

Turf Solutions

New Trial Data Provides ITM Help For Turf Managers

Data gathered from a number of STRI trials has helped Scotts develop a new system which makes integrated turf management easier to implement.

GROUNDSMEN and greenkeepers are being constantly updated on new ways to manage pitch and course problems. Integrated Turf Management isn't just another fancy phrase conjured up to baffle or add to bureaucracy. Neither is it a new or different way of working for many. Implementing ITM systems requires turf professionals to draw on all methods available to them in the control of turf problems – cultural, biological and chemical.

Intent on making it as easy as possible for groundsmen to implement ITM based on research data rather than ideas and theory, Scotts Professional instigated a series of trials at the STRI and following receipt of the data, they have launched iTURF - a new system that provides problem-solving documents that can be downloaded quickly and easily.

A programme of integrated turf practices and treatments tailored to each type of sport and amenity situation can be planned in conjunction with the company's Turf & Amenity team who, using specially developed iTURF software, will provide a site-specific programme for the year that seeks to eliminate problems by taking appropriate early action.

The integrated turf management approach is all about our company philosophy of using the best products in the most efficient and responsible way.

Using products in the most efficient manner in conjunction with providing specific tools and information means that turf managers' decisions can be made more easily and based upon facts where possible.

Speaking at Harrogate Week in January 2009, Pesticides Safety Directorate environmental policy advisor Grant Stark said: "People in Brussels are keen on an integrated approach. It is seen as being able to reduce pesticide use by around 20 percent and also bridging the gap in the loss of pesticides through regulation."

Already more than a year and a half into their trials when that quote was made, Scotts have turned ITM theory into a user-friendly tool kit based on facts: This approach and the support material available make it easier to adhere to the EU Thematic Strategy legislation which requires an ITM approach to be taken before Plant Protection Products are applied.



growing success

Practical tools

The basic tools available are:

- Soil analysis – nutrient inputs based on facts.
- iTURF software – providing an ITM programme that is easy to follow (available through Scotts Sales team only at present).
- iTURF Solutions – ITM sheets naming specific products for specific problems based on facts.
- Product Information Sheets – providing information that turf managers need to select and apply products accurately.
- Syngenta's Greencast website at www.greencast.co.uk.

We see integrated turf management as being crucial for the long-term sustainable management of turf. "iTURF covers every aspect of turf management including flooding, drought and wear – not just pest problems as with integrated pest management (IPM).

Scotts, one of the largest fertiliser, pest and disease product suppliers in the world, has a strong environmental policy and consistently promotes best practice in product application.

The advantages of the new iTURF system are that turf professionals are able to counteract problems in advance by building programmes based on trial data from the STRI.

Building an ITM programme in any turf environment will make turf more tolerant to stresses and will build the health of turf for future years. By proper analysis of your situation you can choose products that will be justified in use – like wetting agents. Applying products at the right time and in the right way will ensure you are meeting all the requirements for a proper ITM programme – including maintenance routines.

At present the iTURF sheets which can be downloaded include information on green speed, drought management, over seeding, moss prevention and solutions to Anthracnose, Algae, Black Layer, Chafer Grubs, Dollar Spot, Earth Worms, Fairy Rings, Fusarium Patch, Leatherjackets, Red Thread and Take-All Patch.

Other subjects are being added over time and trials are continuing at the STRI – particularly into the use of correct nutrition, wetting agents and fungicides.

The trials carried out at the STRI have given us plenty of information to work with so that we can give turf managers the correct solutions and best products for their particular problems.

STRI Trials

The trials have taken place over the last 18 months at the STRI's grounds at Bingley, West Yorkshire. Dr. Ruth Mann, head of turfgrass protection at the STRI, oversaw the programme.

Turf managers need to think about every aspect of disease control. Integrated turf management systems must be put in place and all methods at our disposal to control disease must be looked at. Cultural practices, such as regulating surface and rootzone pH at 5.5, controlling irrigation and improving airflow are all part of that process. Choosing the right grass varieties and using biological controls are all part of the integrated management system.



growing success

The timing of application of products is vital, Dr. Mann says, to avoid problems.

“Most of the products that are available are best when they are used preventatively or at the very first sign of disease.”

She advises golf greenkeepers and course managers, for example, to use an ‘indicator green’ which is the first one to get disease to highlight problems.

