Letters

GCSAA: shape of things to come

Courses' biggest compactors

summer and early autumn, not to mention the
general weakening of the plant through resul-
tant excessive leaf tissue removal, enhancing
the abrasive effects of wear and tear and the
inevitable invasion of Poa annua on the fine
turf which is so essential for the game of golf.
In no other sport is the turf species so critical
to the playing of the game.

Of course if Poa annua dominance is
accepted then all of this pales into insignifi-
cance due to the inherent capabilities of this
opportunist weed which can never produce
acceptable surfaces for year round play!*

Coming to Mr Gray's point regarding cutting
height trials on bent grass plots at St Ives
in the thirties, surely the fact that the STRI (as he
himself acknowledges) have long since docu-
mented and published the shortcomings of experi-
menting with unknown practices on fine
turf, particularly fescues, is already highlighting
the obvious inadequacy of said trials in relation
to the practicalities we now know.

This re-assessment of past 'advice' in the
light of modern technology and understanding
of pedological aspects, for instance in fine turf
production and maintenance, is not new. It is
not that long ago the STRI were advising NPK
compound fertilisers for general use on fine
turf! Like all research and development pro-
grammes, some previous findings or conclu-
sions, although not all, have to be abandoned
as progress is made and naturally the same
analogy applies to old books on greenkeeping
or golf books containing chapters on course
upkeep, where quite often only a percentage
of the information therein is of any practical
value, either then or now. Certain basic princi-
pies remain true however (i.e. the need for
well-drained, well structured, un-compacted
soils of low fertility).

A cutting height over the winter period of
approximately 5/16" is the normal on
fescue/bent turf for obvious reasons and per-
fectly suitable surfaces ensue. Contamination
with ryegrass patches of course spoil good,
clean surfaces and necessitate physical
removal. Incidentally I have seen perfectly
good surfaces produced over winter on fescue
greens with an occasional light roll being the
only requirement following a raising of mow-
ning height to 5/16" in October as growth falls.
The only 'coarse growth' I have experienced on
putting surfaces is from coarse grasses and as
accepted then all of this pales into insignifi-
tant excessive leaf tissue removal, enhancing
the abrasive effects of wear and tear and the
problem of trolley use remains that of constant
whirring away with a loud 'clonk' every
wintery morning whilst we sat over lunch. "It
is on the ball of your foot, an area of approxi-
mately five square inches. This, for a man
weighing 12 stones, works out at a pressure of
169 + 5 = 34 pounds per square inch. A car-
rying type golf bag together with a full set of
cups, waterproofs and umbrella can weigh up
to 20 pounds – adding another 4 pounds per
square inch to the compacting pressure.

This is worse from the compaction point of
view than taking a trolley across the green,
though I hasten to add I am not for one
minute advocating this practice!

Whilst on the subject of trolleys, I think
some manufacturers should take another look
at their designs. The weight distribution bene-
fit of a wide wheel is completely lost if the
wheel is not lying flat on the ground. In fact, if
it is running on it's edge it probably does more
marking than the old fashioned iron wheels. Some types, especially folding ones,
tend to have their wheels running on edge.

I am in full agreement of the development
of alternative tees to vary the routes from
green to tee and hence spread the wear. How-
ever, I think it is vitally important that we
make 'alternative' tees as properly constructed
tees, approximately the same yardage and not
'smallest' tees. 'Winter tees' usually mean a
neglected, muddy piece of ground approxi-
mately 3 yards by 2 yards and 50 yards in
front of the proper tee.

**John Atkins**
Course Manager
Chestfield Golf Club, Kent

High quality playing surfaces if consistent cor-
rect advice is not forthcoming, especially when
in the vast majority of cases it is not the main-
tenance of such surfaces that is initially
required but the reclamation of the fine turf
species, something which sadly only a limited
number of Course Managers are seriously
engaged in, let alone have achieved.

J S PHILP

Links Superintendent, Carnoustie Golf
Links Management Committee,
Carnoustie, Angus

* I was fortunate in winning a competition
run by Maxwell Hart Ltd, the prize being a trip
to New Orleans to visit the GCSAA convention.
I thought I would put pen to paper, or rather
finger to keyboard, and put down some of my
thoughts and reactions.

