Largs Golf Club

Advisory Report on the Golf Course incorporating the STRI Programme

Report Date: 12th August 2016
Consultant: Ian Craig

Largs Golf Club

Date of Visit:	25th July 2016
Visit Objective:	To review the prevailing condition of the course, take further objective measurements from the indicator greens and confirm ongoing maintenance requirements.
Present:	Ms Doreen McConnell – Captain Mr Roger Morgan - Business Management Chairman Ms Debbie Boyce - Secretary Mr Iain Barr – Course Manager Mr Iain MacDonald – 1st Assistant Mr Ian Craig – STRI Ltd
Weather:	14°C overcast & showery

Headlines

- The general condition and presentation of the course was superb despite difficult conditions during the previous winter and spring.
- Organic matter accumulations within the upper soil profile continue to reduce in response to sound greenkeeping practices.
- Soil pH has increased following Calcium Carbonate applications in recent years and this is having an extremely positive effect on soil conditions and nutrient availability.
- The walkways and heavy traffic routes have been adversely affected by the extremely wet conditions throughout the winter months.

Key Actions

- Solid tine aeration and sand topdressing to continue in order to control organic matter accumulations.
- Sand topdressing totals to be maintained at 120-150 tonnes/ha
- Browntop Bent overseeding to the weaker greens.
- Verticutting and sand topdressing to heighten ball roll qualities.
- Mechanical refinement and potential graminicide use to control coarse textured ryegrass within the collars and aprons.

Objective Measurements

Measurement	Average	Target Range
Soil Moisture (%)	37.3% (range 36-38%)	15-30%
Hardness (Gravities)	84 Gravities (range 82-85)	85-110 g
Smoothness (mm/m)	20.8 mm/m	<25 mm/m
Trueness (mm/m)	7.9 mm/m	<10 mm/m
Green Speed	8 ft 6 in	9-10 ft
Organic Matter 0-20 mm (%)	7.2%	4-6%
Organic Matter 20-40 mm (%)	3.2%	<4%
Soil pH	5.5	5.0-6.0
Phosphate (P_2O_5)	12 mg/l	>10 (mg/l)
Potassium (K_2O)	78 mg/l	>30 mg/l

Key: In Target | Marginal Variance | Out of Target

Photo Observations and Comments

Figure 1: The greens are in excellent condition, demonstrating a fine blend of browntop bent and annual meadowgrass.

Figure 2: Drainage work to the 10th green has been successful in drying and firming up this surface and extending playability in response to wetter weather.

Figure 3: Populations of Yarrow were noted around certain greens and a selective herbicide application will be required during a period of strong growth.

Figure 4: The 5th medal tee has established well. Some verticutting is required to clean out the canopy and facilitate the incorporation of sand topdressing at the surface.

Figure 5: The 14th winter tee has been successfully grassed using the Bar Extreme perennial ryegrass seed mix. Establishment of a dense sward has been achieved within eight weeks of sowing.

Figure 6: The positioning of this winter tee will allow for the successful exclusion of trolley traffic around the 13th green, thereby retaining better grass cover during the winter and spring months.

Figure 7: The 14th green demonstrates higher populations of annual meadowgrass and as a result, drought stress conditions become evident more readily during warm dry spells.

Figure 8: A number of collars and green surrounds have populations of coarser textured ryegrasses which are giving rise to discrepant lies within the fine turf.

Figure 9: The rubber matting and dwarf perennial ryegrass used to re-establish grass cover to concentrated traffic routes has been very successful. This section was sown in April and opened to traffic in May. Excellent grass cover remains despite 10 weeks of heavy traffic and wet conditions.

Figure 10: The general condition of the course was superb, in terms of both presentation and playability.

Recommendations

Greens

- Soil analysis indicates that pH is now within the ideal target range and as a result, the applications of Microcal can be relaxed for the time being. Annual soil testing should inform the necessity for any future applications.
- A continued reduction in organic matter has been noted through the upper soil profile despite a relaxation in cultivation during the renovation weeks in August. This is a likely result of the more favourable soil pH giving rise to a natural increase in soil microbial activity and a natural breakdown of organic matter. The focus should now be to continue with solid tine aeration and sand topdressing.
- The sand topdressing totals should be a minimum of 120 but more ideally 150 tonnes per hectare of the Hugh King washed dune sand. This should be applied in light, regular dustings through the growing season with heavier dressings applied following aeration. Light dressings can also be applied during the winter months in an effort to retain surface firmness and ball roll throughout the year.
- The current topdresser is in poor repair and the purchase of a new machine should be considered a high priority in order to facilitate the continued organic matter reduction.
- The club should also look to purchase a Sweep & Fill brush. This machine is particularly effective in working sand down through the soil profile following aeration.
- Fertiliser inputs can also be relaxed somewhat for the time being in response to the increased soil pH as this is helping to release much of the locked up nutrient within the soil. Maintaining soil pH at this level will allow the greens to be managed in a more sustainable manner, by reducing the necessity to apply fertiliser as often.
- The surfaces were noted as somewhat “grassier” than recent years and some additional verti cutting followed by sand topdressing will help to further heighten ball roll qualities, in line with previous years.
- The weaker greens, such as 10 & 14 where annual meadowgrass dominates the sward species composition, should be overseeded with browntop bent at a rate of 5-8g/m at least twice during the growing season.

