



▲ Kioti DK50: The Reco Kioti DK50 is a firm favourite at Foxhills.

year they are continually looking for ways of increasing work efficiency. To aid them in this, they have recently acquired a 51hp DK50 Kioti tractor.

David Langheim said, "We were looking for more capacity from our tractors and decided to go for a larger unit that would give us what we needed."

Regarding compaction, he said that they had been using large tractors for years with very little problem.

The new Kioti, which is fitted with a loader and large capacity front bucket, will enable them to reduce their loading time by 50%. They are also looking to buy wider attachments in the future, as this will enable them to carry out operations quicker such as vertidrainage.

The Kioti has a 51.2hp engine, 12 forward and 12 reverse synchromesh gears plus shuttle shift. Independent 540 rpm PTO includes control for automatically engaging or disengaging the PTO when the implement is lifted or lowered.

A fully air conditioned cab is available as an option. The tractor has two-years unlimited hours, parts and labour warranty.

Renault/Claas

Ian Thomson, Groundcare Product Manager for Renault/Claas, said that the most important aspect to consider regarding larger tractors for golf course work is their design and distribution weight. The greater the difference between the weight of the front and rear axle - heavier at the back - will increase the ground pressure, especially if a rear-mounted attachment is fitted.

Modern tyre technology has resulted in the weight of a large tractor being spread over a greater area so the ground pressure is often less than that of a smaller tractor.

Gavin Ballantyne, Course Manager at Turnhouse Golf Club near Edinburgh, took a fresh look at his tractor policy. He explains, "We found our small compacts were fine for mowing, but not a lot else. One of them was fitted with a loader and its capacity was minimal, plus it could not handle pallets. These had to be off loaded by hand.

We decided to buy a 52hp Renault/Claas 210-4 with a five tonne loader and only retain one of our compacts for routine work. The new tractor gives us the power and capacity of a large tractor in a small package.

The original tyres would not allow us to get into tight corners so it was suggested we fitted a slightly thinner tyre with a grass pattern. Although the Renault is twice the weight of our compact the new tyres bought the ground pressure down to 7psi."

Gavin said that most of their equipment is for use behind compacts but as implements come up for renewal there will be the opportunity to go for wider machinery. This would save manpower and be more cost effective.

He concluded by saying that loading times were far less than what they had been before and were also safer because the tractor was well within its capabilities.

The Renault/Claas Pales 210 has a 52hp engine with four gears and three ranges (one extra slow). Steering is hydrostatic with a priority valve. A cab is available as an optional extra. There are two other models available in the Pales range.

Massey Ferguson

From Massey Ferguson there are three models in the MF2200 series with horsepowers of 55hp, 68hp and 80hp. All tractors have Perkins engines and there are a number of transmissions options including Speedshift gearboxes, these allow for gear changes on the move. The low noise cab can be fitted with optional air conditioning for operator comfort.

The electro-hydraulic 540/1000-rpm PTO is controlled by the touch of a button and an independent hydraulic pump ensures the steering has a light response under a variety of conditions.

Tractors are available with two or four wheel drive and optional equipment includes a trailer braking system.

In the UK at present there are at least 23 companies offering a large tractor range. With a rough average of 10 models each this adds up to 230 different tractors on the market.

Admittedly, most of these tractors are designed for the agricultural market. It must be borne in mind that, as far as compaction is concerned, growing crops is no different to cultivating turf-playing surfaces.

Manufacturers have had to take the weight factor into consideration when designing a new model. The main difference between agriculture and groundcare tractors is the type of tyres that are fitted. Again manufacturers of this component have addressed the likely problems and come up with solutions in recent years.

Some suppliers and dealers are not interested in the turfcare market, it is therefore important that greenkeepers deal with those companies that have a department specifically for this sector.

With the right advice, support and help a change over to a larger tractor can bring a host of advantages that make caring for a modern golf course more cost effective and a tad easier.

The Greener Approach to Greenkeeping

Andy Dawe, Materials Sector Manager for WRAP's Glass Programme, explains how greenkeepers can adopt a sustainable approach to resource management.

There is a growing interest in taking a sustainable approach to golf course management and as the number of recycled products available on the market increases, golf course greenkeepers now have sustainable alternatives for their turf management and landscaping needs.

Using recycled products and implementing recycling schemes at a course not only demonstrates a responsible attitude to members but it also makes the course stand out from the rest.

