their expense. Its sturdy tap root system provides anchorage and food for survival during drought, and moreover a means of vegetative propagation.

During its early growth stages ragwort displays a similar rosette of leaves surrounding a low-set growing point that escapes the blades. Like those of dandelion ragwort leaves were clearly clipped during mowing but growing points survived to carry on growth. As in dandelion the tap root system will generate new plants following failed attempts to dig out plants.

Ragwort is essentially a biennial plant which dies after setting seed in its second year. But if ragwort plants are prevented from flowering, in this case by frequent mowing, they adopt a perennial life cycle like dandelion and continue to produce leaves until killed by herbicide. Dandelion is rarely a problem because it is one of the easier weeds to control using selective herbicides approved for use in managed turf, but any ragwort establishing in managed fine turf will present real problems.

Ragwort is not the easiest of weeds to control with herbicide. Moreover where approved herbicide recommendations exist they only cover non-selective herbicides used for total vegetation control, or selective herbicides approved for use in amenity grassland but not managed turf. Herbicide products approved for use on managed turf and containing active ingredients with known activity against ragwort do exist but you will not generally find ragwort listed in the weed control spectrum.

Only remaining option is to dig out the plants but ragwort will respond in the same way as dandelion by producing a new plant for every piece of tap root left behind.

Finding ragwort and bristly oxtongue in fine turf is clearly unusual but there is probably good reason for this particular occurrence. This golf course is bounded along its entire length by a main line railway out of London. Both ragwort and bristly ox-tongue grow and flower in abundance on the embankment.

Railways are reticent about ragwort and there is much argument as to whether the railway is the recipient of seed from adjacent farmland or whether the railway donates the weed to everyone else.

Railways are prime targets for ragwort but not especially the native common ragwort (Senecio jacobea). Their biggest problem is with the Oxford Ragwort (Senecio squalidas), an exotic species originating



in southern Europe which found the ballast used to support railway tracks an agreeable substrate close to the volcanic soils of its native Mediterranean home.

Only British botanists could call a foreign'weed the 'Oxford' ragwort but the name is not as perverse as it sounds. The species escaped from the Oxford Botanic Garden in the 18th Century and spread around the country along the railway tracks and is now classed as an alien invasive weed. a

This tee is just a few metres from the railway embankment, although it is not possible to distinguish between common ragwort and Oxford ragwort when plants are at the rosette stage of young vegetative growth. There is historically and geographically close connection and association between many older golf courses and railways which provided access to golf courses prior to widespread use of the motor car.

Ragwort is clearly not common as a weed in fine turf but its occurrence reinforces the adaptability of species which like ragwort grow to heights of one metre or more in unmanaged habitats but happily adapt to turf in spite of regular and frequent 'shaving and clipping' during mowing. Greenkeepers with golf courses in these vulnerable situations should certainly be on the lookout for unusual weeds of fine turf like ragwort and bristly ox-tongue.

Most greenkeepers will be confronted with ragwort elsewhere on the course or be under threat of invasion from adjacent land. As such they should know why ragwort is classed as an injurious weed and therefore requires potentially draconian control measures supported if not entirely backed up by long-standing legislation.

Both common and Oxford ragwort contain high concentrations of poisonous alkaloids potentially lethal to livestock and especially equines (e.g. horses, ponies and donkeys). As such ragwort is scheduled as an 'injurious weed' under provisions of the 1959 Weeds Act. Landowners have a legal obligation to control ragwort and prevent its spread. The Ragwort Control Act which came into force in February 2004 is a Code of Practice to enforce adherence and prevent spread. Defra (Department for Environment, Food and Rural Affairs) will enforce action where ragwort poses a high risk.

The new Code of Practice puts onus of responsibility on landowners and managers including local authorities, railways and the Highways Agency to have ragwort control policies in place. They should assess the risk on land they own and implement control policies on any land identified as being 'Medium Risk', and take immediate action on land identified as 'High Risk'. Failure to follow the code can be used as evidence in a prosecution under the Weeds Act. It all sounds scary but as yet there appears little if any measurable effect on the frequency and spread of ragwort.

