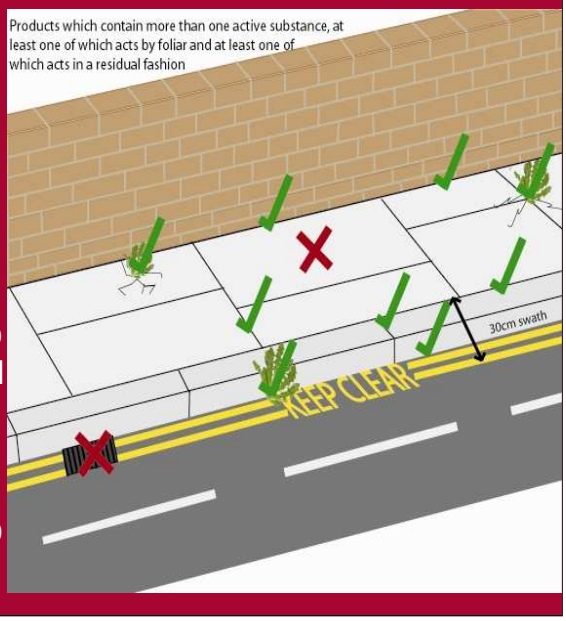
As the text makes clear the pesticide needs to be applied to areas of potential weed growth – pavement edges, between slabs, and in the road gullies.

Again, spray applied on the middle of the paving slabs is still a waste of product.

Label Changes (3)

c) Products which contain more than one active substance, one by foliar application and one in a residual fashion:

"Apply this product carefully. Ensure spraying takes place only when weeds are actively growing (normally March to October) and is confined only to visible weeds, areas of potential weed growth (e.g. gaps between paving stones, kerb edges and road gulleys) and/or a 30cm swath covering the kerb edge and road gulley – do not overspray drains"



Lastly, here we see the text that will now apply to all products which contain more than one active substance, one of which acts by contact and one that acts in a residual fashion

As with both of the previous types of products spray applied on the middle of the paving slabs is simply a waste of product.

One point that I should have mentioned before that applies to all these changes relates to the ironworks around road or pavement drains. Although you should always try to avoid overspraying the drains wherever possible, if weeds are present around the drain it is acceptable to spray around the ironwork. This is important to avoid the build-up of weeds in the drain which may lead to blockages and thus localized flooding.

One other point I should have mentioned at the outset, none of these label changes apply to hard surface uses such as on railway ballast.

Research

5yr project involving Thanet District Council looking at 3 weed control options:

Herbicide only – two programmed treatments:
1st - between April and May
2nd - between August and September

Integrated:
Reduced herbicide application combined with thermal and mechanical treatment

No herbicide:
Thermal and mechanical treatments only

Just want to finish by giving you a brief outline of some important research that is being undertaken by East Malling Research and is involving Thanet District Council.

Five year project to look into the cost benefits of three different weed control options:

Herbicide only – two treatments a year at the key growth stages in spring and mid summer

Integrated – that includes a reduced herbicide treatment programme combined with the use of ‘burners’ and wire brushes.

Lastly there is a **‘no herbicide**’ approach that relies only on the use of ‘burners’ and wire brushes

Drivers for the research

- Future need to protect groundwater resources by decreasing inputs of pesticides
- Legislation posing threats on how to control weeds on hard surfaces
- Lack of UK research into non chemical and integrated weed control on hard surfaces

One of the major concerns CRD as regulators have is that if glyphosate use continues at the present rate, or worse increases, there is a risk that it maybe classified as a priority substance under the Water Framework Directive and may be subject to restrictions on use and possibly even a ban on its use.

This would leave the amenity sector without the most effective method of controlling weeds. More importantly it would significantly increase the costs of treatment particularly if users had to rely on either mechanical or thermal forms of control.

Hence the need to consider whether integrated weed control on hard surfaces is a viable alternative to the use of pesticides alone.

Second Year Results/Conclusions

- All weed control methods maintained an overall acceptable level of weed control
- Perennial weeds are the most frequent for any treatment
- Weed coverage more severe at the sides of pavement (1-17%), very low in the middle of the pavement (<1.5%)
- Weed species distribution has not changed after two years
- Use of herbicide results in emissions to drains following rainfall
- More information on the project can be found at:

www.weedcontrolproject.info

Although the project still has three years to run but some key findings are already coming through and they are listed here.

All methods (pesticide, integrated and non-pesticide) provide an acceptable level of weed control. However, as expected the costs of integrated and non-pesticide treatment programmes are higher than that for pesticides.

Interesting to note that weed coverage is greater at the pavement edges rather than in the middle of the pavement. This suggest that pedestrians help keep weeds down which means that spraying could focus on those areas (between the pavement and the road or boundary fence/wall) that are less likely to be subject to any footfall.

Perhaps not unexpectedly, the use of herbicides results in the pesticide getting into drains following rainfall. This emphasises the importance of ensuring that wherever possible treatments take place when no rainfall is forecast.

I've included a link to the website set up by East Malling Research where, if you wish, you can find more information on the project .

hope this have given you a reasonable insight into the world of pesticides and their control. As I said they are a useful tool for modern society – convenient and cheap, but with the potential to cause harm if not used responsibly.

All of us are able to influence the behaviour of users, by promoting the concept of responsible use. This can be done by providing a legal framework, guidance or just the inclusion of relevant conditions in contracts. These are just some of the ways we can all help to demonstrate the professionalism of our industry.

If you want a checklist of key controls these would be:

1) Is there an alternative to using a pesticide – only use a pesticide when absolutely necessary

2) Make sure you've got properly trained/competent users

3) Make sure they've identified and mitigated risks to human health and the environment before application

4) Make sure they store and dispose of products and packaging appropriately

5) Make sure they keep records of all pesticide applications and assess the efficacy of the process

If you have any questions or comments please feel free to contact Nigel Chadwick at Chemicals Regulation Directorate using the details on the slide.