Recycled products – the choices for greenkeepers

Greenkeepers need to have the confidence that using a recycled product will give them the same high standards of performance as existing products. This is why WRAP (Waste & Resources Action Programme) has undertaken extensive work testing recycled products to ensure that they meet the necessary standards in terms of look, quality and performance. Recycled products which are already available include:

Recycled glass-derived sand

Research to compare the performance of recycled glass-derived sand with conventional sand was carried out at the Sports Turf Research Institute (STRI) between 2002 and 2004. They identified three potential uses for recycled glass-derived sand: As putting green rootzone; top dressing on fairways or tees; and finally as a bunker sand.

Overall, glass-derived sand is capable of complying with USGA specifications and can provide benefits such as improvements to drainage, greater stability underfoot and reduced ball plugging on impact, when compared to conventional sands.

Compost

Compost derived from garden trimmings and cuttings is especially suited for landscaping applications on fairways and in planted areas. The organic matter in the compost helps to improve the soil structure, increase grass seed germination and improve regrowth in divots on tees and fairways.

It also provides nutrients such as nitrogen in a slow release form that 'greens up' grass (without excessive grass growth), and many of the micro-organisms present are able to suppress turf disease.

Wood

Landscaping around golf courses is comprehensive and often labour intensive. Using recycled woodchips as a mulch helps suppress weed growth and also gives flowerbeds an attractive finish. They can also be



wrap

creating markets for recycled resources

used as walkway cover, which is more forgiving to players' spikes than gravel or shale, and will not damage grass cutting machinery should it be spread onto the grass.

Plastic

Fences, walkways, signage and benches can all be constructed from recycled plastic. These products are highly durable and last up to four times longer than traditional timber. Products are low maintenance without the need for regular painting or treatment as they are impervious to rot and infestation and do not lose colour from sun exposure. Other benefits they offer over wood include non-slip characteristics and vandal resistance.

The Carden Park Experience

One golf course leading the way in its adoption of recycling initiatives is the Carden Park Golf Club, near Chester, part of the DeVere Group. The course has 54 holes spread across an imposing 750-acre estate and is a Nicklaus designed course together with the Cheshire Championship Course.

Andy Campbell MG CGCS, Golf Courses & Estates Manager at Carden Park as well as Chairman of BIGGA 2004, believes it is only a matter of time before other golf courses also put environmental awareness at the top of their agenda.

Golf courses can generate a lot of waste and Carden Park is no different, but the way it deals with its waste certainly is. This course, along with two of the other larger courses within the DeVere Group - the Belfry and Slaley Hall - is taking a very proactive approach to recycling and environmental awareness, setting an example for the other courses within the Group.

Andy Campbell explains, "We have installed a system at the course which recycles all the water we use. For example, the water used to wash the machinery is collected and recycled, and the treated effluent water from the hotel is reused as irrigation water."

"We also regularly top up the water levels in the ponds using recycled water from the drainage system. This 'closing of the loop' in terms of recycling our water is a real breakthrough and not only demonstrates our environmental awareness, but saves the course money as well."

One of the easiest ways for a golf course to take up the recycling challenge is through the use of mulch derived from composted materials. "At Carden Park, all our grass clippings are collected and added to our compost heap. We then have our own round the year stock of organic compost to use as mulch and in any landscaping projects around the course," said Andy.

For the last 5 - 6 years, BIGGA has been proactive in encouraging

environmental initiatives and sustainability, most recently with the Golf Environment Competition. Andy sees the competition as an excellent way for greenkeepers to learn from other golf courses' experiences.

"There is bound to be some reluctance to change from traditional products, however most golf course managers are recognising that there are genuine benefits to using recycled products and seeing their colleagues' success can only add to this. In fact, some courses find that their own members soon follow suit and start to compost at home after seeing how successful it is on the course."

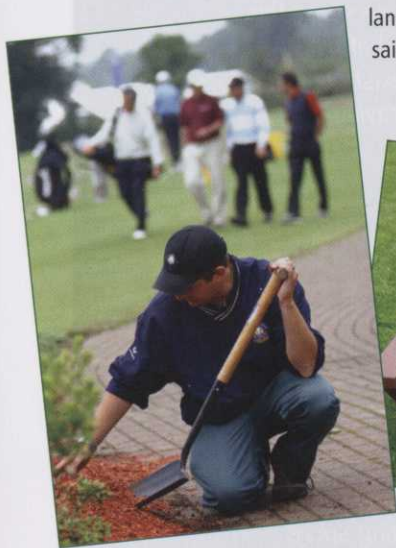
Looking to the future, Andy believes there is still more that the greenkeeping industry can do and he is confident that this is set to change through increased emphasis on training and education.