I thought the exhibition was really good, my
first reaction being that it was no bigger than
IOG Peterborough, but then it struck me that
the Stateside show is 100% golf course equip-
ment and materials, unlike 'our' show, which
covers all sports and even kid's playground
gear!

If you can imagine a show with about the
same number of stands as IOG but held
indoors in just one huge centre that has three
very large halls, a large ballroom and unpreten-
sious meeting rooms then you will get an idea of
the size of the new Orleans Convention Centre.

I saw many new products and I guess that
we may never see some of these on this side of
the pond. Equally, there were many new
products which I was told would be launched
in the UK in September – it was good to get
this preview of things to come.

As for New Orleans itself, what can I say?
It's a town and a half! Nightlife that really has
any analogy applies to old books on greenkeeping
or golf books containing chapters on course
upkeep, where quite often only a percentage
of the information therein is of any practical
value, either then or now. Certain basic princi-
iples remain true however (i.e. the need for
well-drained, well structured, un-compacted
soils of low fertility).

A cutting height over the winter period of
approximately 5/16" is the normal on
fescue/bent turf for obvious reasons and per-
fectly suitable surfaces ensue. Contamination
with ryegrass patches of course spoil good,
clean surfaces and necessitate physical
removal. Incidentally I have seen perfectly
good surfaces produced over winter on fescue
greens with an occasional light roll being the
only requirement following a raising of mow-
ning height to 5/16" in October as growth falls.
The only 'coarse growth' I have experienced on
putting surfaces is from coarse grasses and as
accepted then all of this pales into insignifi-
tant excessive leaf tissue removal, enhancing
the abrasive effects of wear and tear and the
problem of trolley use remains that of constant
whirring away with a loud 'clonk' every
wintery morning whilst we sat over lunch. "It
is on the ball of your foot, an area of approxi-
mately five square inches. This, for a man
weighing 12 stones, works out at a pressure of
169 + 5 = 34 pounds per square inch. A car-
rying type golf bag together with a full set of
cups, waterproofs and umbrella can weigh up
to 20 pounds – adding another 4 pounds per
square inch to the compacting pressure.

This is worse from the compaction point of
view than taking a trolley across the green,
though I hasten to add I am not for one
minute advocating this practice!

Whilst on the subject of trolleys, I think
some manufacturers should take another look
at their designs. The weight distribution bene-
fit of a wide wheel is completely lost if the
wheel is not lying flat on the ground. In fact, if
it is running on it's edge it probably does more
marking than the old fashioned iron wheels. Some types, especially folding ones,
tend to have their wheels running on edge.

I am in full agreement of the development
of alternative tees to vary the routes from
green to tee and hence spread the wear. How-
ever, I think it is vitally important that we
make 'alternative' tees as properly constructed
tees, approximately the same yardage and not
'smallest' tees. 'Winter tees' usually mean a
neglected, muddy piece of ground approxi-
mately 3 yards by 2 yards and 50 yards in
front of the proper tee.

**AG Ellis**
Chairman of Green, Royal St David's Golf
Club, Harlech

**Valid points certainly, especially that of
architectural trolley design. Nevertheless, the
real problem of trolley use remains that of constant
'same pitch' attrition. Worn areas and bare,
often muddy, patches are always the unsightly
result of such rigid flow patterns. Furthermore,
carriers will always dump their bags at the earli-
est greenside opportunity. -Editor.

Included in our 'wants list' of new machin-
tory, tools and other accessories – deemed nec-
essary in the annual assessment – one doubtful
piece of equipment, was duly bought (I understand,
from a company that had gone bust, which
may prove something!) and laid to rest one
winter morning whilst we sat over lunch. "It
looks nothing like the expected new 180", said
someone, but there it looms, the 'thing' which
now has pride of place on our bothy door,
whirring away with a loud 'clonk' every
minute of every hour of every day.

No one dares approach it: it rules and you
don't mess with it. It seems to say 'You will
now clock in on time and you will not sneak
off thirty seconds early at night'. We are three
now clock in on time and you will not sneak
off thirty seconds early at night'. We are three
now have pride of place on our bothy door,
whirring away with a loud 'clonk' every
minute of every hour of every day.

No one dares approach it: it rules and you
don't mess with it. It seems to say 'You will
now clock in on time and you will not sneak
off thirty seconds early at night'. We are three
now have pride of place on our bothy door,
whirring away with a loud 'clonk' every
minute of every hour of every day.