Many older golf courses have close historical and geographical associations with the railway



The recession can throw up opportunities

Doom and gloom seems to be widespread in the golf sector at present. Reasons are not hard to find, says David Shelton





In the clubs significantly more members have not renewed their membership in comparison with earlier years.

Relatively few clubs now charge an entrance fee so golfers dissatisfied with the condition of their home course tend to move to a better maintained course in the vicinity. Waiting lists for club membership have virtually disappeared.

The EGU estimates there are two million golfers not members of a club. They propose communicating with this important market firstly to win visitors and society business, but also to promote the benefits of golf club membership.

After months of above average rainfall many golf courses on the heavier soils face a dilemma. They have had to resort to the use of temporary greens for long periods. Additionally they have had to close part or all of some fairways. Many of their members have either left already or plan to do so if matters are not speedily rectified.

But it all boils down to finance. Membership income is down, bar takings are down and the pro-shop income has fallen steeply. So where is the money coming from for capital expenditure? It is a vicious circle - without expenditure things will only get worse.

For heavier land courses top of the list for capital expenditure MUST be to improve the drainage of tees, greens and fairways. You can't afford it? Well read on, because the recession can throw-up opportunities.

Much new machinery is available at discount prices. Used and rebuilt machinery seems plentiful. Lower oil prices have led to keen prices for land drainage pipes, and aggregate suppliers have little demand from the building sector so demand a discount from them, also.

The Government's policy of freeing-up the money supply for smaller businesses seems to be feeding through to the sharp end. Attractive rates of interest should enable those clubs with a well thought out drainage scheme and business plan to get funding.

What do I mean by a well thought out drainage scheme?

It is essential to accurately identify the drainage problem.

Analyse when it occurs; can satellite imaging help? Refer to old maps; and undertake an on-site survey.



Consider all the options and cost them

Can expenditure on new or refurbished equipment be justified? Could specialist equipment be hired? Perhaps hiring with a skilled operator would be a better option? What would be the cost of engaging a specialist sportsturf drainage contractor?

Is partnership working possible if we supply some of the labour, tractors and trailers?

What rates of interest can be negotiated and over how many years? Are there any grants available?

The layout of the drains.

Would the herringbone or flag layout be preferable?

Drain spacing - what can we afford at this juncture? Can we make provision for additional drainage at a later date?

Is it necessary to have a secondary system superimposed over the primary system? Could we do this ourselves?

Pipe sizes - why is bigger not necessarily better? And, at what depth should they be installed on the heavy clay soil?

Back-filling aggregates are relatively expensive - how can money be saved here?

Disruption costs can be significant; they need to be carefully costed.

What damage to the playing area can we expect?

What will be the cost, in labour and materials, of this re-instatement. How long will the facility be out of play?

Is it really possible to 'drain today and play tomorrow'? (the answer is yes!)

Established golf greens.

Remaking established golf greens to USGA standards may not be the best way forward in the light of ever-higher irrigation costs and restrictions on fertiliser usage.

There are three techniques of drainage available - would they suit our circumstances?

Shelton claims their Lighteningdrain system rivals USGA specification when it comes to speed of drainage!

The golden rules

Do you know what they are?

If an expenditure of this amount is to be made what is going to be our marketing plan? How many lost members can be persuaded to return? How many new members can be wooed from neighbouring clubs?Can we significantly increase income from green fees and visiting societies?

There have been massive strides in the development of land drainage machinery and techniques in recent years. The Shelton company has the biggest research and development programme into sportsturf drainage of any business or organisation anywhere. This research and development expenditure aims to make these benefits affordable to the majority; why not be one of them?

The recession has created many problems in the world of golf. But look upon the problems as a challenge. In the words of Napoleon Hill, "when the going gets tough watch how the tough get going". ABOVE: Shelton Lighteningdrain ™ installed on a golf green. It is the world's fastest land drainage system.