"With the younger generation coming up through the greenkeeping ranks, issues such as protecting the environment, reducing wastage and using recycled materials are at the forefront of their minds. They have a lot of enthusiasm for this change in attitude and, in time, taking a sustainable approach to golf course greenkeeping will become second nature to them."

WRAP's involvement

At this year's PGA Seniors' Championship held at Carden Park, WRAP demonstrated a number of recycled products appropriate for golf courses such as a practice bunker constructed using recycled glass-derived sand and recycled wood mulch pathways. Visitors were also able to see benches made from recycled plastic and compost used in planting areas.

Working in partnership with BIGGA - most notably in its education programme - and a number of innovative golf courses, WRAP plans to ensure that as many greenkeepers as possible see how performance and reputation can be enhanced by switching to a greener approach to greenkeeping.



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Bringing quality to play

The Elements of Disease

Dr Kate Entwistle researches the role nutrient deficiency plays in turfgrass disease

Through experience and from our years of study, we know that disease development is dependent upon three things, firstly the presence of a pathogen (invariably a fungus), secondly suitable environmental conditions, and thirdly a susceptible host. If any one of these is lacking, disease cannot develop.

However, there apparently remains a misconception that it is the presence of the pathogen that is the most important factor of the three. Since the pathogen is almost invariably present on the sward or in the rootzone, I don't believe that this is the case. It is much more important to ensure that the turfgrass plant has low susceptibility to any potential infection than it is to worry about the likely presence of the pathogen.

Susceptibility comes down to stress and in turfgrass management stressing the sward is a daily necessity if the desired quality of the surface is to be achieved. Stress is difficult to define but involves a number of factors that can reduce the overall quality of the plant, its vigour and its ability to maintain optimal growth conditions.

This is where our ability to manage close-mown fine turfgrasses is tested to the extreme because whatever we do to try and keep the plant healthy, the boundaries are constantly being changed by the environmental conditions.

The best way to maintain plant health is to manage its nutrient availability. The elements taken up by the plant are used in countless physiological processes that ensure optimal growth and development through the year. If nutrient availability is compromised, these processes will be directly affected and the result will be a reduction in the overall quality of the plant.

The purpose of this article is to pull together a relatively small amount of information from research, completed over the past decades by some of the leading turfgrass researchers around the world, to show how certain nutrients affect plant stress and disease development.

There is a vast amount of information on this subject that is freely available on the World Wide Web and much of the text below is taken from a relatively small number of articles found from recent searches. All of the text used from these articles is referenced so that you can obtain and read the entire article, should you wish to.

Although nutritional problems in turf are well known, especially on high sand content rootzones, extreme deficiencies are much less common. However, what is more common are non-acute symptoms of decreased growth and turfgrass quality that render the plant more susceptible to stress, disease and pest problems.

Much of the general text relating to nutrient requirement that I have included in this article, is taken from Chapter 20: Turfgrass, written by T R Turner, in *Nutrient Deficiencies and Toxicities in crop plants*, edited by W F Bennett, 1993. Where information has been taken from this reference, it will be written in *italic* text. Other text, taken verbatim from various articles, is acknowledged with the author(s) name(s) and a complete reference provided at the end of this article.

Nutrients and nitrogen

How do we know when the turf requires nutrient input and what type of nutrient and what amount are required? Experience and analysis. Nutrient input is specific for each individual course since it is heavily affected by the rootzone composition and quality and by the grass species and cultivars present in the sward, not to mention mowing height.

In assessing nutritional deficiencies of turfgrass, a variety of aesthetic and functional characteristics are much more important than top growth rates. For example, low levels of a nutrient may result in the increased incidence of disease, which in turn reduces

turfgrass quality. Many factors complicate the degree of nutrient deficiencies and they may occur in turfgrasses.

These factors include turfgrass species and cultivar; length of growing season; inherent soil nutrient levels, soil texture, and soil organic matter levels; degree of environmental, pest, and wear stresses; amount of rainfall and irrigation; management practices such as clipping removal versus recycling; and quality expectations at a specific site.

"Turfgrasses need certain nutrients in the right amounts to grow properly and maintain good health. When these nutrients are deficient or present in excess amounts, diseases can gain an advantage and seriously injure plants. Although well-designed fertility programs by themselves rarely provide complete control of turfgrass diseases, they can reduce or delay the need for fungicides and lessen the severity of disease outbreaks.