The choice of the professionals

The success of keeping your Golf Course or Sports Ground in top condition depends on you among other things buying top quality products. All Rufford Products are produced from our own Quarries with no need to import Sand or Soils. All have been approved by leading agronomists and Soil Scientists. Consistency of quality and our vast reserves enable you to purchase with total confidence.

You are invited to visit our Quarries to judge for yourself. Quite a number of course Managers and Agronomists have already done so and we would like to think they were just a little impressed.

Rufford Supplies
(0925) 232476
Acton Grange Quarry, Birchwood Lane, Moore, Warrington WA4 6XE
Sleaford-based Sharps International has just published a new amenity grass seed brochure which provides full details on the company's range of Designer Mixtures. This new 28 page brochure, which now has colour illustrations, features several new mixtures. These include GREEN BAIZE, for bowling greens, croquet lawns and golf greens and TURFMASTER, which offers very fast establishment and an extremely good appearance. The brochure also provides detailed information on a comprehensive range of grass & wild flower mixtures - along with useful hints on how to establish and manage them. Free copies from Sharps International, Sleaford, Lincs. NG34 7HA. Tel: (0529) 304511.

Spanish manufacturer, Ausa, has just introduced MULTITRANS DV17, a 1500kg payload utility vehicle. Powered by a water cooled 21.7hp Isuzu diesel, DV17 features 4 forward and 4 reverse gears and has a top speed of 16mph. Power to weight ratio is impressive and there is plenty of power in reserve for towing trailers. Standard equipment includes electric starting, lighting apparatus and indicators and rough terrain driving wheels are available. Body options include: standard tipping, hook type demountable skip plus a powered access platform with a platform height of 10m and sufficient payload to safely carry two men and their tools. Details: 0706 49691.

The Articulator, which was launched by Hayter Beaver in 1991, has won the prestigious Australian New Product of the Year Award, sponsored by 'Power Equipment Australasia'. It was when the publication's editor, Steve Symons, visited Hayter Beaver at IOG that he first spotted the Articulator - a unique concept in rotary mowing. The magazine's reasons for selecting this winner were 'its rugged and simple design with the idea of solving the problem of cutting undulations without scalping the turf.' Mark Phillips, Beaver's export sales director, visited Australia in February to receive the award and coincidentally, whilst out there, Mark also presented Kubota Tractors (Australia) with Beaver's Award for Best Asia-Pacific Distributor 1991. This title was achieved in spite of stiff competition from Japan, where the company's grass cutting machinery is selling well. Details: 0279 723444

The Amazone Groundkeeper tractor-mounted grass cutter/scarifier from Amazone Groundcare now has a spring-loaded top link assembly designed to allow the machine to follow ground contours. It avoids the problem with fixed linkages of the machine rising out of work when the tractor traverses an undulation. The new top link consists of a coil spring inside a telescoping tube. Tension can be adjusted by re-positioning a stabiliser chain, and this can also be adjusted to suit the machine to different makes and models of tractor. It is standard equipment on all Amazone Groundkeeper semi-mounted models and optional for Hi-Tip and standard machines. Details: 0579 51155.

Dorset-based Central Spares have set up a new division to supply replacement parts to professional users of grass-cutting machinery. Central are better known in the industry for the lead they have developed supplying replacement parts to the domestic trade for the last 20 years. They source from suppliers throughout the world. Newly-appointed division head Pat Lowry said the company have been supplying a small number of professional users for just over 10 years, primarily with items like air filters, brushcutter blades and line. "We have scored with our huge stock of parts ready to ship out - about £1/2 million worth," he said. Central's products include items currently supplied by the original equipment manufacturers. Details and catalogue: 0905 831873.

Ransomes have won an order to supply 104 electric Cushman vehicles to Euro Disney, to be delivered in time for the April 12th opening. Custom-built bodies are fitted with sliding doors to facilitate total access. There are over 500 Cushman vehicles in service with Disney in the USA.

Rhone-Poulenc have introduced Regulox K to their range. Based on Maleic Hydrazide, Regulox K has an established reputation for long term grass suppression and, being a foliar acting product, its performance is not greatly affected by drought conditions. Evaluated at the famous Bilybur plots, it was demonstrated to increase species diversity on road side verges, with coarser grasses suppressed and the finer leaved, shorter grasses encouraged, producing a denser sward. Unwanted grass growth can be retarded on grass areas. Regulox K should be used in conjunction with a selective herbicide to control any broad leaved weeds present. Details: call the Rhone-Poulenc helpline on 0277 261414.

