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# What to buy and

### by Ken Richardson

In the previous, two, articles, I have looked at hardware, that is, the parts of a computer that you can see; and software ie the instructions that make a computer do what you ask. In this, third, article, I will look at what to buy, where to buy it and look at some of the costs involved.

### What to buy

Many people have asked me 'What sort of computer should I buy?'. This is a very difficult question to answer as it depends on several things, eg. what do you want the computer to do and how much money do you have to spend. There is a wide range of dealers hoping to sell both hardware and software and they will try to sell you what they think you need. Therefore, before setting off to your local computer shop or picking up a computer magazine, you need to decide what tasks you want to perform using a computer. This is not easy to decide as you can only begin to see what computers are capable of, when you become familiar with them. However, with some thought, you may be able to formulate a plan. The most critical factor is cost ie how much are you or your golf club willing to pay, although you could convince your club to spend a little more money if you made a good enough case. Lets look at some of the points to consider.

### Which Applications do I want to run?

As I explained in the Software article, all applications state their particular processor, memory, hard disk and monitor requirements on their packaging. You must decide which and or how many applications you wish to run. Remember that the operating system selected ie DOS, Windows or Windows 95 also determines processor, memory and hard disk requirements. For example, let us suppose that you want to run MSWorks and TRIMS under the control of Windows 95.

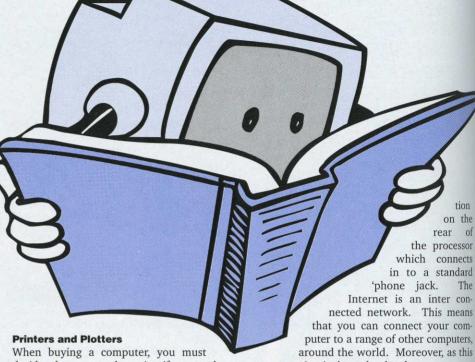
### Requirements:

Application	Memory	Processor	Hard Disk
MSWorks	4 Mb	386SX	14 Mb
TRIMS	8 Mb	386SX	25 Mb
Windows 95	8 Mb	486 DX	120 Mb

Therefore, a minimum of 8 Mb of store (software only uses memory when it is running), a 486 DX processor or higher and 160 Mb of hard disk space are required. Remember that this is the minimum requirement and does not allow for other applications or storage of data. Similar calculations can be performed for other applications.

### **Peripheral Devices**

When considering applications, you must also consider peripheral devices such as printers, plotters, compact disks and sound systems and 'add ons' such as modems and Internet



When buying a computer, you must decide what you need to print, if you need it in colour and how much printing will be required. As I mentioned in the article on hardware, printers come in three main types ie dot matrix, bubble (ink) jet and laser. Laser gives the best quality print but at the highest price, dot matrix is cheap, slow, noisy and fairly poor quality whereas bubble jet give reasonable quality at a reasonable price, is fairly quiet and can print in colour. However, ink cartridges cost approximately £20 and bubble jet can be expensive if printing large amounts. Plotters are needed if you are considering producing plans or designs.

### **Compact Disk Drives**

Compact disk (CD) drives are now available on most new computers. Many software titles are available on CD, especially those needing large amounts of data eg encyclopaedia. Reference data for turf science and turf management eg identification of pests and diseases is becoming available and the number of titles will increase with demand.

### **Sound Systems**

Sound cards, loudspeakers and associated software is available, however, it is debatable if they are necessary on office computers.

### **Modems and Internet**

If you are contemplating becoming a user of the Internet, you will need a modem and appropriate software. Modems allow computers to communicate with other computers via a telephone line. If you buy a computer with a modem installed then you will see a connec-

around the world. Moreover, as this connection is through a local computer, you pay telephone charges only at local rates. For example, you could access the pages for the Golf Course Superintendents of America from the computer in your office by telephoning the computer in the office of your Internet supplier which may only be 10 miles away. You can also send and receive E-mail, using the Internet. E-mail is electronic mail and allows you to type messages into your computer and send them to any part of the world for the price of a local telephone call.

Once you have considered what applications you want to run you can then begin to look at purchase options. Unfortunately, you may have have decided to buy a computer system with a particular configuration and then find that you cannot buy it as it has become obsolete in computer terms. You should then look to buy the highest specification computer that meets your budget. The next step is to decide where to buy and even whether to buy new, buy second hand or even use a computer from another part of the golf course.