Turfgrasses need at least 16 nutrients for normal growth and development. They require some nutrients in large amounts and others only in minute quantities. Of all the mineral nutrients, nitrogen (N) has the greatest influence on turfgrass disease. Perhaps the main reason for this is that N affects nearly all aspects of plant resistance to fungal diseases. Plants use N to help manufacture anti-fungal compounds that protect them against invasion by pathogens. Too much N, conversely, can increase the severity of some diseases (Landschoot, 1999i)."

Many turfgrass diseases are more prevalent under low N (nitrogen) fertility. These include dollar spot (Cook, et al. 1964ii; Endo, 1966iii), red thread (Cahill et al, 1983iv), Rusts (Couch, 1973v), take-all patch (Dernoeden, 1987vi) and yellow tuft (Dernoeden & Jackson, 1980vii). High N levels versus moderate N levels, however, may increase turfgrass susceptibility to several other diseases, such as Rhizoctonia brown patch (Bloom & Couch, 1960viii), anthracnose (Danneberger et al, 1983ix) and Drechslera leaf spot (Madsen & Hodges, 1980x).



Fusarium patch.

Phosphorus

Although leaf symptoms associated with extreme P (phosphorus) deficiency may not be exhibited, turfgrass quality and performance can be seriously affected by inadequate soil P. Phosphorus deficiency on established turfgrass stands is less common than during the establishment phase.

Probably the most frequent occurrences of moderate to severe P deficiency on established turf are on very high sandy soils, such as putting greens that have been highly modified and have a high sand content (80% or more).

Some diseases that can have major impacts on turfgrass quality have been shown to be influenced by P applications, although these effects generally appear minor compared with those of some other nutrients, particularly N and K (potassium).

Phosphorus applications may interact with other nutrients in reducing the incidence of fusarium patch (Goss & Gould, 1968axi), take-all patch (Davidson & Goss, 1972xii) and red thread (Goss, 1969xiii).

Potassium

"Fertilizer naturally plays a most important role in the maintenance of good turf. Well-balanced nutritional programmes can aid materially in helping to suppress weeds and diseases.

Potassium, one of the three major plant food elements, plays an important role in turfgrass vigor, which in turn influences disease development. Potassium



Red Leaf Spot on bentgrass.

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serves many roles in the grass plant and, if it becomes deficient can cause:

- Accumulation of carbohydrates that cannot be synthesized in to proteins.
- An excess of non-protein nitrogen.
- Failure to produce new cells for lack of amino acids essential for protoplasm formation.
- Slower growth of meristematic tissue that permits replacement of diseased tissues.
- Thinner cell walls and epidermal tissues.

W.E. Pritchett and Granville C. Horn of Florida have reported less dollar spot disease caused by *Sclerotinia homoeocarpa* where potassium was applied. J. Drew Smith in his book *Fungi and Turf Diseases* in 1955 stated that application of potash assisted slightly in recovery from infection of *Sclerotinia* dollar spot disease. Here are two indications, arrived at independently, that potassium does have some effect on dollar spot (Goss & Gould, 1968bxiv)."

Whereas severe K deficiency symptoms have (also) rarely been reported for established turfgrasses, many beneficial responses have been observed as a result of K applications. These responses indicate that mild deficiencies are rather common. Potassium appears to play an important role in tolerance to heat, drought and cold of turfgrasses.

Whereas no leaf symptoms of K deficiency may be apparent, beneficial responses in stress tolerance and thus turfgrass quality may result from K applications. It was suggested (Beard & Rieke, 1966xv) that winter survival of turfgrass was at a maximum when applied K rates were approximately half that of applied N (nitrogen) rates.

"Potassium (K) seems to be an important component in the prevention of diseases, perhaps because it prevents plant stress (Elliott & Simone, 2001xvi)".

"In our investigations in western Washington we have found this disease (fusarium patch) to decrease with increasing levels of potassium. The greatest fusarium patch infection occurs from early fall to early winter when the potassium level of tissue is approaching its lowest level. Take-all patch, caused by the fungus *Ophiobolus graminis* var. *avenae* has responded with practical significance to both phosphorus and potassium nutrition.

We have reported in a previous paper, that potassium had a suppressing effect on the amount of disease in two years of investigations at Washington State University. Potassium was found to reduce the amount of disease, regardless of nitrogen and phosphorus levels (Goss & Gould, 1968b)."

"On occasion, applications of potassium fertilizers suppress dollar spot, leaf spot, take-all patch and stripe smut*. Although our understanding of the conditions under which this occurs is sketchy, the susceptible plants presumably are in need of this nutrient. Because potassium regulates many plant functions – including cell wall thickness and the plants' water content – it is easy to see why a deficiency can lead to weaker and more disease-prone plants (Landschoot, 1999)."