Green Collars, Surrounds and Approaches

- Coarse textured perennial ryegrass was noted to a number of collars and aprons. This species is impacting both visually and texturally and resulting in discrepant lies around the greens. Additional refinement in the form of verti cutting and grooming/brushing should help to “lift and chop” some of these coarser grasses thereby reducing their impact on the fine textured sward.
- We also discussed the possibility of the use of a selective graminicide such as Rescue (Syngenta) to control these coarser species, it would however, be recommended that a trial area be treated first in order to assess the level of grass loss following an application of this type.

Selective Herbicide

- Broadleaved weed populations are high throughout the course and will require an application of selective herbicide will be required during a period of strong growth. Yarrow was noted to certain areas, particularly around greens and this will require an application of herbicide containing Fluroxypyr such as Greenor (Rigby Taylor)

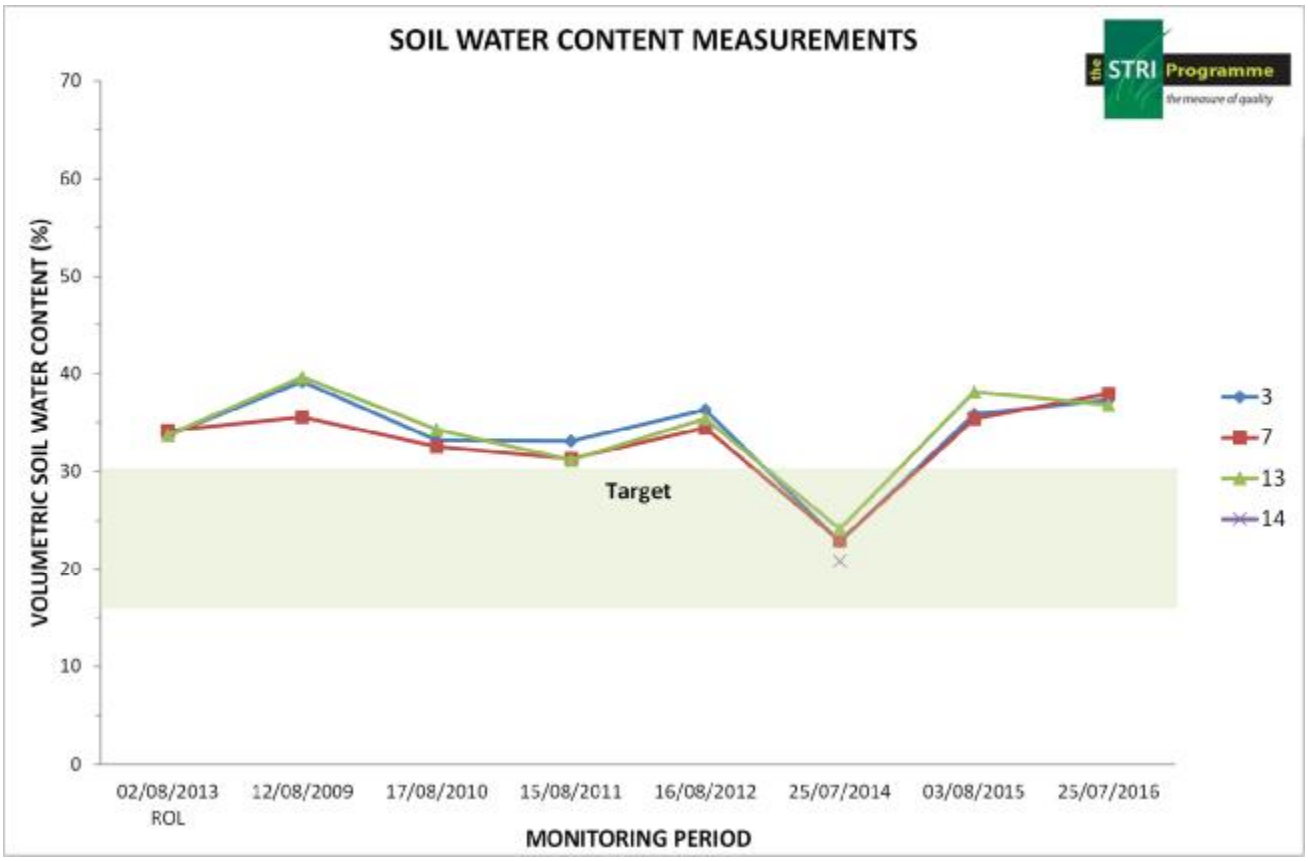
Pathways

- The walkways and high traffic routes have been subject to increased work in recent years involving verti-draining and sand topdressing. This work should continue during the growing season in order to continually improve the soil structure and ability of the turf to withstand heavy traffic during the wetter winter months.
- The more out of play areas should be suitable for use of the rubber matting and sowing with the Bar Extreme perennial ryegrass. This has been extremely successful so far and grass cover has been retained to sensitive areas subject to concentrated foot traffic.

