

SALE GOLF CLUB

ADVISORY REPORT
ON THE GOLF GREENS

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SJO/AO

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Date of Visit
30 June 2008

Present

Mr Barry Weston - Chairman of Green Committee
Mr John Stubbs – Captain
Mr Chris Boyes – Hon Secretary
Mr Chris Hulme – Head Greenkeeper
Mr Stuart Ormondroyd – Head of Agronomy – Assistant Director, STRI Ltd

Following the inspection there was a summing up over lunch plus question and answer session when two further members of the Club joined those present.

Object of Visit

To look at the causes of the deterioration in green playing quality and make recommendations as to a short and long term cure

GREENS

I DRAINAGE

Good drainage is the primary requirement for successful green management. In many instances design encourages moisture retention and is exacerbated by shading, yet good work has been carried out over a number of years to enhance the limited drainage capability of greens through a comprehensive aeration programme, introduction of pipe drainage/Lytag bands e.g. the 1st 7th, 10th, 11th, 12th and 18th and redevelopment, (USGA greens) e.g. the 3rd, 6th and 8th. Along with surface treatments soil conditions are now improving with an amended rootzone (around 150 mm – 6 in.) build up of top dressing and broken down organic material, deeper and more vigorous rooting, minimal thatch build up and open soil conditions.

The knock on effect has been production of firmer greens which fulfil the remit of being firm yet receptive to a well struck shot. The policy is one of continuing this process.

II GRASS COMPOSITION

With improving drainage the conditions are created to develop the finer grasses fescue and bent. There has been a significant improvement in recent years through promoting a treatment schedule that encourages principally bent at the expense of the weed grass annual meadow-grass. Of the selection of greens inspected I estimate we now have around 40 to 60% bent, the rest being made up largely of annual meadow-grass. The coarse grass Yorkshire fog is much less in evidence than seen in the past and even one or two patches of fescue were noted. This policy should continue as it provides a sward cover that is much more resistant to stress such as frost and drought, a healthier turf aided by deep rooting and less thatch build up and ultimately it provides a better year round playing quality. The key is to create the environment for bent and fescue to flourish through the treatment programme and then add in oversowing to speed up the progress, as is current practice. This should continue.

III PLAYING QUALITY

A Firmness

The greens are approaching the desired level of firmness with only minor undecomposed thatch build up seen on one or two of the wetter greens. The rest revealed well diluted thatch aided by natural breakdown. Therefore, in respect of producing firm greens that are resilient to a good shot I would say they are nearly all in this category.

B Pace

The greens were slow and I agree they need to be speeded up to fulfil the remit of rewarding a good shot and penalising a bad one by degrees and making the golfer think about each shot they take and test their skill. I would be looking for around a consistent 8 ft. reading on the Stimpmeter, which should be sufficient for the vast majority.

C Uniformity

This is the primary playing quality requirement. However, due to differential growth between the weaker annual meadow-grass and the stronger growing bent, greens were uneven. The degree of unevenness varied from green to green but all were affected to a greater or lesser extent – see Photograph 1. This needs to be remedied through initially encouraging the weaker sections of grass to grow up to the summer height of cut and then refining stronger growing patches down to this level.

Photograph 1
Differential growth giving poor playing quality – 10th Green



D Presentation

As a result of the above presentation was poor but can be improved through refining sward texture and improving pace and uniformity; the three are inter-connected.

IV DISCUSSION

To develop good playing quality in the spring you have to start with reasonable soil conditions, a good healthy grass cover and minimal disease scarring. The feedback was that this was indeed the case in March 2008. The next stage is to encourage weaker and thinner areas to infill and grow up to the summer height of cut. This basically involves surface aeration, top dressing and fertiliser application. Stage 2 when there is growth is to knock down and refine the stronger growing elements of the sward down to the summer height of cut through mowing frequency, reducing the height of cut and increasing verticutting/rolling. With early work, including top dressing in March, the prospects looked favourable as reported in our report dated Monday 7 April.