Manganese

"Take-all patch is a root disease that has plagued creeping-bentgrass fairways and greens for decades. Golf course superintendents often rely on cultural methods for take-all patch management.

One cultural practice that has been effective in suppressing take-all patch is the application of ammonium-containing fertilizers, especially ammonium sulphate. The main reason for the success of ammonium sulphate appears to be that it makes soils more acidic – a condition that inhibits the disease.

After years of researching the influence of nutrients on take-all of wheat (essentially the same disease that affects creeping bentgrass), scientists at Purdue University proposed that acidifying the soil surrounding roots promotes the build up of microbes that convert manganese to a form that the plant can take-up and use while, at the same time, suppressing microbes that prevent manganese uptake by plants. Manganese is involved in the synthesis of compounds that protect grasses from take-all disease and also affects root development (Landschoot, 1999)."

"Researchers recently conducted experiments over a three year period on a golf course in central New Jersey in an effort to determine fertilizer management practices that could suppress this devastating disease (take-all patch). Research clearly showed that manganese fertilization can effectively suppress take-all patch. Research found that manganese fertilization reduced disease severity by about 70% (Heckman, et al, 2003xvii)."

"Applications of manganese and copper are thought to increase the plants

resistance to disease through the utilisation of these elements in the increased synthesis of phenolic and ligneous compounds (Hill, et al, 1999xviii)". In their research, Hill et al completed an experiment on a creeping bentgrass fairway that was naturally infected with *Gaeumannomyces graminis* var. *avenae* to determine if foliar applications of Mn^{2+} (1.02 and 2.04 kg/ha per application) and Cu^{2+} (0.68 kg/ha per application) would reduce take-all severity.

Treatments were initiated in July 1995 and applied every four weeks through 1997 (with the exception of December, January and February).

"Disease incidence was decreased from 20% on untreated turf to 5% with the high rate of manganese sulphate. For both years, turf treated with the high rate of Mn^{2+} had less disease than turf receiving the low rate of Mn^{2+} . The application of copper sulphate did not influence disease development (Hill et al, 1999)."

Minor nutrient stresses can go unnoticed

Nutrient balance and availability in turfgrasses has received much attention over the past decades and there are countless articles and scientific papers that show how certain elements can help in reducing the outbreak of disease or lessening the severity of infections.

It is possible to tell from the general appearance of the sward when the plants are under heavy nutrient stress, but minor nutrient stresses can have profound

effects on the plants susceptibility to infections and can easily go unnoticed. Not just my words but also those of countless researches around the world.

"Managing micronutrients is not an exact science. Those managing sandy or high-pH soils, salt-affected sites, or who are growing-in a golf course should be familiar with the interactions among micronutrients, the factors that can cause imbalances, and what fertilizer strategies can be used successfully. So take the time to learn more about the role of micronutrients in turfgrass systems and how site conditions, management practices and weather conditions can impact their availability. This is one time when micro-managing is not just acceptable, but is downright necessary (Skorlusi, 2003xix)."

In this article, I have deliberately focused on the elements N, P, K and Mn, since there is so much research evidence to support their role in turfgrass stress management and disease development. It should be borne in mind that I have taken only small parts of the referenced articles to provide an overview of the role of micronutrients in turfgrass disease management.

If disease problems are plaguing your turf, a full nutrient analysis may help you to determine which nutrients, if any, are deficient. Small applications of the right nutrient (in the right form) can have significant effects on the severity of disease problems and nutrient availability in 'disease-prone swards' may be worth a second thought – now that you have a few more facts.

* **Author comment: Stripe smut was identified (by independent pathologists) as causing damage to bentgrass plants in a turfgrass sample received in May 2004.**



Stripe smut on bentgrass.

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Safety and performance from the start

There is a wind of change blowing through the turf care machinery industry as an increasing number of manufacturers and dealers recognise that there are several good commercial reasons to improve the way in which they install new machinery.

It is important to draw a clear distinction between installation and operator training. Installation is about the handover of new and used machinery to the Course Manager. It is designed to highlight the information about safe and correct operation contained in the manufacturer's handbook. Operator training is, as the name suggests, about competence to operate the machine correctly under different conditions and in different applications and, although here to safety is a key concern, the yardstick is performance.

Historically, many new machines have been 'installed' simply by leaving the manufacturer's handbook on the seat when the machine has been delivered by the dealer. Today, the sharper legal focus on employee health and safety means the supplier and the employer share a responsibility to provide far more than this.