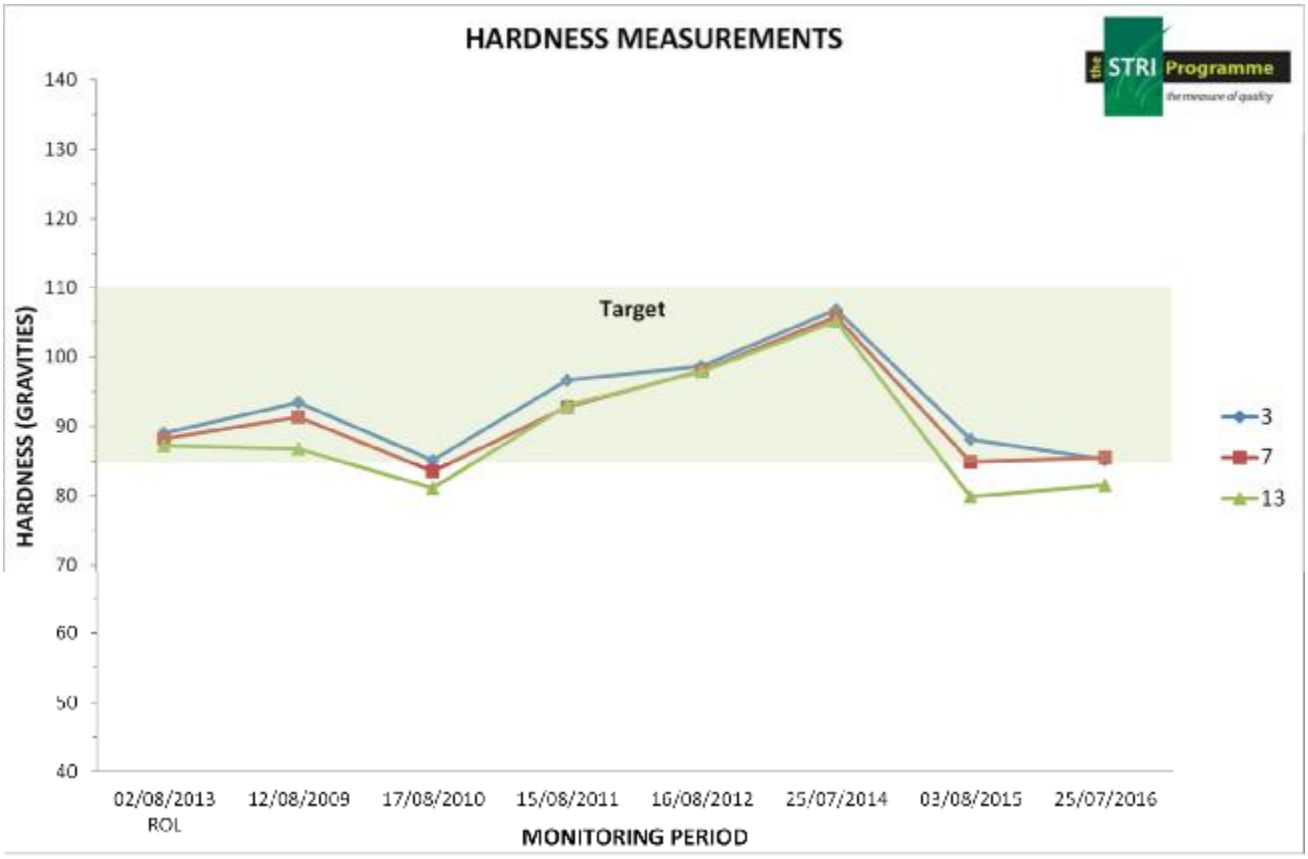
Signed

Ian W Craig BSc (Hons), MBPR
Turfgrass Agronomist, STRI Ltd

Objective Data

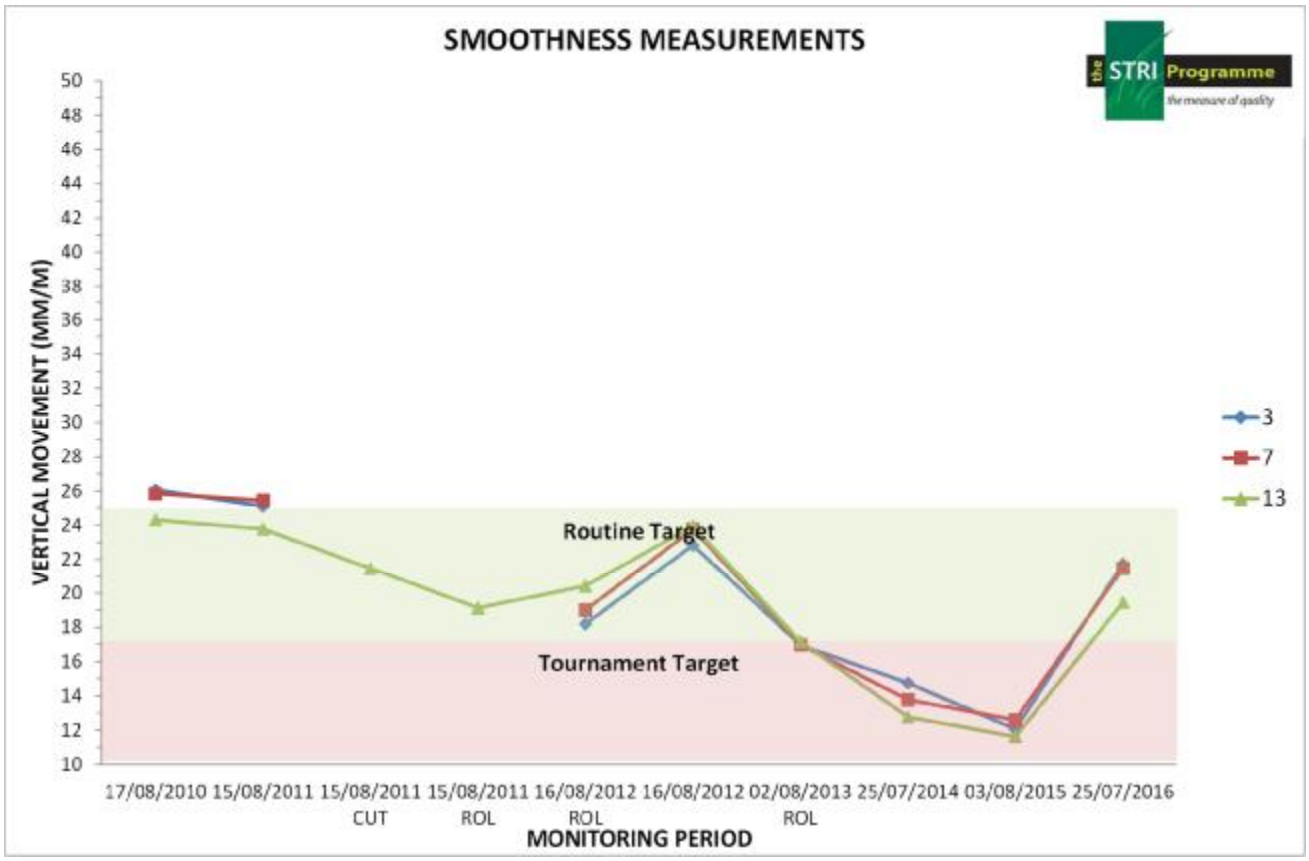


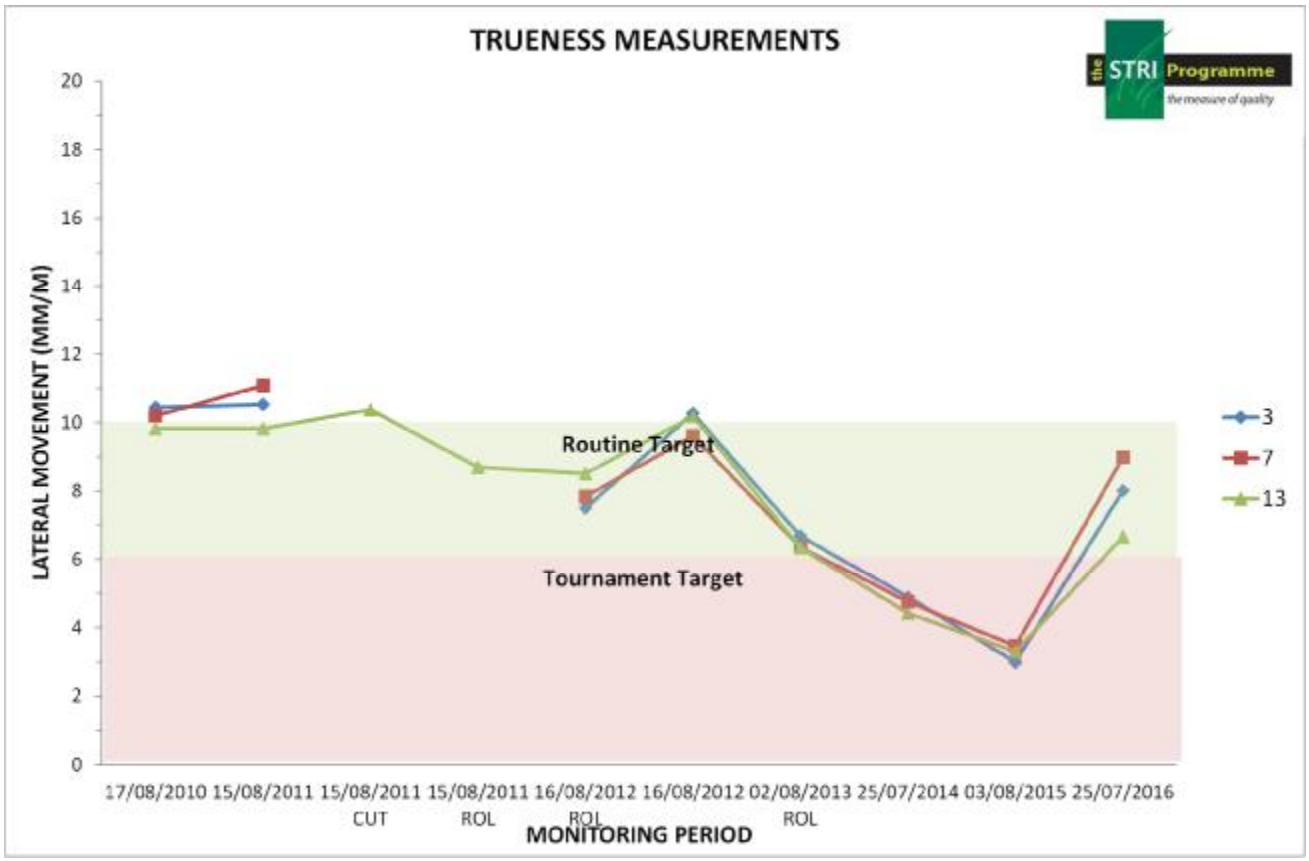
Soil moisture was out of target across all three indicator greens in response to heavy rainfall in the days leading up to the visit. Moisture was very consistent from green to green and across each individual surface.