LEFT ABOVE: Special grassland tyres on this 4-wheels in line trailer spread the load on fine turf and virtually eliminate the need for re-instatement works.

LEFT BELOW: The latest specialist equipment minimises damage to fine turf; note the pipes fit snugly in the trench.

PREVIOUS SPREAD: A secondary system superimposed over the primary piped layout may be the most cost-effective, and most efficient drainage plan.

about the author

David Shelton heads Shelton Sportsturf Drainage Solutions LLP. See their website: www.sheltonsdrainage. com for further information or telephone 01507 578288 to talk with David Shelton or the technical staff about equipment sales, hire or contracting. Shelton Sportsturf Drainage Solutions LLP has a powerpoint presentation of approximately 45-50 minutes duration on this topic. A technical member of their staff is available to talk to BIGGA Section meetings or similar groups of a minimum of 20 persons.



What do you want from a utility vehicle?

James De Havilland with his regular contribution on current machinery



These days, few budgets can allow for mistakes when it comes to selecting new items of equipment. Make the wrong choice now and you could end up living with a poorly considered choice for several years. So how do you choose the right type of utility vehicle when there are so many models to choose from?

What are the key demands you will place on your utility vehicles? Does your budget allow for you to select more than one vehicle and, if so, does this allow you the freedom to choose different models that can be more closely matched to their intended use? Are you likely to change the attachments currently fitted to you existing vehicles? If yes, will their replacements be of the same type, capacity and weight? It is surprising how asking a few questions can help refine what you demand from a utility vehicle. In some cases, it may also influence how you tackle certain tasks. A good example can be the application of fertilisers; if an existing solid fertiliser application regime is to be replaced by a liquid based system, for example will a 600 litre capacity utility mounted spraver be large enough or will you need a high capacity tractor trailed unit instead?

It is worth looking at how existing utilities are employed. These versatile vehicles are often used as a 'self-propelled' trailer, a low platform load height making them ideal for ferrying rolls of turf or loading up with some fresh sand for a bunker. As two people can travel on the machine, it can mean one remaining on the job while the second goes off to fetch fresh materials as required. But do you have the budget to employ two people to do this sort of work? Would a higher capacity tractor and trailer be a more efficient method of getting materials on site? The key to making the right choice is to not just look at what is done now but to try and see if there is room for develop systems and improve upon them.

Think through capacities

General purpose utilities, typically those used to ferry personnel, kit and materials, need to have the right capacity. Take a look at what current utilities are loaded up with and work out if this is actually within the load capacity of the vehicle. Although a ball park 500kg platform capacity is typically enough for a general work it could well be too little for some jobs.

Move up to 'working' models that are designed to operated mounted sprayers and top dressing kit, and matters change. It follows that the vehicles capacity will have to carry both the attachments and its contents, a listed capacity of a typical 1,200kg or so arguably suggesting an attachment capacity of perhaps 600 litres or 600kg. Is this capacity high enough to deliver the daily output you require?

There is then the choice of petrol, diesel or electric power. Light petrol powered utility vehicles have the advantage of lower initial capital costs, some also preferring the smoother running and lower noise levels some of these machines may offer in a direct comparison to a diesel. The downsides are pretty obvious.

Electric power is more widely available these days, with many former sceptics warming to this form of power for a general runabout. Pricing can be competitive



Utility vehicles come in such a choice of designs that it can initially be confusing when trying to select a new one. The key is to work back from the unit's intended duties; top dressing and spraying work will demand certain features that may not be needed on a general purpose unit.

Operators are important, and should be engaged in trying out a range of makes and models if possible. A machine that appears to tick all the right boxes on paper may have issues that can only be picked up by putting the machine through its paces.

Weather protection can take the form of roof, screens and doors. The latter tend to be easily removed, with some suppliers offering a choice of glazed or simple roll-up designs. It is more cost effective to specify weather protection from new.