Certainly, the handbook contains all the necessary information to do the job. Legally, it must. However, in future suppliers are likely to find it increasingly difficult to rely on the defence that a copy of the manufacturer's handbook was delivered with the machine, if an operator or someone else was injured because key information about the machine had not been effectively communicated at the point of delivery. In short providing a copy of the handbook is not a guarantee that operators will read and understand it before first operating the machine!

The British Agricultural and Garden Machinery Association (BAGMA) is the trade association for the UK's agricultural and turf care machinery dealers. It provides them with a range of business services and support to help reduce costs and promote better service to their customers. It is so concerned about both the legal and moral implications of the 'leave the handbook' approach to installation, that it has developed its own Approved Installer Scheme in conjunction with the HSE and Norwich Union.

Ian Jones, Director General of BAGMA, was keen to achieve two key objectives within the programme.

"First was to have a system that provides evidence of installation by trained, accredited installers," he says. "And second, but equally important, was to provide the training and resources they need to plan and deliver installation professionally."


The key components in the BAGMA system are a Record of Installation for each operator involved, and an Accreditation Card for all trained and tested installers which entitles them to use the system and a series of special module cards developed to help them plan and deliver installation on any machine – new or used.

The modular approach is simple to apply and highly effective. The information contained in the manufacturer's handbook is broken down into a maximum of 15 modules using a separate card for each. The modules include an introduction to the manufacturer's handbook; specific information it contains about safe systems of work; details of the principal operating systems and controls with particular reference to safety guards, interlocks, signs and warning signals; safe starting and stopping and routine maintenance that is the operator's responsibility.



The cards (see example below) use a series of open questions to help the installer plan and prioritise what to include in the installation presentation. The same cards can also act as an aide-memoir during presentation. The systematic modular approach means that it is possible to plan installation for any machine, new or old, using the same set of cards. Any cards that are not required for a particular machine, because, say, it doesn't have an engine, are simply omitted.

The BAGMA programme also focuses on presentation skills for the installers to ensure that they can effectively communicate the necessary information, whether they are presenting to groups or an individual operator. Again, the module cards can help, since many of the same questions the installer used to plan the installation material can also be used to test the operator's understanding.



Record of Machine Familiarisation / Installation Training

The following 15 point check, developed in consultation with HSE, has been given to the operator(s) on the machine(s) listed below.

This record also helps to provide evidence of training provision under *Provision and Use of Work Equipment Regulations 1998* and general duties under *The Health and Safety at Work Act 1974*. (Please tick as appropriate or N/A if not applicable)

<input type="checkbox"/> Operator's Manual / Instructions <input type="checkbox"/> Safe Systems of Work <input type="checkbox"/> Safety Guards <input type="checkbox"/> Safety Interlocks <input type="checkbox"/> Safety Signs & Lights <input type="checkbox"/> Levers & Controls <input type="checkbox"/> Handbrake & Brake <input type="checkbox"/> Steering	<input type="checkbox"/> Lights & Beacons <input type="checkbox"/> Warning Devices <input type="checkbox"/> Pre Start Checks <input type="checkbox"/> Tyres & Wheels <input type="checkbox"/> Starting, Stopping & Safe Stop Procedure <input type="checkbox"/> Routine Maintenance & Adjustment <input type="checkbox"/> Operator Training Information
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Name of operator _____

_____ has received Installation / Familiarisation Training on


Details of machine (s) _____

Any other comments

I have received Installation / Familiarisation Training on the above machine(s) and all the relevant points have been fully explained to me and I have understood them. I have access to and know how to use the operators' manual.

This is not a **driver training** course; therefore a recognised operator training course should be undertaken before using the machine/vehicle(s) listed above. This can be arranged through BAGMA, a registered training provider, on 0870 205 2834.

Operator's Name: _____	Operator's Signature: _____
Operator's Company: _____	Operator's Training / Assessment Card details (Lantra / NPTC / ROLO etc) _____
Installation Date: _____	Installer's Name: _____
Installers Company: _____	Installer's Signature: _____
	Installer's ROLO Number: _____




MOSLEY

Information on training and assessment provision can be obtained from www.bagma.com

White copy – Operator Green copy – Installing company Yellow copy – Employer

Training courses supported by Norwich Union Insurance, and Byas Mosley Schemes



NORWICH UNION

Keith Jaynes looks at what is now required when it comes to receiving new machinery and the training which is now available to smooth the process

During training installers are assessed. Following training they are tested to ensure that they satisfy the standards set by BAGMA for accreditation under its ROLO scheme. On successful completion, installers are awarded approved status by BAGMA and receive a unique 'photo licence' card to prove that they are authorised to use the BAGMA scheme and documentation to record the delivery of installation.