Surface firmness remained broadly within target range despite the high levels of soil moisture. This is a direct result of reducing organic matter within the upper soil profile. The 13th green remains slightly less firm than the others indicating that additional sand may be required to deliver greater consistency in firmness.

Objective Data (continued)





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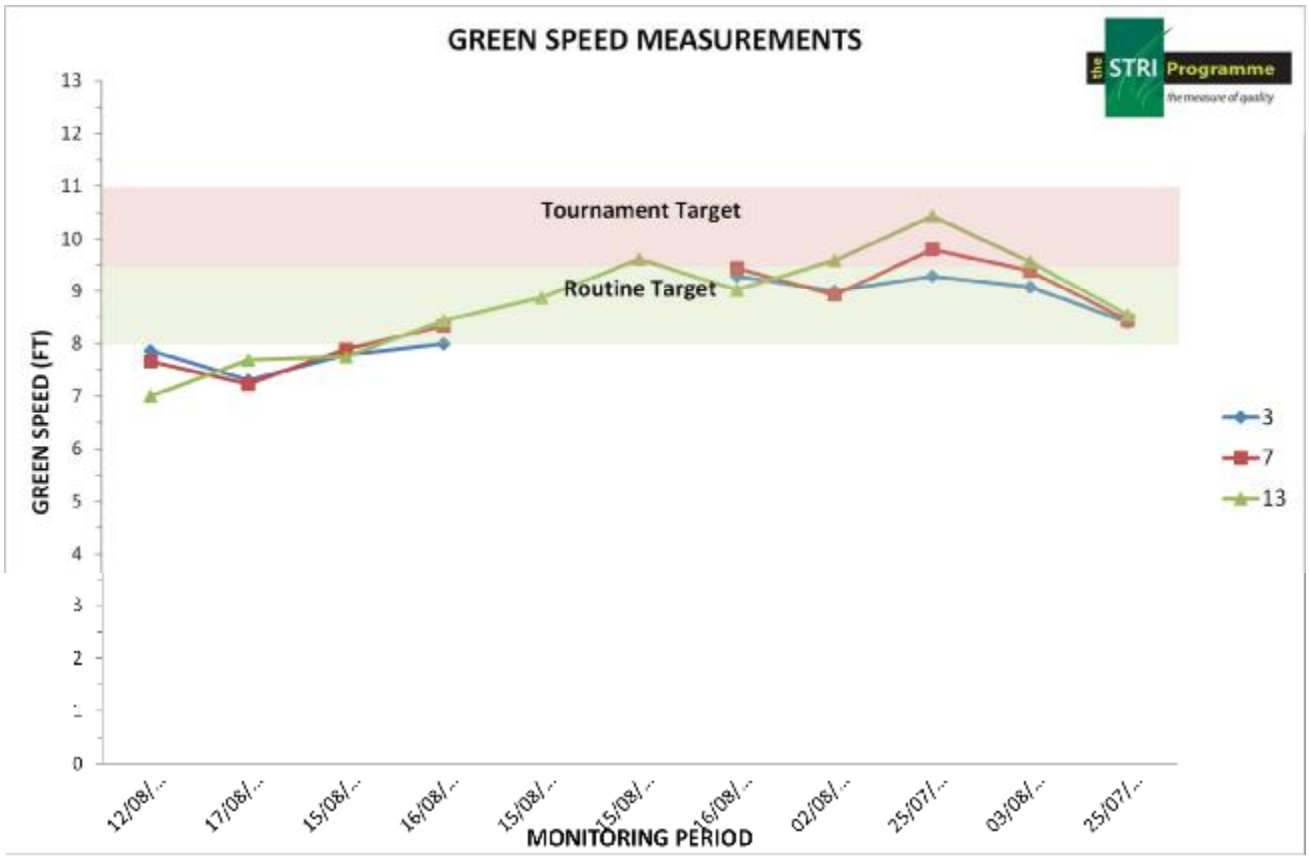
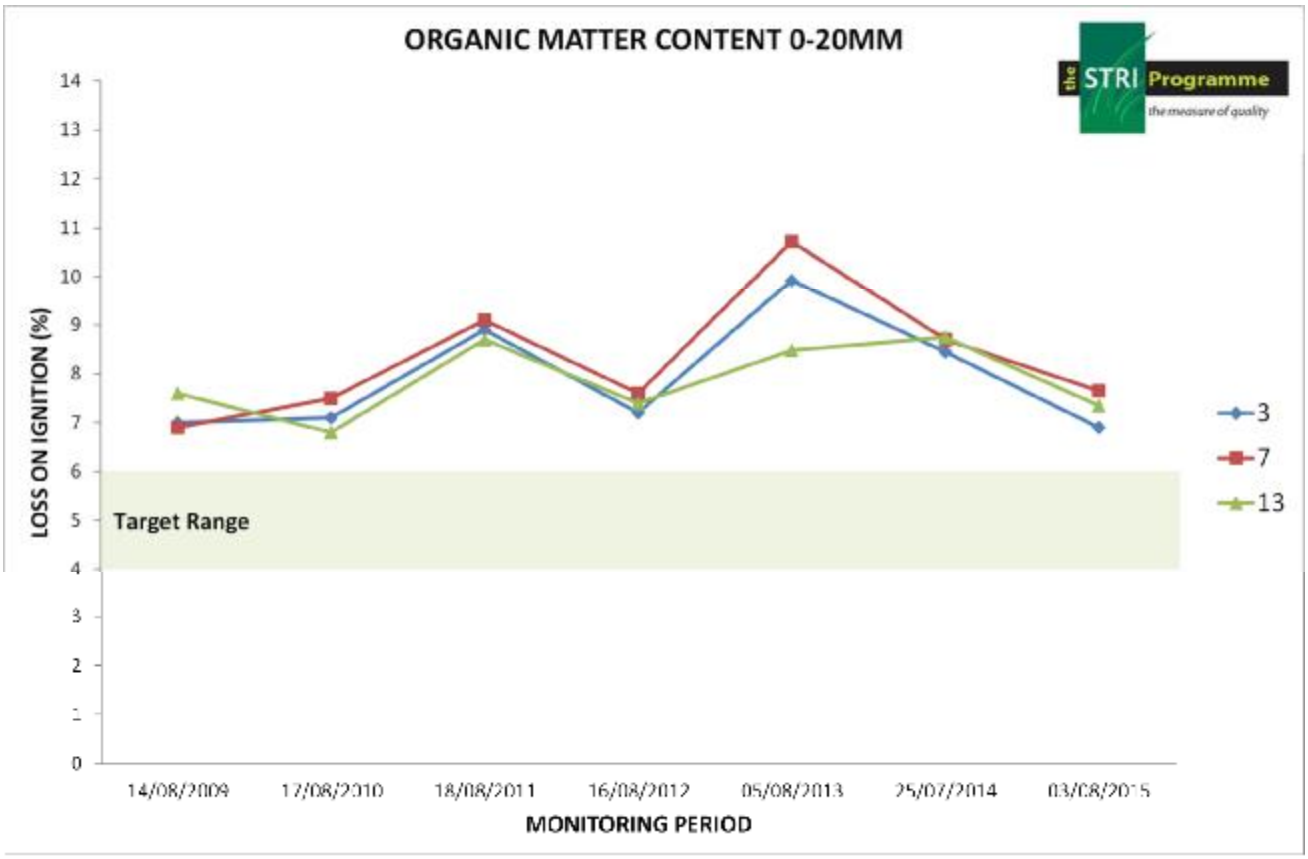
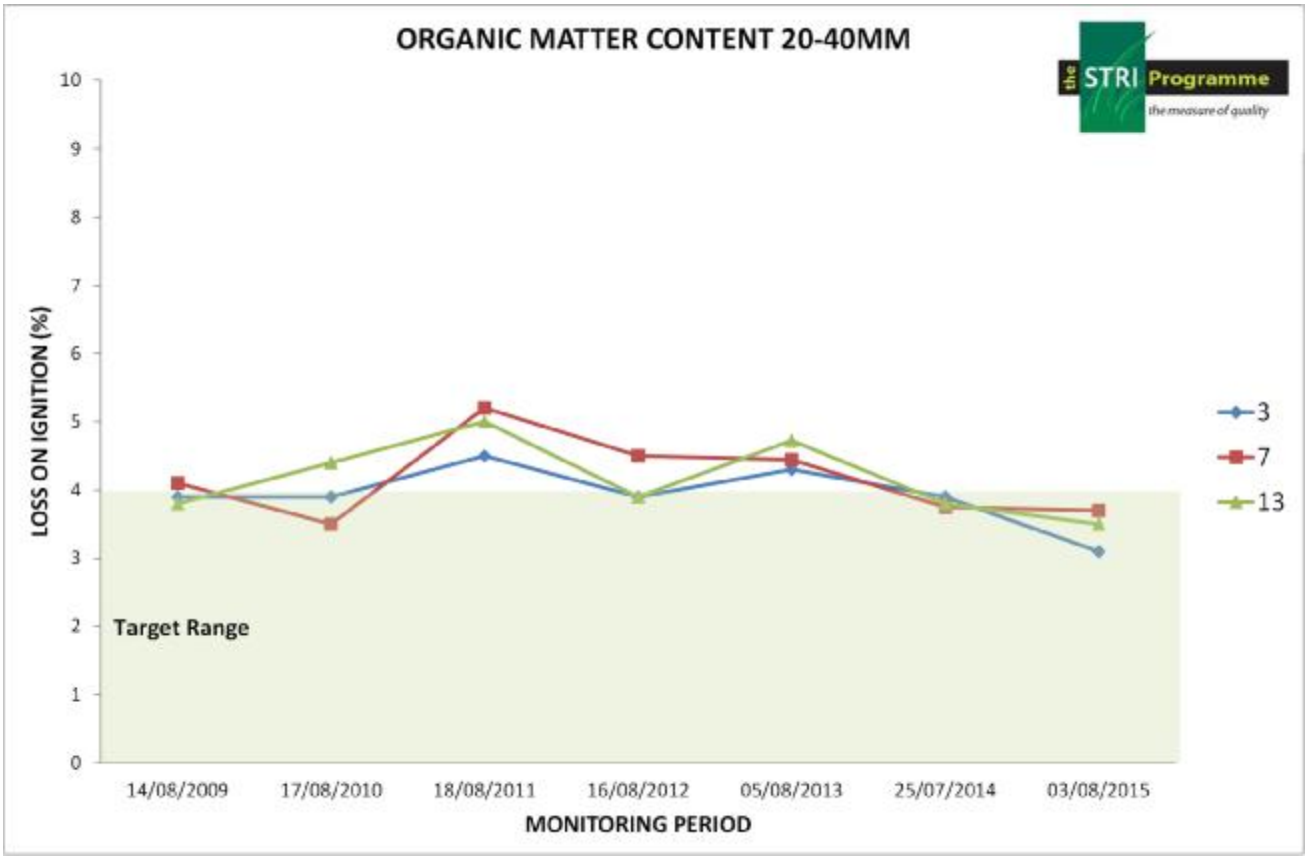