The question therefore has to be what has gone wrong in the interim? The answer is there have been a number of problems, namely:

- A** A very cold spring with its limited growth and recovery capacity
- B** For various reasons staffing levels have been reduced, limiting treatments that can be given

- C Chris has been cautious in developing playing quality during the dry spell in particular as the irrigation system has been in effect defunct.
- D For the above and other reasons treatments to complete the stages discussed above were not completed, i.e. no further top dressing from March, no use of growth regulator and a reduced verticutting/grooming/brushing programme.

Following a discussion about the treatment programme in detail in the recommendations section below I have confirmed good existing practices, suggested amendments to the existing programme and suggested new elements with a view to restoring the desired playing quality standard as soon as possible and maintaining it for the rest of the season plus preventing, or at least minimising the condition for next year and years to come. Implementation will depend upon resources and especially staffing levels/available man-hours and maximum use of those available. Frequency, timing and intensity (degree) of each treatment given will be adjusted by Chris on a day to day and week to week basis with a view to maximising playing quality without harming the turf in the short or long term. I feel we can continue with the improvement programme in respect of drainage and grass composition whilst still maintaining playing quality. It is a juggling act but can be achieved. Back up from the Club will be important here in speeding up the rate of progress.

V RECOMMENDATIONS

[1] Immediate Work

With Captain's Day looming it was agreed that top dressing be suspended until the following week when it can be more practically achieved. However, presentation, pace and uniformity can be improved to a degree by reducing the height of cut by ½mm, verticutting and rolling under dry conditions. A double cut and a roll would be advantageous for the week-end.

The following week plan to give a light verticut again and top dress between ½ and ¾ tonne per green.

[2] Treatment Programme

My comments on the treatment programme following discussion are as follows:-

A Irrigation

The irrigation system is largely redundant and as a result hand watering has been the only effective means of irrigation. As stated in previous reports, including the last one (see Item 3 Pages 6 and 7) the lack of an automatic system has contributed to the problems with playing quality this season and it could have been a lot worse if the weather had been hotter and drier. Secondly, with the current staffing level an automatic system is essential and therefore the previously discussed audit has to be a major priority. I suggest you have a word with Adrian Mortram as soon as possible.

An irrigation company were on site with a view to at least having a manual option on the irrigation system for Chris to use, especially on the newer drier greens. This

at least would be a step in the correct direction and give you a better option to develop playing quality in the right conditions.

With regard to irrigation policy, the first step is to develop a higher fine grass content which inherently has better drought resistance and so less requirement for water. This is one area where grass composition improvement will be of benefit. Secondly, fine grasses naturally develop deeper root growth and hence better drought resistance so aeration remains a vital component of the programme as this is the prime method of developing new root growth, along with enhanced drainage. With limited staffing levels a wetting agent programme is absolutely vital as this will help offset drought stress and thereby encourage playing quality development. The current product is satisfactory but needs to be applied 4 to 6 weekly, depending upon weather conditions. Always start early in the season before the soil profile has dried out as this will be more effective and longer lasting. For 2008 I would strongly consider trialling the new surfactant Revolution from Aquatrols, (eg. through Farmura) as this certainly has the potential to be a step up in surfactant advancement and water management of greens.

The next element is hand watering with a wetting agent gun as required and here I would simply confine this to drier greens in hotter periods. Finally, we then have the irrigation system to be used to generally water the flatter areas of green and designed to simply keep the grass alive. An efficient system will give the potential to achieve a more uniform distribution and control exactly how much water is being put on where. Good surface aeration using the Sarel roller or Star slitter will also help the process, i.e. avoiding run-off from higher ground and instead ease of penetration.

B Top Dressing

Top dressing is another fundamental operation that will dramatically improve playing quality. The benefits include levelling out the surface, encouraging recovery in weaker areas, providing a little nutrient for the grass to grow and infill and the sand component opening up the litter layer which aids in the natural breakdown of thatch. Top dressing also helps to firm up the surface and has a very positive benefit in terms of protection against stress such as cold easterly winds in the spring and hotter drier weather in the summer.