“I’m trying to get people away from firefighting disease because that uses a lot more fungicides,” says Dr. Mann. “Good cultural practices can help throughout turf management in the prevention of disease. In golf, the quicker greens dry, the less chance there is of disease,” she adds.

Her turfgrass pathologist colleague at the STRI is Julie Wheeler. Julie has worked on all the iTURF trials during the 18 months she has been with the STRI.

“The results have been very productive and all the information is proving useful to Scotts in their approach to integrated turf management,” says Julie. “The main object is to show the effects of using chemicals as efficiently as possible to achieve control over pests and diseases – this fits in with the EU Sustainable Use Directive to reduce use of chemicals in the environment.”

The trials evaluated different management regimes by staging single treatment programmes of slow-release fertilizer, wetting agents, fungicides and Effect Iron, then two-way and three-way combinations of these products.

In the fertilizer trial, slow-release product was tested alongside a conventional potassium nitrate as the nutrient source to evaluate if it’s possible to pre-condition turf to resist disease by implementing a good fertilizer regime. The increase in soil surface pH caused by potassium nitrate is known to encourage the onset of Fusarium and Take-All patch.

The trial of wetting agents tested the effects of two types – a penetrant in winter to remove moisture from the surface and a water conservation agent in summer.

The fungicide treatments saw the application of both systemic and contact products at pre-determined dates four times during the trial.

Trial Results

The results confirm that ITM promotes healthier turf.

Results for the fertilizers trial were averaged across a year of data. Some plots had a surge of disease over the winter period where others had very little. Disease pressure on plots where Sierraform GT slow-release fertilizer was used reduced by 21% compared with a reduction of 3% on those where potassium nitrate was applied indicating that the choice of fertilizer you apply can significantly affect the chance of a disease outbreak in your turf.

Data from the wetting agent trial showed that use of an H2Pro programme reduced disease pressure by 18% versus the untreated plots and more importantly, when a programme of slow-release fertilizers and wetting agent was implemented, a reduction in disease pressure of 29% was achieved. Historically, wetting agents have only been advised for drought stress and the prevention and treatment of dry patch. This study also clearly demonstrates the benefits of using them in winter to remove moisture and surface water, reducing humidity and preventing pathogen attack.



growing success

In the three-way trial which combined the use of slow-release fertilizer, wetting agent and Effect liquid iron, the results improved further with disease pressure reduced by an impressive 83% compared to untreated areas.

The trials also showed that the choice of nutrient programme can affect fungicide efficacy, which increased by 31.5% when the correct fertilizer programme was implemented. These results could be further improved if fungicide applications were based upon prediction models such as Greencast.

We were very satisfied with the results. Now we have data from replicated scientific trials which clearly show the benefits of combining these very effective products.

Our climate and the challenges faced by turf managers are changing. For the first time in many years, winter snow-mould has been a problem,” he added. Caused by humidity under the blanket of snow, the resulting mould can be treated by a suitable wetting agent and liquid iron treatment.

More trials will take place and we will continually add topics and solutions to the iTURF site. Following the winter we’ve just had, this will probably become one of them.

Record Keeping Made Easy

Scotts is championing integrated turf management through iTURF in order to provide turf managers with an easy way of meeting their environmental responsibilities and comply with increasing rules and regulations regarding chemical application. The software and solution sheets give turf managers a new weapon in keeping turf healthy and helps them provide long-term sustainable management, with sound evidence to back it up.

Drawing on the expertise and data from a global company is an essential part of the service. All those who carry and provide access to iTURF programmes are BASIS and FACTS qualified, which means the advice they give and the programme they’re able to develop is based on both experience and research data.

Keeping records has never been so important and the iTURF programme provides the easiest way possible to do just that. The application of chemicals has to be recorded by law, but the application of fertilizers, wetting agents, irrigation use and cultural practices such as aeration should all be recorded too. Turf professionals can look back at their records to adjust the timing of applications, the quantities they use and the best methods of application to prevent outbreaks of disease and other problems.

“These are exciting times,” says Stuart. “We are getting down to specific advice, using a general philosophy that all turf managers should adopt and providing test results that mean products will be used in the correct way at the correct time – eliminating overuse. The final result is healthier turf using minimal inputs which is ultimately what we’re all striving for.”



growing success

ITM – Factors To Consider

- Product choice – quality and delivery
- Timing – conditions
- Application – training and calibration
- Soil Analysis – fact rather than guesswork
- Record Keeping – accurate and up to date
- Setting thresholds – agree acceptable turf quality



growing success