



Keith McKee, of Scotts, gives some advice on the use of pesticides on golf courses.

Spray Away



When thinking about using a pesticide the very first questions, as required under the COSH regulations and out of pure common sense, are "What is the problem?" and, "Do I need to use a pesticide to control it?" or, "Is there some other method?"

Identification of the pest or disease is crucial. Are you sure that you have made the correct identification?

One golf club was regularly treating to control Fusarium but achieving little or no control. Eventually the Head Greenkeeper asked a consultant for a second opinion.

A number of diseases can look very similar at certain stages of development but given the time of year and the weather conditions the Consultant thought it was not Fusarium and requested samples be sent to the laboratory for testing. At the laboratory Pythium was identified as being the problem. The cost of sending samples to the laboratory is very small indeed compared with, in this case, two years worth of the incorrect pesticide in an attempt to control the disease not to mention the waste of time and the frustration.

Just a few words in passing about Pythium which is a slowly increasing problem in the UK. Pythium foliar blight occurs mainly in hot humid weather conditions and can devastate large areas of bent grass within hours. It is also capable of infecting creeping bent grass under cool weather conditions. Pythium is a too large a subject to be covered in this article but a little news could be of help to those who suffer with the problem of Pythium on their courses. Until September 1998 there was no pesticide in the UK which had approval for use on turf. Thanks to the efforts of Mark Haver, Head Greenkeeper at Chelsfield Lakes Golf Club, who applied for and obtained OFF - LABEL Approval for the use of Aliette (80% Fosetyl Aluminium) MAFF No. 05648 there is now a control available to Greenkeepers in the UK. Details of time and amounts of application are stated on the approval and must be conformed with. Product literature from the USA gives a warning about compatibility - it states that Aliette should not be mixed with any sticker, extender or wetting agent and makes special mention



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that Aliette is not physically compatible with Daconil when used as a tank mix.

Of course the other question to be asked after the problem has been identified and a decision made as to the best method of treatment is "why have I got the problem" and "what could I have done to prevent it other than applying a pesticide?"

So often the reason is down to the weather being too hot, too dry, too wet, too much fertiliser, too little fertiliser or even the incorrect fertiliser, but these problems are more easily corrected next time around.

With golf courses taking more and more play the quality of construction and maintenance becomes even more important.

At one golf course which is about six years old and built by the local farmer where the greens are constructed from local soil, which has a clay content of 37% (more than satisfactory for a county cricket square) and therefore become water logged very easily. The greens have a Poa Annua content of approximately 40% and have been scarified and aerated approximately three times in the past year! The local water is high in pH. Most will already have guessed which prob-

lem is starting to show - yes - Take All Patch. Soon the pesticides will come out to try to control the Take All Patch which should not be there in the first place

Pesticides are good and at times work under some very difficult conditions but they can not work miracles. So when the greens at this particular course are taken out of play because the disease problem has developed, do not blame the pesticide for not working as the problem could have been avoided. Two sayings come to mind :

a) "As you sow so shall you reap" in other words good construction and good maintenance will produce a good result and lessen the need for pesticides.

b) "Time spent in reconnaissance is rarely wasted." An old Army saying but very true of greenkeeping. Walk the course daily to see what is going on. Your eyes are in the soles of your feet not under the tyres of a powerful machine.

You will see the start of problems and be able to react quickly to the situation. It is amazing how many sprinkler heads are seen not working by the greenkeeping staff.

Sprinkler heads not working in

hot weather puts the grass under great stress and therefore more vulnerable to attacks of disease.

Fortunately in recent years when it comes to actually applying a pesticide things have changed for the better. Things continue to change for not only are most greenkeepers fully qualified but application methods have also improved.

Pesticides and herbicides have developed and are designed to work at specific application rates and under particular conditions. No longer is it acceptable to apply pesticides by a "seat of the pants" type operation as in the past when the operator mixed a small amount of chemical into a large amount of water and tried to apply it uniformly to the turf. It was skill and experience of the operator who could position the boom at the correct height, maintain the correct pressure and flow through the nozzles. At the same time keeping tractor speed constant when going up or down hill

The entire operation was on the shoulders of one man - the operator. If he had a bad day with the brain not working well then a disaster was never far away. Pictures A+B show the result of using an



Picture A



Picture B



old sprayer without an agitator where the mixture had been allowed to stand over a lunch period. The pesticide had settled to the bottom of the tank so that when the sprayer was turned on neat pesticide was delivered on to the turf.

Picture A is at the start of spraying and picture B is taken from the other end of the field as the water is starting to work its way through.

Today things are a little different, for with the use of computers the gauges have been turned into electronic sprayer control systems. In these situations a microprocessor rather than an operator opens and closes valves to control the single application of mixed chemical in response to changes in ground conditions. Without doubt things will advance a lot further yet. Root zone injection is already available for the application of pesticides to control some pests and diseases.

On show at SALTEX this year was a spray machine which, admittedly, is currently for use on pavements and total weedkill areas, this employs optic sensors to spot treat weed growth by using computerised technology. How long before a similar system is available for use on turf? May be there already is such a system and possibly you already know about it.

The aim must be to reduce the amount of pesticide used as much as possible but make what Pesticide is used perform as efficiently as possible.

We can not reasonably expect pesticides to work well for us if we are not using the correct pesticide to control a specific target nor if they are being applied incorrectly.

Question. Do we need pesticides?

Answer. Yes most definitely for they are a major part of the greenkeepers armoury but this could well change when biological and other control methods are developed further.

Question. How can we minimise the use of pesticides?

Answer. 1. Daily inspection of the turf so that disease can be treated early and not allowed to develop.

2. Keep the turf healthy and strong.

3. Regular aeration to assist surface drainage and develop stronger root systems.

4. Regular scarification/verticutting to remove the dead and unwanted grasses and allow the movement of air through the grass plants.

5. Do not maintain low mowing heights for prolonged periods - it puts grass plant under great stress.

6. Try to avoid heavy traffic on the greens and have as large a green as possible (only possible at time of construction or reconstruction)

7. Avoid compacted soil, so often caused by over play in wet conditions.

8. Avoid over irrigation, which could cause saturated greens.

9. Improve poor surface and sub surface drainage often caused by poor construction or lack of aeration.

Question. How can we get the best out of our pesticides?

Answer. 1. By accurate identification of the problem.

2. By use of the correct pesticide.

3. By using the correct application rate.

The powers that be throughout Europe are looking very closely at the use of Pesticides. We must use pesticides safely and wisely or their use could well be banned.

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