### Where to buy

As I suggested above, the cheapest way of obtaining a computer is to inherit a system from an office which is buying a new system. This has many disadvantages, however. Eg. The software application may not be what you want, the processor may be old and slow, the system may not be able to be upgraded, spares may be impossible to find and maintenance difficult to arrange. Therefore, if you have made a case for using a computer in your office then it should not be difficult to make a

### where to buy it

### **EXAMPLES**

Examples of specifications and prices

### **Computer warehouse**

Pentium 166 Mhz Pentium processor with MMX technology 16 Mb RAM SVGA Monitor

CD ROM 16 bit Stereo sound card and speakers

1Mb PCI 3D Graphics card

Windows 95

MS Works

£1599 inc VAT

Hewlett Packard DJ 693 Colour Bubble iet Printer £259 inc VAT

Pentium 133 MHZ Processor 16 Mb RAM 1Mb PCI Graphics CD ROM Soundcard Windows 95 **MSWorks** £999 inc VAT

### **Specialist Computer Store**

Pentium 120 MHz Processor 16 Mb RAM 1.2 Gb Hard Disk CD ROM Sound Card Windows 95 Colour Bubblejet Printer Modem £1499 inc VAT

### **Small specialist store**

Pentium 166 MHz Processor 16 Mb RAM 1.2 Gb Hard Disk SVGA Monitor CD ROM Sound Card Speakers Windows95 **MSWorks** £822 inc VAT

case to your club for buying the computer that is needed.

Computers can be purchased second hand. Indeed many companies sell out dated ie lower specification than current computers that have had little or no use. However, unless you are very knowledgeable and/or have a good relationship with a computer hardware technician then you could be buying trouble. If, however, money is limited and appropriate guarantees can be sought from the supplier then you might consider this option.

Buying a new computer can be even more daunting then buying second hand. There is a bewildering range of computers, a vast range of prices and many different outlets. You could visit your local high street electrical store, a computer warehouse, visit a computer specialist, purchase direct from a manufacturer or use direct mail.

High Street Stores There are several High Street Stores that sell or rent computer hardware, software and peripherals. The advantages of these stores is that you can see what is for sale, you can calculate the price of a system, you can see how the system operates and you can discuss your requirements face to face with the salesperson. The main disadvantage is price. High street stores prices tend to be higher than warehouse prices or direct mail. Warranty can usually be arranged with servicing being done in the home, but check that this is included in the price.

Computer Warehouse Most large towns and cities have at least one computer warehouse which sell the whole range of computers, software, peripherals, up grades, books and stationery. Prices tend to be lower than at High Street Stores and you can view and try a wide range of systems. It can be a bewildering experience, however, if you do not have a very good idea of what you want before entering the warehouse.

Computer Specialists Many towns and cities have at least one specialist computer supplier. These can be local suppliers of top brand name computers or small indepen-

dent suppliers, many of whom make up computer systems to order. Top brand names can be expensive but they can give you piece of mind. Small independent suppliers can give excellent service and good value for money. However, you need to sure that they will remain in business, at least for the duration of your warranty.

Direct Mail Computer magazines seem to contain more advertising than editorial and most adverts' are for computer hardware and software. You can buy from a major manufacturer, from a direct mail supplier or from a small independent. The main disadvantage of buying by direct mail is that you cannot see what you are buying. However, prices are very competitive and you can com-

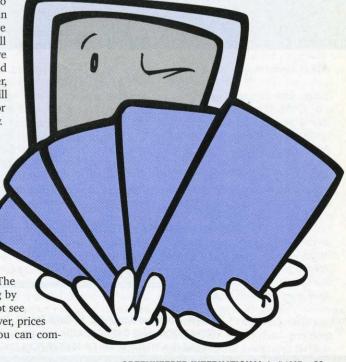
pare a number of suppliers.

Practical Considerations Let us suppose that your club has agreed to the purchase of a computer for your office and that you have decided what software applications you want to run. How do you compare what the different companies have on offer, when each company gives differing descriptions, supplies different software and has different prices for peripherals such as printers? Firstly, write down your needs: Eg.