To your credit the Club have wisely invested in a good quality top dressing material and very importantly bulk top dresser to dramatically speed up the operation and minimise disturbance to play. You have also allocated 120 tonnes of top dressing per year, yet to-date this season only 1 application has been applied in March. This is another significant contributory factor to lack of playing quality at the present time. Frequency of application and amount applied will have to be judged by Chris but as a guide I would be looking at 3 to 4 weekly with an application of between ½ and ¾ tonne/green. Pay particular attention to the March to June period when we are developing playing quality. Reinstate the programme as soon as possible.

C Fertiliser Programme

The general fertiliser programme is satisfactory in terms of providing just sufficient nutrient to keep the fine grass healthy, yet the annual meadow-grass slightly under stress. This is the level we are aiming for, yet at the same time retain playing quality. It is very much a juggling act but is what is required. On the day of the visit I felt sward vigour was satisfactory and no further fertiliser need be applied in the short term. Remember over-fertilisation will only encourage annual meadow-grass, thatch build up and reduce playing quality so it is very much of a balance.

D Aeration

The current programme is satisfactory with a combination of surface, mid and deep aeration work. The Star slitter is satisfactory, although I would make further use of the Sarel roller during the summer just to keep the immediate surface open, well aerated and free draining. The variety of treatments in advance of top dressing, i.e. verticutting, mowing, slitting, and then top dressing is all good practice but if time is pressing and staffing levels reduced, concentrate on the verticut, mow and top dressing alone. The important point is to make sure the top dressing is applied. Elsewhere solid tining with the Verti-Drain unit plus occasional hollow tining is required and is satisfactory, yet for those greens previously pipe drained or with Lytag bands I would recommend Vibroslitting in the late autumn or the use of the Blec Sandmaster (again in the autumn) which will aid lateral movement of water through the profile to the drains. Time for October/November, no later.

With regard to drainage generally I would favour pipe drainage rather than the Lytag banding but ensure the profile makeup is adequately firm to prevent future settlement, as noted on the 11th.

E Mowing

Daily mowing is essential and should be maintained. The preference would be for hand mowing but under current staffing levels we will have to rely on triple mowing. Nevertheless, continue hand mowing on the 4th in particular and with regard to the current actual height of cut I would recommend a ½ mm reduction on the triple mower. Groomers have been employed on the triple yet very lightly. This needs to be more vigorous within its range to refine sward texture. However, take care on perimeters not to accentuate wear.

F Verticutting

Increasing the use of the brush attachments and purchasing rotary units would help to refine sward texture and improve playing quality. This process can be inter-mixed with grooming. Whilst there is no need for scarification I would look at more intensive verticutting in the future, especially prior to top dressing in good growing conditions.

G Rolling

The Club have the benefit of the Ride-On roller unit. However, it has not been employed this season. I would certainly see this as a means of improving playing quality and especially pace. Only use when surfaces are firm and dry, never when moist or wet as this will cause compaction. Any polishing affect will be offset by Sarel rolling/Star slitting. Pay particular attention to competitions where a double cut and a roll will give you the desired playing quality without having to shave the greens which is simply counter-productive and weakens the grass. Bear in mind rolling is not a means of gaining pace, rather a final polish on the surface after playing quality development has been achieved and routine maintenance completed.

[3] Grass Composition

The routine maintenance programme will improve the fine grass component and as stated above it is basically achieving a balancing act between weakening annual meadow-grass and encouraging bent and fescue. Oversowing speeds up the process but unless there is a major problem I feel the real benefit will be in autumn rather than spring when ground, weather conditions and other factors are much more in your favour. Therefore put all energies into this time of year, i.e. end of September/beginning of October, particularly as you now have your own seeder. The reported mix is a combination of fescue and bent and this is considered satisfactory. During the season if time permits I would also favour localised oversowing of weaker thinner areas by surface pricking and working in additional top dressing mixed with fine seed. Bear this in mind.

[4] Growth Regulator

The new product Primo MAXX was trialled in 2006 but not taken up for 2007 or 2008. I confirm in your situation it would help improve playing quality, particularly during the April to June period. I would recommend its reinstatement and to follow a complete programme within the growing season, as recommended. If the weather is on the cold side in April and May then apply at half the rate, i.e. 0.2 litre/ha. Then as growing conditions improve increase to 0.4 litre/ha. Add in iron or fertiliser, especially if the annual meadow-grass is a little weak. I confirm it would be worth starting again now for the rest of the growing season.

