Protecting Our Sports

Richard Minton examines the need for good stewardship when it comes to chemical usage.

While chemicals remain a vital management tool in preparing sports surfaces, campaigners would like to see their total demise. Therefore, as an industry we must ensure that good product stewardship provides little, or no concern to fuel their argument.

Green campaigners could have a major impact on the preparation and protection of golf courses and sports fields throughout the UK, if they ever succeed in their aim to dramatically reduce, if not introduce a total ban of pesticide use. The National Association of Agricultural Contractors (NAAC), who are the trade association for all contractors, including the Amenity Sector, have been campaigning on behalf of the industry to ensure that a balanced argument into the benefits of pesticides are put before the government departments responsible for decision making with regard to future use.

While it is clearly understood that pesticide use should be a last resort, and that introduction of best cultural practices should minimise their use, they do have a role to play. The devastating effect of disease and weeds on playing surfaces would soon impact on the quality expected by those participating in sport today. Weeds especially, are very difficult to control, with no viable option to pesticide use - hand weeding would involve huge labour resources and costs.

For this reason, good product stewardship is essential, ensuring minimal environmental impact and giving the green campaigners negligible ammunition to support pesticide withdrawal. In agriculture, pesticide use is strictly governed by advisors & agronomists, and assurance schemes are in place governing application. In the amenity sector this is not always the case.

Even though the regulations are in place, pesticide application is poorly policed, often leading to misuse and possibly water contamination - the very ammunition looked for, to persuade the regulatory powers to introduce restrictions. Taking advice from BASIS qualified advisors, ensuring application is undertaken by fully qualified personnel, using the correct application equipment and with all the necessary legal and H&S documentation in place are the minimum requirements that anyone considering pesticide use should accept.

The NAAC can advise on contractors who fulfil the minimum requirements and they are also able to advise on the many schemes in place to ensure that, even if undertaking application in house, all legal and H&S requirements are met.

PLANNED WEED CONTROL

Amenity weed control is a high profile, very public operation, which is often carried out in sensitive areas such as in schools, on pavements, parks, urban green spaces, golf courses and sports pitches. It must therefore be carried out to high professional standards, by qualified operators, protecting both the public and environment.

The client demands tidy, weed free public spaces, often within tightly controlled budgets. This can only be achieved if the contractor and the client work together to put in place a realistic and achievable weed control programme, to ensure that amenity contractors are able to provide a professional, efficient, safe and effective service.

Weed control programmes must be realistic and practical, with contractors being given greater notice if they are successful in an application, to allow proper planning and management. The contract term should also allow for the necessary investment in machinery and trained labour in order to bring together a planned, achievable weed control program, using only approved products.

Checks should be carried out by clients to ensure that operatives are meeting contract requirements, and likewise, contractors should carry out internal company audits, to ensure that employees are complying with company policy.

Within this framework, contractors must be kept properly informed and be given the flexibility within agreements to perform their operation responsibly, safely and in a timely way, for the most effective and environmentally responsible control of the weeds. This will provide both environmental and economic results to benefit clients, contractors, the community and the environment.

UNDERSTANDING PESTICIDES

A clear understanding of pesticides and their use will hopefully ensure that those using them will make the correct decisions, with regard to all aspects of application. 'Chemical' methods are defined as the use of pesticides to control weeds in amenity areas. 'Chemicals' may include natural and synthetic products.

A pesticide is defined (Food and Environment Protection Act (FEPA)) as any substance, preparation or organism prepared or used, among other uses, to protect plants or wood or other plant products from harmful organisms; to regulate the growth of plants; to give protection against harmful creatures; or to render such creatures harmless.

The term 'pesticide' therefore, has a very broad definition, which embraces herbicides, fungicides, insecticides, rodenticides, soil-sterilants, wood preservatives and surface biocides among others. Chemicals are applied via a knapsack, boom sprayer or via specifically designed application equipment.

'Chemical' methods suffer from an 'image' problem, in that the use of 'chemicals' tends to be viewed with some caution. However, the pesticides used in amenity areas are rigorously tested, to get Government approval for use, and, if used correctly by properly trained operators, this method should not present a high risk.