### Basic requirements

Processor: Pentium 133 Mhz Memory: 16 Mb RAM Monitor: SVGA colour Hard Drive: 1.2 Gb Floppy: 3.5 inch CD ROM Built in Modem Windows 95 **MSWorks** Colour bubble jet printer

Secondly, determine the cost of the basic system (without software) from your chosen supplier or suppliers. You may also be given a great deal of other information which can be confusing, however, try not to let it confuse you too much. Once you have got your list of suppliers down to three or four, you can then start to see what else you get for your money eg Windows already fitted, MSWorks already fitted, a range of software supplied 'free', extended warranty, at home or return to manufacturer, is the system expandable, how many expansion ports has it got, does it have cache memory, does it have a graphics exten-



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**When Ransomes introduced** its E-Plex all-electric greens mower in 1994, greenkeepers had to adapt to a new way of thinking and a new way of working. Instead of relying on the internal combustion engine and hydraulic pumps to provide motive and cutting power, they had to get used to batteries, electric motors and the strange sensation of using a virtually silent machine to cut their greens. It was a learning experience in more ways than one, as two of the first users in Britain discovered...

raham Wissett admits to Granam wisself apprehensive when his new E-Plex greens mower was delivered to Lydney Golf Club in June 1995.

Although he had arranged a long demonstration of the machine and had ensured that Ransomes' dealer, R S Bird Ltd, was able to provide the necessary back-up service, Graham still felt that he was stepping into the unknown.

"That feeling did not last long," he now says. "Once you get used to the lack of engine noise, vibration and exhaust fumes, the E-Plex is just like any other greens mower, only it's better and less costly to own."

Founded in 1927, Lydney Golf Club is a nine hole parkland course located on the western bank of the river Severn midway between Gloucester and Chepstow. Following his appointment as head greenkeeper in 1994, Graham had set about compiling a list of new machines to replace the ageing equipment on the course.

A new greens mower was a high priority, yet Graham had a specific requirement. "I work pretty much on my own, so I needed something that was quick and simple to maintain," he explained. "Even with nine holes, there's a lot of work to get through each day and I want to be out on the course not back in the shed. I took one look at the E-Plex and could see that it would take very little looking

Although it took time to per-



## Thinking ILECTRIC

suade the club's committee to order the E-Plex, Graham's initial reasoning has been totally vindicated. The machine has cut weekly servicing and maintenance time by half compared with the club's previous dieselengined mower.

Yet precious time is not the only saving being achieved by Graham Wissett with his E-Plex. "Running costs are minimal," he pointed out. "I need no diesel fuel, no engine or hydraulic oil and no filters. All the E-Plex consumes is off-peak electricity and distilled water. I estimate that the club is saving around £600 a year on consumables alone. Even if the batteries need replacing after three years, we'll still be more than £1,000 in pocket."

In its first season at the club, the E-Plex managed to cut 27 greens before the batteries needed to be recharged. The average size of the greens is 450 sq yards (375 sq metres).

In 1996, groomers were fitted to the cutting units which placed extra demand on the batteries. "Yet, I'm still able to cut 19 greens with power to spare," commented Graham. "The machine has proved extremely reliable, it produces a very good finish and there are no worries about oil or diesel spills. Both the club and I are totally convinced we made the right decision and we would not go back to an ordinary greens mower now."

Brandhall Golf Club was the first local authority course in England to buy a Ransomes E-Plex greens mower.

Owned, managed and maintained by Sandwell MBC, the attractive 18-hole course is laid out on hilly, undulating parkland close to the M5 motorway, approximately 5 miles west of Birmingham city centre. The urban location makes Brandhall a very popular course, attracting close to 50,000 rounds of golf a

Apart from being an E-Plex pioneer, Brandhall golf club has the rare distinction of being looked after consecutively by three head greenkeepers from the same family for the past 50 years.

In 1947, Doug Underhill was appointed to the position, remaining for 34 years. He was



followed by son Ian, who held the post for six years before becoming contracts manager with Sandwell MBC's DSO division. Ian was succeeded by his brother, Paul, who has been Brandhall's head greenkeeper for the past 10 years.

The decision to purchase the E-Plex was made jointly by all involved with the council's grounds care contracts, as Ian Underhill explained: "We looked firstly for simplicity of use and maintenance. Here, the E-Plex scored top marks. We then conthe environmental sidered aspects which are of major importance to the borough. With no engine, no oil and no exhaust, it was obvious that the machine would be kinder to the environment than other mowers."