Fisons Horticulture has taken over the UK sales and marketing of the brand-leading Turfex turf wetting and penetrating agent from Service Chemicals. This announcement coincides with the launch by Fisons of an improved version of the product at BTME.

New Improved Turfex effectively alleviates the twin dry summer problems of dry patch and compaction. Both dry patch and compaction weaken a sward by restricting water penetration to the roots, causing poor growth, susceptibility to wear and disease and poor playability. Increasing the rate of water penetration leads to a deeper, healthier root development for a more resilient, healthier sward. Simultaneously, the product when applied reduces the volume of irrigation water required in times of drought and yet facilitates rapid draining of surface water. New Improved Turfex has been trialled at Fisons Levinton Research Station - building on the development work carried out at the STRI, Bingley. The result is a product which offers greenkeepers the most rapid performance available, with no risk of foaming or phytotoxicity problems.

Specialist grass seed mixtures for golf courses are featured in a new 12 strong Olympic range introduced for the leisure industry by Hunters of Chester. A leaflet is available: 0829 760644.
STONE INSTALLATION & DESIGN

Proprietor: M Hinchliffe BTLIA Diploma in Irrigation
14 Coombe Park Road, Walton, Stone, Staffordshire.
Tel: 0785-811394

DESIGN, SUPPLY, INSTALLATION AND SERVICE OF IRRIGATION SYSTEMS AND EQUIPMENT.

Irrigation a problem? We can solve it easily and effectively at reasonable cost.

Telephone 0785-811394 now for advice or a free quotation.

SPECIAL LIMITED SPRING OFFER

On 30 and 50 cubic square yard loads we would be very surprised if the massive savings available during our limited spring offer weren't acceptable to you.
Simply give us the opportunity to impress you with a quote!

OVER 150 GOLF CLUBS!

...have already been supplied with cockleshell by us for use on their paths, including Sunningdale, St Georges, North Hants, Knole Park, Shirley Park, Grims Dyke, Boyce Hill, Orsett and Gerrards Cross.

They know how cockleshell...
...can save time and money...
doesn't damage mowers...
always looks clean – especially after rain
...can be used on all your paths, right up to the edge of the grass
...can be put directly onto sand and stays on the surface

DEVENISH LTD.
Suppliers of shell sand and top soil
60 Hambro Hill, Rayleigh, Essex SS6 8DH
Tel: 0268 743866 • Fax: 0268 743867

OVER 100 YEARS IN BUSINESS!

From Surrey to a climate altogether sunnier... LES ADAMS explains how greenkeeping practices are different, and how some stay the same, in a country five times the size of the UK, when showers bring 50mm of water in 20 minutes.

I live in Durban, a coastal town in South Africa where miles of golden beaches are pounded by the Indian Ocean.
I left England in 1983 with my wife and two children in search of sunshine and some essential warm weather to improve the health of my eldest son. I had been employed in greenkeeping for over ten years, the last six years as course manager at Leatherhead Golf Club in Surrey, and I am now course manager at Mount Edgecombe Country Club, a picturesque parkland course 3km from the sea and
18km north of Durban. We have two bowling greens, squash courts, four tennis courts, a large swimming pool and a clubhouse which has two bars and two dining rooms. The Club has a membership of just under 2000, approximately 900 of these being golfing members, and we average around 50,000 rounds of golf each year. An old friend in England asked me to write about my greenkeeping experiences in South Africa, which has prompted this epistle.

South Africa is a big country, five times the size of the UK, therefore with many different climatic conditions. I have worked in both Durban and Johannesburg and will write a little about both these areas.

Durban's climate is sub-tropical with average summer temperatures in the mid-30s and humidity almost as high as Florida in the USA. Night temperatures in Durban in summer drop only a few degrees below those of the day time, and if an off-shore wind (known as a Berg wind) blows, it can actually get hotter. Because of this, cool season grasses do not survive and warm season grasses are grown, Cynodon (or Bermuda as it is known in the USA) being the most popular.