[5] Surface Blemishes

Continue to hand weed out the odd broad-leaved weeds and the only few seen were on the practice putting green in front of the Clubhouse. A dense healthy sward will minimise moss invasion as well as spreading wear through careful pin position. With no insect pests or worm activity of note the only other item is disease and it was pleasing to see virtually no disease at all on the day, apart from the odd superficial fairy ring. Continue with good cultural practices to minimise Fusarium activity and try and keep fungicide use to a minimum. No fungicide applications to-date this season is excellent and certainly the improved grass composition will help here as annual meadow-grass is very much more prone to attack than bent and fescue.

[6] Consistency

One of the problems with management has been the variety of greens on the course in terms of drainage capability and makeup plus design and shading. Efforts have been made to improve the consistency, i.e. enhancing drainage on the wetter greens. The key issue now is one of the newer greens such as 3, 6 and 8. However, I feel the policy should be reversed in that treatment should not be completed on greens as a whole because the 3 newer greens are for instance drying out more quickly. I would instead push the playing quality on all greens and try and compensate on the newer greens through the new irrigation policy recommended. Whilst more man-hours are involved it is important to adjust the programme so that wetter lush greens receive more verticutting and less fertiliser for instance, yet for higher drier greens the policy is reversed and more attention is paid to the wetting agent programme as an example. This is particularly important on the higher and more exposed new 6th green – see Photograph 2.

Photograph 2
Free-draining 6th Green – need for treatment programme adjustment



Subtly altering the treatment programme from green to green will achieve better consistent playing quality. Remember consistency is another important playing factor, i.e. within greens, from green to green and from day to day, weather permitting.

[7] 8th Green

I confirm that the increasing amount of clover on the surround to the 6th and 8th greens (see foreground of Photograph 2) should be treated with selective weed killer and you will need a broad-spectrum product especially for clover such as Rigby Taylor's Bastion T or equivalent. Treat in the short term. This will also help prevent invasion on to the putting surfaces.

[8] Vandalism

The repair following diesel damage on the 1st and 4th greens has been successful and the sward has been protected. I now judge the turf on both greens to be mature enough to withstand the standard wear and tear, so whilst retaining the hand mowing I would gradually improve playing quality through grooming, brushing and then light verticutting plus reducing the height of cut. The renovated areas are a little firmer than the rest of the green, but this will iron out once a litter layer begins to build up and the rest of the green becomes a little firmer through management.

On the subject of tree thinning to the left hand side of the 4th I feel the best approach is to develop a corridor rather than taking out odd trees. Therefore I would suggest the single sycamore to the back left hand side and the first 2 silver birch as a starting point.

VI RESOURCES

Although not inspected on the day discussion on machinery gave the impression the Club is investing in upgrading existing machinery and adding to the existing pool. This should be continued, particularly with regard to replacing the sprayer.

The problem area is obviously staffing levels which was commented on in the last report. This is clearly having a major impact on course management and in particular green playing quality. I understand that like many Clubs you do have limited resources in the current climate but it is a good quality golf course that will increase the membership so everything should be done to motivate staff and maintain at least a minimum level which I would put at Chris and 4 full-time trained greens staff plus 1 part-time summer helper. Reduced staffing levels **will** impact on green playing quality, as well as the rest of the course.

VII SUMMARY

- [1] Despite reports of a good winter and early spring, playing quality on greens has deteriorated. Putting surfaces were firm but unfortunately slow, bumpy and inconsistent.
- [2] The prime cause of the problem has been differential growth of weak annual meadow-grass and strong growing bent.
- [3] A number of factors have contributed to the problem, including weather conditions, reduced staffing levels and the lack of an efficient irrigation system.
- [4] The report addresses these issues as well as confirming good existing practices that have worked well and should be maintained, as well as suggesting amendments to the existing programme and new additions.
- [5] Chris can adjust the frequency, timing and intensity of treatment depending upon day to day conditions but overall I would recommend a more aggressive policy in

completing treatments that will help playing quality as well as enhanced drainage and grass composition

Signed:

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