Before placing the order, an E-Plex was loaned to Brandhall golf club for two weeks' assessment. "We don't buy any new machine



The E-Plex's batteries are checked daily by Paul Underhill, Head Greenkeeper at Brandhall Golf Club

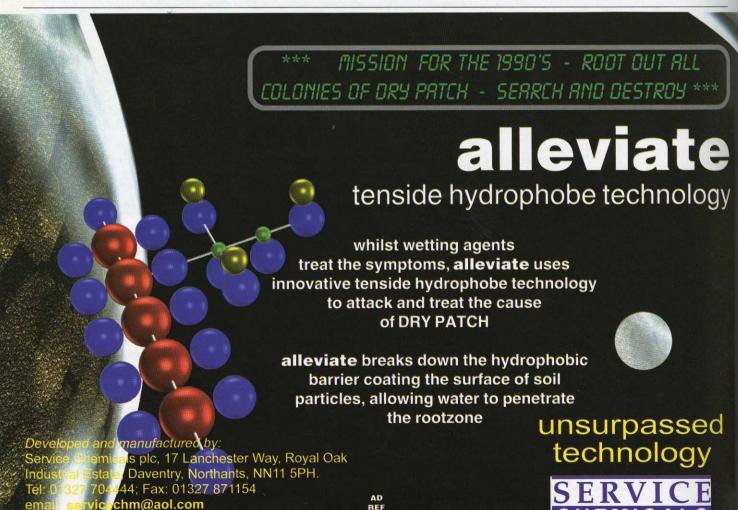
without a thorough test," pointed out Ian. "It did not take the greenkeepers long to get used to the E-Plex and they were keen to have the mower. Our mind was made up by the confidence of

p://members.aol.com/servchemuk

local Ransomes' dealer, E T Breakwell, who said they would swap the E-Plex for a diesel greens mower if we did not like it after 12 months use."

A year on, Sandwell MBC has

no intention of taking up the offer and head greenkeeper, Paul Underhill, says the mower has been troublefree since it was delivered in April 1996. "It was a bit of a culture shock at first, but



### 'It is put on charge overnight and the mower is ready to go without delay the next morning'

we quickly appreciated the absence of noise and the low maintenance requirements. One small drawback is the lack of power steering, but this is only really noticeable at very slow forward speeds."

A critical factor in extracting maximum life from the batteries is setting the cylinders correctly to the bottom blades, says Paul. "Too tight and the drag creates excessive battery drain. We check them daily so they barely touch, enabling all 18 holes to be cut on one charge. This is a good result on our sloping ground."

Realising that the groomers take additional power to drive, Paul uses them on a maximum of nine holes in a day, grooming the other nine holes the following

"We chose the E-Plex principally for its simplicity and reliability," commented Paul. "A year on, the facts speak for them-Daily maintenance selves. involves simply greasing the cutting units and checking the batteries. It is then put on charge overnight and the mower is ready to go without delay the next morning."



**Graham Wissett of Lydney Golf Club:** "We would not go back to an ordinary

During 1996, the machine clocked up 225 hours without a single visit to the DSO workshop, much to the delight of manager, Les Parkes.

"Apart from the obvious environmental benefits, the machine has proved it can make significant savings in maintenance time and running costs," concluded Ian Underhill. "I believe other clubs need to take a serious look at the mower. If it can do it for us, it can do it for them."



Ian Underhill (left), Contracts Manager with Sandwell MBC, discusses course maintenance with his brother, Paul, Head Greenkeeper at Brandhall Golf Club

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Jack McMillan recalls the early years of his career when the stresses were more physical and compares it with now when the mental strains can be excessive.

came into greenkeeping by accident in 1946. I was leaving school and looking for a job when a vacancy arose at East Renfrewshire GC. Like so many before and after me, we all stayed long enough to become obsessed with the job.

Every aspect of the job then involved a demanding physical commitment. There was an element of physical drudgery in greenkeeping, which has left many greenkeepers of my generation with aches and pains in places they never knew they had.

We constructed a cut and fill tee at East Renfrewshire GC during the winter of 1946/47, one of the more severe winters I can remember. It involved physically digging with picks and shovels into the hillside, the cut material was thrown over the fill area until it was too far to throw, it was then wheeled forward into place by wheelbarrow, until the required level platform area for the tee had been created.