Each operator who is involved in installation and familiarisation delivered by BAGMA-approved installers receives an individual record of installation that notes the machine type(s) on which this was delivered, the specific modules included and details any further training that may be relevant. For example, LANTRA Awards training for operators with little previous experience of tractor and grounds care operations. This provides evidence of familiarisation with different machine types that can be valuable to future employers.

So where does the installation stop and operator training begin?

Installation is normally the responsibility of the supplier and is largely about communicating important information face to face to all operators – assuming that many will already be experienced. Operator training is the responsibility of the employer and aims to develop the skills of employees with limited experience of a particular type of machine. In practice, there are many crossovers between the content of each. For example Health and Safety, daily maintenance, use of the controls, etc. Fortunately, the same modular system was originally developed for operator training and can be easily adapted for use by Course Managers too.

The BAGMA programme was developed in conjunction with the Health & Safety Executive, which believes that the investment in training to prevent an accident is more effective than its legal prerogative to enforce action in the event of one. Norwich Union also endorses the BAGMA programme and urges employers to look not just at the legal reasons for training but also at the cost benefit of lower insurance premiums.

The system has been piloted by a number of different organisations. One, a major machinery hire company, nationally known in the turf care industry, was keen to adopt the system because its own research showed that where machinery was correctly installed there was a measurable reduction in damage during operation. Where this was followed by further formal operator training the maintenance savings between trained and untrained hirers were substantial.

A leading tractor manufacturer was also involved in the development and trial of the system. It is excited about the potential of the system in other areas of its business, particularly public demonstrations where risk assessment and familiarisation are critical.

All acknowledge that there is more to installation than simply 'covering your back' against potential litigation – particularly civil claims! For example:

Performance: Correct operation means users profit from promised machine performance, adding value to the relationship with the supplier.

Maintenance: Machine support costs, including warranty claims on the manufacturer, should be reduced as a result of correct operation. What's more, additional emphasis can be placed on areas of potential misuse that subsequently reduce the need for maintenance, which, in turn, saves money.

Relationships: Strong customer relationships are very important. The extra care taken over installation is likely to be repaid in stronger customer relationships.

Activity Insight: The installer has a unique opportunity to spend up to two hours with the customer, answering operator questions about the new machine but also learning more about how the Course Manager/employer intends to use it and what results are critical.

Although the supplier is responsible for installation, the process also requires the co-operation of the Course Manager to ensure that the right operators are made available to learn about the new machine and that the timing and location are suitable.

The BAGMA installer training programme places considerable emphasis on health and safety, in particular the ability to conduct risk assessments following the "5 Step" approach advocated by the HSE. This doesn't just cover identifying and communicating specific hazards inherent in the operation of the machine, it also includes a site assessment to ensure that potential risks of installation are acted upon and any special conditions required for installation are planned in advance. For example, public access to areas, contingency for installation in wet / cold conditions; any Personal Protective Equipment (PPE) required, etc.

David Golding, Education Director of the GTC, is pleased that BAGMA has launched its installation initiative, but added a word of caution.

"Installation should be conducted professionally to ensure all operators are aware of the safe and correct procedures for operating machinery that is new to them," he said.

"However, safety and performance are on-going, which is why all operators should receive additional comprehensive training on site. This is why the GTC has invested heavily in coaching programmes and the development of Course Managers as workplace assessors to develop greenkeeper skills on the job.

"Following the delivery of installation to the Course Manager and operatives," he adds, "the recording of staff competencies should become the norm. The necessary documentation, such as the GTC's Training Manual and the BIGGA Training and Assessment Manual, is readily available to Course Managers."

Installation is NOT a substitute for operator training. Getting the best from the latest turf care machinery and equipment takes a considerable amount of skill and knowledge. Skills develop over time with practice. What operators learn and how well they perform is the responsibility of their managers.

In the words of the Chinese proverb: A journey of 1000 miles starts with a single step. Effective installation should set the scene for what is to follow. It should place clear emphasis on safe operation and correct operation, which is then followed by continuing with training to ensure the basics are consolidated into every day work as a matter of course.