It is well worth taking a look beyond the more familiar utility vehicle choices. Certain makes and models will have differences that could well fit in with specific needs. Road homologation and high hydraulic power capacity are two examples.

When looking to fit equipment with a payload, factor in the weight of the unit when it is empty. A capacity of around 1,200kg will be fine for most 600 litre sprayers. Where possible, try a vehicle with the type of attachment you will be using fitted.

Good ground clearance and a choice of cleated tyre will typically indicate the utility in question can tackle more extreme terrain. Although this may not need to be exploited fully, the ability of a machine to reach awkward areas should be considered. A bench seat is often liked by operators.



too, although you do need to cost in a charging system. As to operating costs, electric vehicles have a pretty good track record. If you are a golf course that runs a fleet of electric buggies, an electric utility may well be worth looking into.

Diesel power remains the default choice for a 'working' utility. With these units, it is the type of transmission that needs to be thought through. For general work, a CVT transmission is a simple choice, full automatic drive making them easy to operate. If you need to do fixed speed work, manual transmissions tend to remain the default choice. Hydrostatic drive, as used by Kubota on its RTV900, is not as widespread at present, but it is well liked by operators.

A final point is auxiliary power. Hydraulic power may be needed to drive a sprayer pump or drive a top dresser's hydraulic motors. These days, a pump with a capacity of 20 litres/min plus will typically be needed, with extra capacity possibly coming as a cost option. The key point is to match the vehicle to the attachments before assuming a new make or model will be up to the job.

One final point is to consider if the vehicle can be used on the road. The ability to drive between sites using public roads is something that it is all too easy to overlook. Some vehicles, such as the JCB Groundhog 4x4, can be factory specified in road homologated form. In certain applications, this can make them a great alternative to a road going pick-up. Again, look at what is offered before assuming all models can be easily adapted to run on the road.



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Scott MacCallum previews the forthcoming Toro Student Greenkeeper of the Year

Seven highly talented and motivated greenkeepers will descend on BIGGA HOUSE later this month for the 19th Toro Student Greenkeeper of the Year final.

Each year the standard of the finalist rises and to reach the final attaches a beacon to the CV drawing its attention to potential employers. Winning the title opens the door to all sorts of possibilities – Euan Grant, who has just taken over from George Brown at this year's Open Championship venue, at Turnberry, is a former Toro Student Greenkeeper of the Year winner for example.

The finalists arrive at Aldwark Manor in Sunday, September 13, when they will meet up with the judges and get to know each other before they start what could be one of the most significant events in their careers.

Dinner and a couple of drinks should tee up Monday just nicely for

the candidates, where they will be interviewed by a panel comprising Peter Mansfield, of Lely; Jeff Mills, Chairman of the BIGGA Learning and Development Committee; Bruce Jamieson, of Toro, and Sami Collins, BIGGA's Head of Learning and Development.

The finalists will also be charged with producing a course report on the Aldwark Manor course's holes on the hotel side of the river.

Once all seven interviews have been completed the reports will be studied and the interview panel will decide on the 2009 winner and two runners-up.

The winner will win an eight week trip to the United States beginning next January, which includes a six week study course at the University of Massachusetts and a trip to the GCSAA's Golf Industry Show, in San Diego, and Toro's Californian Headquarters. The runners-up will receive an expenses paid trip to Harrogate Week. The Seven Finalists are...

Martin Finegan

Martin Finegan is an Assistant at Waterville Golf Links in County Kerry. Martin, 44, holds a degree in Farm Management and worked in the family transport and agricultural contraction business. He moved to London in the late 80s and was soon running his own



agency supplying labour to construction companies with up to 300 employees.

He later sold the company, moved back to Ireland and built his own house. Martin took a full time course in Greenkeeping and Turf Management at Colaiste Stiofain, in Cork, making a round trip of 150 miles every day. Married, his hobbies include golf, fishing, swimming and reading while he also helps out with his local Gaelic Athletic Association teams.