Pesticides should only be used when necessary, and, if the benefits from using them outweigh any risks to the public and environment. When deciding whether to use a pesticide, a number of considerations are needed including: alternative means of control; possible harmful effects of the pesticide; the nature of the pest; the likely amount and cost of damage; previous experience of dealing with the problem; and the likely effectiveness of the pesticide.

If it is decided that a pesticide is the most appropriate method of weed control, then risk and COSHH assessments are required to ensure that the safety of the operator, public and environment are properly protected in all circumstances.

The major advantage of using chemical methods of weed removal is that, often, a much larger area can be effectively treated per day than with mechanical methods. Advances in application technology ensure accurate targeting of the problem weed or disease, and reductions in the amount of chemical used. In addition, chemical methods may offer longer lasting control of regeneration of weeds at least cost.

TOXICITY COMPARISONS

Comparing glyphosate, the most widely used herbicide, with a few everyday products. LD50 is the accepted scientific measure of acute toxicity to mammals, e.g. rat's dog's mice and humans. Acute LD50 is the one hit dose needed to kill half the members of a normal population. The figures given are for milligrams of the given active ingredient per kilogram of body weight of adult rats. It is accepted that this can be extrapolated up to the size of a human.

It is worth noting that it is the dose of anything that makes it a poison or toxic, not its inherent characteristics. Current regulations (COPR 1986), allow substances to be classed according to their potential hazard or toxicity using the LD50 measure.

0-5 mg/kg - extremely toxic
5-50 mg/kg - very toxic
50-500 - toxic
500+ - low toxicity
5000+ - not classified as toxic.

Product	Active ingredient	LD50* (mg/kg body weight)
Roundup	**Glyphosate**	**6000+**
Coffee	Caffeine	192
Anadin	Paracetamol	273
Aspirin	Aspirin	1000
Vitamin A	Vitamin A	2000
Shampoo	Selenium sulphide	138
	Zinc pyrithione	221
Pepper	Piperine oil	800
Vinegar	Ethanoic acid	3310
Salt	Sodium chloride	3000
Tobacco	Nicotine	53

- Coffee is approximately 30 times more toxic
- Paracetamol is approximately 22 times more toxic
- Vitamin A is approximately 3 times more toxic
- A certain shampoo is approximately 43 times more toxic
- Pepper is approximately 7.5 times more toxic
- Salt is approximately 2 times more toxic
- Nicotine is approximately 113 times more toxic

RISK FROM PESTICIDES USE

Operators handling and applying pesticides must comply with a wealth of legislation and be suitably trained. In addition, appropriate health and safety controls must be put in place. While historically, the amenity sector has had a voluntary industry Code of Practice for the Use of Pesticides in Amenity and Industrial Areas, (the 'Orange Code'), this is currently being integrated into the agricultural 'Green Code' by the Pesticides Safety Directorate and Health and Safety Executive, to form a mandatory revised Code of Practice for the Safe Use of Plant Protection Products. This is due to be published in early 2006. Whilst rigorous, such controls are an essential element of pesticides stewardship.

The mismanagement of weed control chemicals can lead to public safety concerns. It is therefore very important that all the necessary precautions are put in place, including meeting legal requirements, voluntary codes and label requirements, ensuring that the public and domestic pets are kept away from sprayed areas where necessary.

Water pollution can also be a serious issue if pesticides are not applied correctly. This can arise because many amenity chemicals are applied on hard-surfaces with 'run-off', and near drains.

The EC Drinking Water Directive sets a maximum level of 0.1 _g/l for any individual pesticide and 0.5 _g/l for the total level of pesticides in drinking water, irrespective of toxicity. The Environment Agency routinely monitors pesticide concentrations in surface waters and is able to monitor exceedances

CONCLUSION

Weed control and related services are vital to the management of golf courses, sports pitches, pavements and parks etc. which need to be undertaken following all of the very strict legal and H&S guidelines applicable today. Planned weed control programmes using approved products, applied by fully trained and certificated operators, will ensure good product stewardship, giving little or no concerns to those wishing to see the demise of all chemicals.

As has been illustrated, the majority of chemicals used in amenity today are far less toxic than many items in every day use and found in our kitchens or bathrooms and, if used correctly, present no danger to the public or the environment.

Richard Minton is Managing Director of Complete Weed Control and can be contacted 0800 7832884.