BAGMA and the GTC co-operate on key issues such as safety and areas of operator training designed to offer a more professional service to the employer. Further information about installation and other training options available to Course Managers and those involved in the supply and use of professional turf care machinery is available from:

The Greenkeepers Training Committee: Aldwark Manor, Aldwark, Alne, York YO61 1UF. Phone: 01347 838640. e-mail: golf@the-gtc.co.uk. website: www.the-gtc.co.uk

BAGMA: 1st Floor, Entrance B, Salamander Quay West, Park Lane, Harefield, Middlesex UB9 6NZ. Phone: 0870 205 2834. e-mail: info@bagma.com website: www.bagma.com

Toro Student Greenkeeper of the Year Award

Gareth Jones reviews the 2004 Regional Finals and reveals the eight National Finalists.

The Toro Student of the Year Competition has once again scoured the UK and Ireland in search of the top student greenkeepers who are undergoing college training. There are currently over 3000 greenkeepers in the UK and Ireland studying for various qualifications, and that number continues to grow year on year.

Many previous Student of the Year Winners, boosted by their victory and the experiences gained from this, have progressed rapidly through the greenkeeping ranks to become, among other things, Head Greenkeepers and Course Managers of major courses.

Now in its 14th year, the Competition's 2004 Regional Finals were held in Edinburgh, Manchester, Hemel Hempstead, Cheltenham and Huntingdon.

As always the standard of candidates was excellent and the judges had a tough time narrowing 36 interviewees down to eight students to go through to the National Final, which will be held at BIGGA HOUSE on September 27.

BIGGA's Education and Training Manager, Ken Richardson, once more travelled the length and breadth of the country in order to evaluate the prospective finalists. Ken was joined on the Regional interview panels by a BIGGA Board member and a representative from Toro.

For the Scottish interviews, hosted in the Scottish Capital, the panel

comprised Ken, Iain MacLeod and Toro's, George McDonald. The standard of candidates was high, but one student stood out in particular. That was Christopher Kerr who was selected to progress to the National Final.

Christopher, 22, is First Assistant at Cowglen Golf Club, Glasgow, where he first started as an apprentice five years ago.

Studying for his SVQ Level 3, Christopher is keen to continue his rapid move through the ranks of greenkeeping and hopes to be a Head Greenkeeper within five years.

A top golfer, Christopher plays off 1.5, he won the Glasgow Match Play Championship in 2003 and has represented Glasgow County.

Manchester held the Regional Finals for both the North of England and Ireland. Here Ken was accompanied by BIGGA Chairman Andy Campbell MG CGCS and Peter Mansfield, of Toro.

During a long day of judging the panel witnessed some outstanding candidates, resulting in three being selected for the National Final. Peter Kennedy, Robert Finnegan and Stuart Glover will all be visiting BIGGA HOUSE in September.

Peter, 21, is a Dublin lad based in Ballymanna. Currently he is on a



three year course studying a HND at Reaseheath College.

Peter's major experience has come in the US, where he spent a year at the Pinehurst Resort, North Carolina. Working as an Intern, Peter impressed his

American counterparts and received the Employee of the Month award during his time at the Resort.

He plays off 7, and is also a big rugby, football and snooker player.

Robert, 20, cut his teeth in greenkeeping working as an Assistant at Navan Golf Club. Trained at Elmwood College in Scotland, Robert has already completed his NC Greenkeeping Course and plans to return in September to study a HND in Golf Course

Management.

He has made the most of his summer break, working at St. Andrews, on both the New and Old Courses - he is now employed as an Assistant Greenkeeper on the Old Course - and in Norway.

Robert is an eager sportsman and enjoys playing golf, football and Gaelic football.

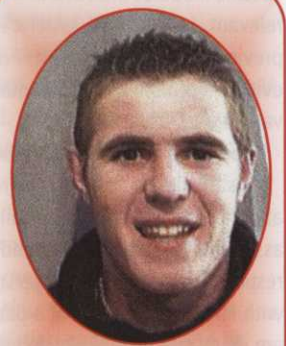
Stuart is the oldest of the 2004 finalists at 32 years old, and is another candidate from across the Irish Sea.

He is currently Deputy Greenkeeper at Lisburn Golf Club, where he started

employment back in May 2004. He has been in the greenkeeping profession for 16 years working on four different courses, including Northern Ireland's highly rated Belvoir Park.

Stuart completed his NVQ Level 2 in June at Greenmount College and has aspirations to pass NVQ Level 3 and become a Head Greenkeeper in the future.

Huntingdon hosted the Midlands Final, where BIGGA Board Member David Walden joined Ken and Peter Mansfield. More stiff competition, but it was James Canham who shone through



Peter Kennedy



Christopher Kerr



Robert Finnegan



Stuart Glover