We can, with the available equipment, build and construct a new golf course from start to the finish in four or five months, without too much physical stress on those involved.

During this year's Harrogate show I met an old friend, a greenkeeper of my generation, and commented that he was looking well. His reply was that he may look all right on the outside but he very much doubted if he would pass his MOT.

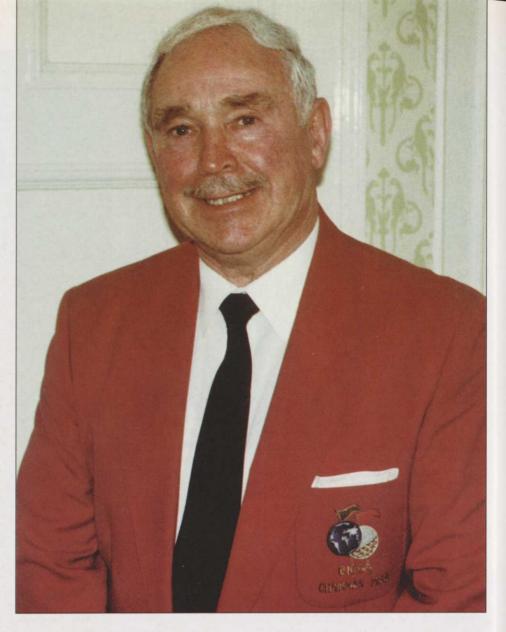
The introduction of new technology in equipment, sophisticated irrigation systems and the pressure from the changing expectations of the golfer have all, I believe, changed greenkeeping into what could now be considered a stressful job. Golf course management has been identified in the US as being a high risk stress profession.

The pressures of the job are today much more demanding than ever before. With our ever changing way of life, travel and golf abroad, televised golf and heavier levels of play, comparisons will be made and very often they will be totally unreasonable and unfair.

There are levels of work related stress that I have always felt could be considered a healthy stimulant. However there are unfortunately levels that can make life painful. We have as an industry had more than our fair share of nervous breakdowns, heart attacks and sadly, has in some instances created enough tension to have caused suicide.

The greenkeeper is always going to be the recipient in the front line when it comes to complaints from angry golfers finding fault with the weather, bad tees shots, missed putts and the price of subscriptions.

This job also involves that most sensitive of all roles communicating with people. The



### More important

greenkeeper earns a living by having to communicate with some 500 "experts" who think they know more about his job than he does. The unfortunate circumstance in this situation is that they all have differing ideas on just how the job should be done.

Private members golf clubs adopt the attitude that each and every member and their guests are your employer, with all the power that entails. Making one of the more important skills that has to be developed early in the job is that of tact and diplomacy.

The Course Manager is somewhere in between his own staff and the client/customer. To the green staff their employer is a faceless committee that they rarely, if ever, see. The Course Manager is normally the only continuity that most golf clubs have. Thankfully many of the enlightened clubs have taken the opportunity to prepare sensible on

going policy documents that can be excellent guidelines for ever changing committees.

I can remember in the 1960s going out with 16 committee members to look at a piece of available land that had been purchased to extend the golf course. It became evident that there were 16 differing ideas on how these holes should be laid out. The situation became so unmanageable that I was then instructed to find a good 3, 4 and 5 in the card and get started on the construction.

Greenkeeping could never be considered dull or boring it is the complete opposite of that.

Greenkeepers are inordinately proud of their golf course, most of them in my experience are workaholics and spend time on the job that far exceeds the length of day expected in other professions. There is always a machine to set up or repair, an irrigation leak to find and repair, you name it they will find something that requires their time. Very often sacrificing time that should be spent and shared with their families.

Talk to any young greenkeeper's wife, she knows when things are going well and more importantly she is well aware of the anguish when he is at the mercy of the extremes of weather. Something he has to live with but very often does not have the necessary resources to do anything about. She will no doubt tell you of meals missed, hurried meals, a reluctance to take holidays and very often work taken home.

better part of six months in the year. The level of play runs at about some ten thousand rounds of golf annually and they have climatic conditions that allow for year round growth. The budget provision, is I am sure, in line with that required for a Roll's Royce golf course.

The UK members are looking out onto a course that has a normal level of play somewhere in the region of at least 40,000 rounds, many I am sure a great deal more, and much of that played over seven months of dormancy when there is no recovery whatsoever from the ever increasing traffic.