Course management is more related to southern locations in the USA, although basic principals of cultural practices are the same anywhere. Warm season grasses are stoloniferous or rhizomalous in growth habit (sometimes both) and colonise open ground very quickly. Cynodon grows towards the sun and forms what is known as grain, which creates different putting speeds - putting down grain being much faster than against the grain. Verti-cutting and topdressing are the main ways to control and minimise grain and must be done very regularly. Grooming reels are now available which can be used daily.

Because of the rate of growth and toughness of the grass it is general practice to try to cut the entire course, including rough, every day during the summer. Greens are generally double cut seven days a week during times of peak growth.

I now have a much better understanding of the reason why courses in the USA have larger budgets than those in the UK. For a start; staff levels are much higher. As an example, we have a total of 30 staff employed to maintain the golf course, bowling greens and gardens. Such work requires a great deal of machinery to cut the entire course each day, for remember; the grass grows for 9-10 months of the year. This leaves little time for machinery maintenance and to overcome this most top Clubs have considerable back-up machinery, which once again adds to the budget.

Jacobson, Toro, Ransomes, Scott Bonar and Kubota mowers are all available in South Africa, as are Ford, Massey Ferguson and John Deere tractors, but prices are high. A triple green mower for example, costs around R50,000 and I sometimes think we course managers have to be extraordinary salesmen to convince committees to pay this amount of money for a greens mower, especially when a Toyota Corolla with air-conditioning, electric windows and power steering costs only R45,000.

A sophisticated irrigation system is essential in South Africa, especially in the winter months when days are sunny and warm (mid-20s) and rain is not expected for weeks. Frost is unheard of in Durban, with the lowest night temperature around 5 degrees centigrade and the most miserable days between 15 and 20 degrees centigrade.

We have recently installed a computerised irrigation system capable of putting one million litres of water on the course in 12 hours. Our irrigation water is stored in two large lakes, which are features of the course and fed by a small river. Most Clubs are not so fortunate and rely entirely on borehole water, which is both costly to extract and has to be stored in man-made reservoirs.

Many Clubs are run by committee, a system inherited from the UK, with all its lack of continuity, eg. changing captains etc. Fortunately my Club has tried a different system which seems to work reasonably well. We have an executive committee of five members from which the chairman and vice chairman are elected. They also form the nucleus of the financial committee and are responsible for all major decisions affecting the Club. The Club captains, both male and female, are co-opted onto this committee for their term of office and attend mainly to keep the members up to date with committee policies. I report directly to the chairman, who has held his position for almost ten years. Should the present chairman decide to retire, his place would be taken by the vice chairman; who has also been involved for several years and is fully aware of the policy we have been following since I joined the Club. This creates continuity and stability within the club and is more settling for the staff than the annual or bi-annual changes of committee I have experienced in the past. Just out of interest, Leatherhead was run on similar lines and was also a pleasant working environment.

Johannesburg is a city on a land plateau known as the reef, which is almost 6000 feet above sea level. It has under good management and bent grass is widely used on the greens throughout the reef, with excellent results.

Turf grass diseases such as Brown Patch, Helminthosporium and Pythium Blight are all a problem, but the biggest problem appears to be invasion by Poa annua. Tests are under way with a selective herbicide, and these show some promising results, but it will be sometime before the product is registered; even if successful.

Poa annua can be controlled in Bermuda grass with a chemical called Promamide, which is usually used as a pre-emergent, but unfortunately the chemical damages bent grass and I would imagine that it would also damage fescue.

Because of its altitude and lack of cloud cover during winter nights, Johannesburg has moderate frost from May until August and although day temperatures are high, even bent grass does not grow much during these months. Pitch mark damage becomes a serious problem, as the number of rounds played is high during this time. Some course managers are experimenting with very high applications of
‘Even in high temperatures I only irrigate once or twice a week. The greens drain exceptionally well and I have yet to see a puddle on them’

Nitrogen throughout the winter, an idea which came from Israel, a country which has a similar climate.

Results so far have been interesting, with an increase in growth and surprisingly little increase in disease, but it is too early to draw any conclusions as yet. Education for greenkeepers is almost entirely supplied by their own association, but a technical college in Pretoria does offer a Diploma course in Turfgrass Management, which is a definite step in the right direction.

Greenkeepers - or course managers as they are now called - are almost all Europeans, working with Asian or African staff. There is a serious shortage of trained greenkeepers, with only few Clubs having European assistants gaining experience. Thus golf Clubs rely on horticulturists or mechanics to fill those vacant positions caused by retirement or for any new course construction.