Smoothness, Trueness and green speed have been adversely affected by the grassier nature of the greens following the increased pH and natural release of nutrient from within the soil. Additional verticutting and sand topdressing should help to further heighten ball roll qualities in line with previous years.

Soils Laboratory Data





Organic matter continues to reduce through the upper soil profile in response to good cultural practices, sand topdressing and sensible inputs.

STRI

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ORGANIC MATTER CONTENT

CLIENT: LARGS GC

ADDRESS: IRVINE ROAD,
LARGS,
NORTH AYRSHIRE, KA30 8EU

DATE RECEIVED: 23/06/16

DATE REPORTED: 29/06/16

RESULTS TO: IWC

TEST RESULTS AUTHORISED BY:
Michael Baines, Laboratory Manager

CONDITION OF SAMPLE UPON ARRIVAL: MOIST

SAMPLE NO	DESCRIPTION		LOSS ON IGNITION (%)*
A14981/1	3	0-20 mm	7.5
		20-40 mm	3.1
		40-60 mm	2.6
		60-80 mm	2.5
A14981/2	7	0-20 mm	7.2
		20-40 mm	3.2
		40-60 mm	2.5
		60-80 mm	2.7
A14981/3	13	0-20 mm	6.8
		20-40 mm	3.2
		40-60 mm	2.5
		60-80 mm	2.5

* ASTM F1647-11 Standard Test Methods for Organic Matter Content of Athletic Field Rootzone Mixes (Method A)

ACCREDITED
Testing Certificate 2159 - 01

THE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED

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SOIL CHEMICAL ANALYSIS

CLIENT:

LARGS GC

RESULTS TO: **IWC**

DATE RECEIVED:
23/06/2016

Lab No.	Source	pH	P_2O_5 (mg/l)	K_2O (mg/l)
A14981/1	GREEN 3	5.3	11	48
A14981/2	GREEN 7	5.8	11	49
A14981/3	GREEN 13	5.4	13	137