Having been privileged to have visited Augusta National and been impressed with everything I saw and indeed pleased that the golf world can provide such excellent standards.

We are now seeing that quality and standard extended to similar projects here in the UK. "I would not however exactly call any of them working golf courses." They will however rightly or wrongly become the benchmark for judging standards of excellence.

I recently was taken to task by a very fine young Course Manager for suggesting that a golf course with a generous budget, limited level of play, (9,000 rounds per year) and a staffing level and equipment provision that compares with the best was only an ornament.

He also informed me that if it was considered necessary they would close the course for the winter months, or at least ensure very limbudget, levels of play and more important the level of winter play. The increased traffic over the winter months can be a major area of concern for greenkeepers. It is however an occupational hazard we have to live with.

One of the joys of playing golf is the diversity in the types of course we have - they all vary in character and they all deal with the problems of traffic and the extremes of weather differently. They will however still be compared one to the other.

The role of the Course Manager has in the main improved greatly - I recollect a cartoon in an early edition of the old Scottish Greenkeeping magazine Turf where car parking for the Secretary and the Professional were clearly defined and there was a bicycle rack for the greenkeepers that could afford a bike.

Material rewards have moved on in keeping with the new responsibilities and as would be expected with the better rewards comes the expectation for better and higher standards.

The golf course is more than a means of earning a living, it very often becomes an extension of their lives. There is an ongoing search for perfection sometimes in very difficult circumstances. In my experience the golf course managers are naturally high achievers and set their sights high and can on occasion be their own worst enemies.

There are the pressures and sometimes frustrating circumstances associated with the job eg equipment breakdowns, too heavy a work programme, the varying weather conditions, responsibility without authority and in some instances a feeling of insecurity, ever changing bosses introducing new management styles and sometimes an unclear line of authority.

Who could explain the communication they find at Harrogate, there we see the greenkeeper at his best, he is among his peers, they

### than ite itself'

As this article is published we shall be about to go through the annual ritual of having Augusta National Golf Course and the Masters on our TV screens - members of our golf clubs will be watching it on television and at the same time looking out the window at their own course "with a touch of poor me's" and wondering what is wrong.

The answer to that is clear, very simply put the Augusta National golf course closes for the ited play. The kind of situation I am sure most young greenkeepers only dream about.

Some of the comparisons made by the golfer can very often be totally misleading and illogical. Comparisons are fair when comparing apples with apples and when the playing field is level. An almost impossible situation in the golf course business with so many and varied items to be considered such as course type, staffing levels, equipment provision,

share a common bond one with the other they are comfortable and the pressure of work is for a brief period left behind - I am sure they all come away from Harrogate having enjoyed each others company with their batteries charged and ready for another challenging year ahead.

By bending Bill Shankly's quote I would suggest that greenkeeping is not about life itself, it is more important than that.

### Accessories make all the

A ttention to detail is the difference between good and great. It is what sorts the superstars out from the stars.

It is the same with golf courses. The ones you remember are those who have paid attention to the finer details. The ones which have a little something which has visitors commenting to their partners about the next time they play.

"I saw some superb tee markers at BIGGA Country Club..."

There follows some of the new ideas which are available in 1997.

■ Eagle Promotions are proud of the fact that their "Photocast" zinc tee signs relate to the tradition of golf.

"Photocast" is a photographic etching process that allows the most complex of graphic images to be deep etched into zinc, giving the look and feel of traditional



cast products without the need for expensive patterns or dies. The company can etch club emblems, crests and hole diagrams into any size of tee plate. They specialise in providing measured mark systems, backed up by a course measurement service. The zinc plates nestle into a range of

stone effect pedestals or are affixed to a shaped wooden log design. The wooden range extends to fairway signs, point of play markers and fingerposts.

The list of clubs using Eagle Promotions is growing fast. Contact Philip McInley on 01883 344244

■ Getting food and drinks out on to the greens for players' snack meals is potentially big business. However, the problem is how to transport it there, and then store it, safely and hygienically.

The Maillon Line coolbox from Portable Refrigeration Company (PRC), pictured above, offers an economical and straightforward solution. Manufactured by Monetti, the Maillon is a tough yet lightweight insulated container with a capacity of 68 litres. It offers a practical, no nonsense way of moving and storing