Golf is becoming very popular and new development is taking place throughout the country. Unfortunately, due to the shortage of trained course managers, standards are dropping. Salaries are increasing quite quickly in Johannesburg and also in some parts of Durban and it is hoped that with a change in policy by the Clubs and the increased pay structure, more educated people will be encouraged to join the industry.

South Africa is a beautiful country which is in the middle of huge political changes. How these changes will affect our lives we really do not know. If it wasn’t for the ‘wind of change’ I would recommend that the more adventurous young course manager come and make a career in the sunshine.

As a past member of the BGGA executive way back in the 1970s, I must congratulate BIGGA on the tremendous forward strides that they have made in the past few years - well done! I must also say how much I enjoy reading Greenkeeper International - keep up the good work.

The author is course manager of the Mount Edgecombe Country Club, in Durban, South Africa. He also acts as a consultant at the Royal Durban Club and is involved in advisory work on new course maintenance and construction.

As a postscript to the above, Les Adams wrote again most recently: The days just fly past at the moment, it’s almost scary. We are in the middle of a huge re-vamp of the course and the pressure is on to open four more new greens, making eight new ones so far with another five almost ready and only two left to construct, leaving me with 30 greens to maintain at present - it’s really quite hectic.

Out of interest, we have built our greens to the USGA Spec., and contrary to popular belief, these do not need huge amounts of water. In fact, if constructed properly, a perched water table is formed and even in Durban’s high temperatures I only irrigate once or twice a week. The greens do, however, drain exceptionally well and I have yet to see a puddle on them - even after the heaviest of downpours, eg 50mm in 20 minutes - a typical Durban storm!
Carnoustie's favourite green tractor.

At Carnoustie they've chosen the blues for the greens: Ford compact tractors. A compliment from one famous name to another.

Ford compact tractor performance is helping to maintain a 300 year golfing tradition, providing groundcare over Carnoustie's 54 holes (including the internationally renowned Championship Course, host to the 1992 Amateur Championship).

Ford New Holland cover the ground with five Series 20 models ranging from 16.7 to 41.3 DIN hp. Each with quiet, fuel-efficient engines, class-leading hydraulic capacity, and the ability to take a wide variety of implements. All models have 4-wheel drive as standard.

Clever ergonomic design makes them easy to operate. Whilst the deluxe cab option* amongst the best on any compact, guarantees operator comfort whatever the weather.

And you've got the extra security of Ford New Holland parts and service back-up: protecting your investment for years to come.

Ford Series 20 compacts. Tractors that'll suit you to a tee. For full details and the name of your nearest dealer, write to: Ford New Holland Ltd, PO Box 193, Sudbury, Suffolk CO10 6GZ.

*Standard on model 2120. Available at extra cost on models 1720 & 1920 only.
Whenever any item of grounds maintenance equipment is acquired, the most expensive elements to buy and maintain are generally the engine and transmission. Yet if you buy a ride-on mower, all-terrain load carrier or mini excavator, the chances are that when the machine is not working at its specialist task, its motive power unit (the engine and transmission) cannot be used for anything else and must stand idle.

Of course there are times when a compact tractor cannot compete with, say, a ride-on mower in terms of manoeuvrability, but when the mowing season ends a compact tractor can swap its mower for another implement and continue working. Compact tractors may all look similar, but they can offer significantly different features. To get the best out of a machine it is important to choose one with features most relevant to your particular needs. For example a transmission system ideal for loader work is of little value if you never use a loader.

Starting with the engine, compact tractors invariably use diesel power. Traditionally diesel engines have been noisier and heavier than petrol, but the difference at compact tractor size is not great and the diesel engine works better from cold, can use untaxed fuel, has a longer life and better torque characteristics.

Torque still causes a lot of confusion with horsepower. Horsepower is a measure of the energy from an engine. For example, two machines, both with X horsepower engines can shift five pallets of compost from A to B in five minutes. Machine 1 is fast but not very strong, so moves the pallets one at a time, taking only a minute for each pallet. Machine 2 is slow but very strong, so can take all the pallets in one load, but takes five minutes to move from A to B. Machine 2 has the higher torque, sometimes referred to in sales jargon as pulling-power. For most jobs around a golf course, engines with higher torque capacities are more desirable. These engines tend to slower revving, with large-cylinder displacements.