Mr M A Baines, Soil Laboratory Manager

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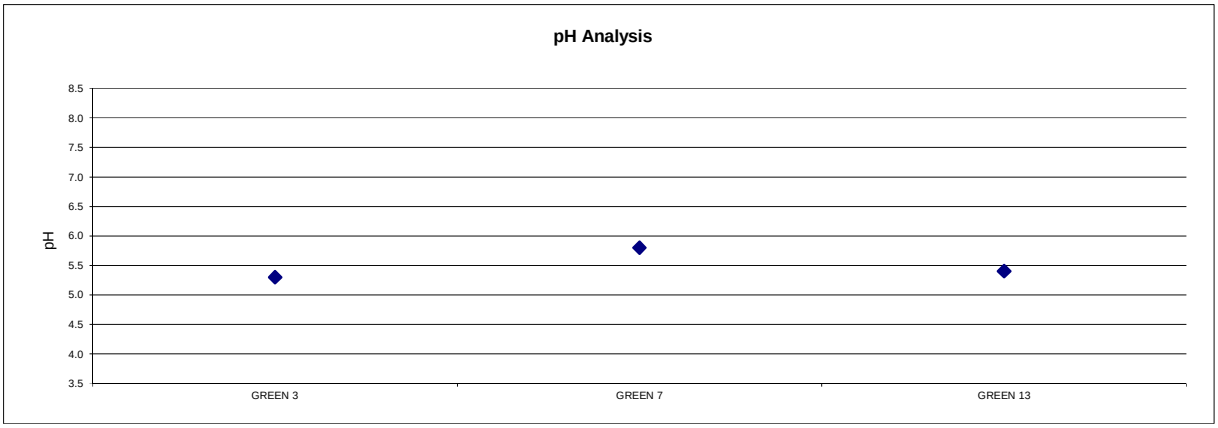
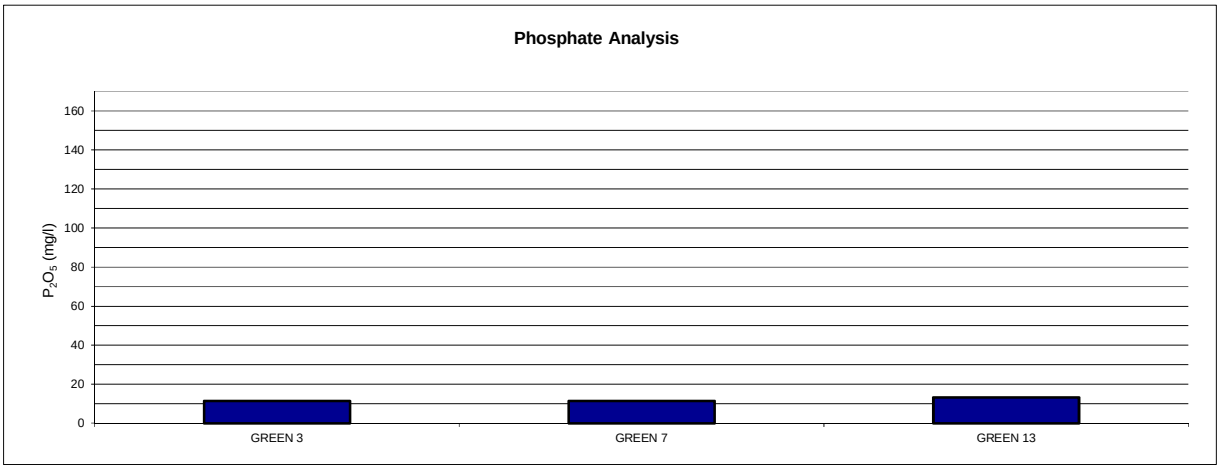
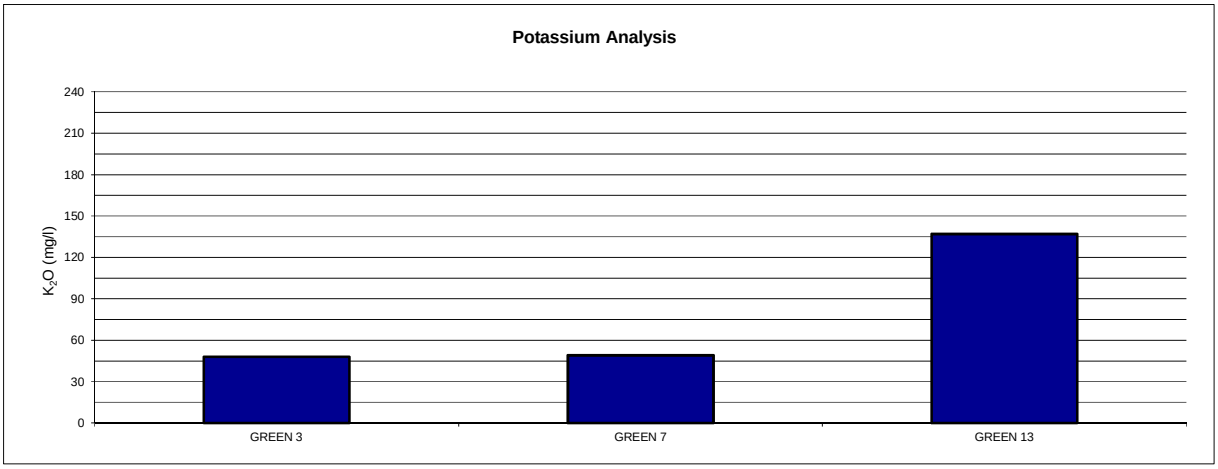
SOIL CHEMICAL ANALYSIS LARGS GC Date: 23/06/16







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