Getting the power from the engine to the wheels is the transmission, and here I have always tended to prefer a manual gearbox. They are lighter, more efficient and I have always felt more "in control" with a manual change. A horticulturalist I knew however, chose hydrostatic transmissions for his compact tractors because he towed trolleys heavily laden with potted plants. Achieving a smooth move off with a manual transmission had meant he kept burning out clutches, but this problem doesn't occur with a hydrostatic unit. Hydrostatic transmissions are also easier to operate and they allow on the move changes in speed, even when working or pulling heavy attachments.

Iseki, Massey-Ferguson, Kubota and Ford offer the choice of manual or hydrostatic versions on many models in their ranges, while Ferrari has gone one better and has a 30hp tractor with both manual and hydrostatic transmission within the same machine. Those who like the control of a manual with the flexibility of a hydrostatic should take a look at Honda's debut machine, the new H6522. It has a manual gearbox and the powershift is that the operator can move from one gear to another without dipping the clutch, so the power can be kept on at all times.

The other option to look at in the transmission is what is referred to as a synchro or power shuttle. Put simply, it means the ability to change from forward to reverse by pulling a single lever or pedal. This applies to mechanical transmissions and allows the tractor to move backwards or forwards without having to de-clutch, change gear and re-engage. It is primarily of use for loader work. Whether to choose two or four-wheel drive is now largely academic.

Manufacturers have recognized that two-wheel drive is becoming obsolete and many now only supply their four-wheel drive versions in the UK. Power take-offs are a common service on compact tractors.
The drivin

The midrange maestros – the Iseki TU range offers you a choice of manual or hydrostatic drive, with models from 19-27 horsepower all designed for more productivity and performance, whatever the task.

TU

The original compact tractor – these 16-18 horsepower machines offer you real versatility with 2 or 4 wheel drive and front, mid or rear mounting points.

Iseki have a range of tractors to suit your needs. From 14-48 horsepower you'll find no more versatility, no more technical excellence, no better support and no better finance schemes. That's why Iseki are the driving force - because no one looks after your compact tractor needs more than Iseki.

Iseki UK Ltd, Broadway, Bourn, Cambridge, CB3 7TL. Telephone 0954 718981. Fax 0954 719731.
COMPACT TRACTORS

- Power take-offs and hydraulic services are major contributors to the versatility of compact tractors, as shown by this shot, above, of a John Deere 755 with 303 hydraulic gang mower.
- Honda’s debut machine, the 22hp H6522, right, features powershift transmission, optional front PTO and the highest hydraulic lift capacity in its class.

All manufacturers supply a rear PTO as standard, but check that the speed(s) available will match the implements to be used. Having a mid-mounted PTO offers the flexibility to run a mower without having to detach it before using other implements. Going a step further, other manufacturers are following the lead of farm tractor makers by making provision for a front-mounted PTO. In theory at least, it should be possible to run one tractor operating three implements at the same time.

Honda offers a front PTO option while Iseki has it as either optional or standard for most of its machines. Marshall compacts have a front PTO option for the complete range. A typical item of equipment attached to the three-point linkage of a golf-course compact is a leaf collector. Take a close look at one of these when fully loaded and you realise the importance of a good lift capacity for the three point linkage. This is a feature many manufacturers choose to ignore, but others such as John Deere, Massey-Ferguson, Ford, Hinomoto and Honda publish lift capacities in their promotional literature. Honda claim the strongest lift capacity in the 22hp category with a load of 950kg, but the best overall range (for the machines featured on Page 32) is Ford, with four out of its five models having the best lift capacity. Ford’s range are also the heaviest machines – so presumably you need less weights to counter balance at the front of the tractor.

Still on the subject of hydraulics, think about the ancillary hydraulic services needed – the number of single or double-acting valves you need to operate your implements. A single-acting hydraulic ram (such as on a trailer) extends by receiving oil under pressure, but relies on gravity to force the oil out when it needs to contract. A double-acting ram receives oil in the same way to extend, but a second inlet on the other side of the “plunger” pushes the other way to contract the ram – providing force both outwards and inwards. Double-acting hydraulics are seen typically on backhoe/backactor digging attachments. Iseki, John Deere, Massey-Ferguson and Ferrari include single or double-acting valves in the base specifications, but other companies will only supply them as options – which can add an average of around £250 (per double-acting valve) to the price.