



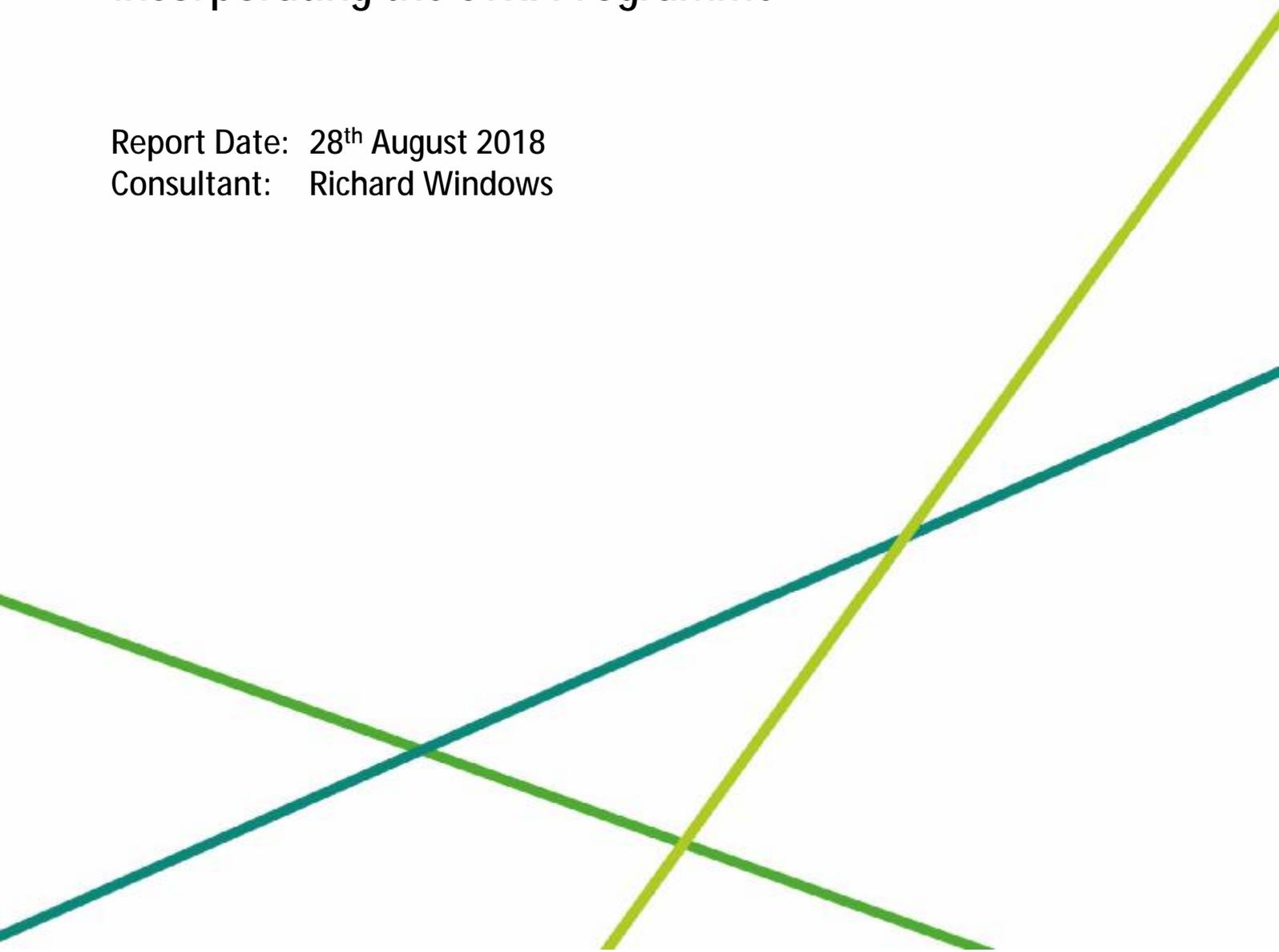
Making great sport happen



# LADYBANK GOLF CLUB

## Advisory Report on the Golf Course incorporating the STRI Programme

Report Date: 28<sup>th</sup> August 2018  
Consultant: Richard Windows



## Ladybank Golf Club

Date of Visit: 22<sup>nd</sup> August 2018

Visit Objective: To review the late summer condition of the course, take objective measurements of green performance and confirm ongoing maintenance

Present: Brian McSkimming - Captain  
 Jim Hair – Vice Captain  
 Gordon Simpson – Club Manager  
 Richard Windows – STRI Ltd

Christine Mathers – Ladies Vice Captain  
 Dugald MacGregor – Green Convenor  
 Colin Powrie – Course Manager

Weather: Wet start with 6-7 mm rain followed by warm and sunny spells.

### Headlines

- The feedback regarding the condition of the course has been excellent this season.
- The dry weather allowed firm and running conditions to be presented for play.
- Drought stress has resulted in anthracnose basal rot and grass loss to greens 2 & 8.
- Some Take-All patch disease was present to most greens due to alkaline irrigation water.
- The dry summer and disease issues sharpens the requirement to further improve sward composition.
- Increasing brushing and hand mowing remain important objectives to enhance polish and quality.
- A range of architects are being consulted to commission a bunker appraisal.

### Key Actions

- Implementing a robust fescue overseeding programme using a dedicated seeder is required.
- Trial the Vredo Super Compact or Blec Multi seed for fescue and bent overseeding.
- Sustain bent seeding to weaker sections of greens with the current Sarel roller.
- Areas of Take-all patch should be overseeded by hand with fescue.
- Implement regular light feeding with the 15:0:0 to weaker greens, e.g. 2 & 8.
- Sustain brushing to refine the texture of the bentgrass.
- Aim to increase the frequency of hand mowing to enhance greens presentation and performance.
- A preventative fungicide programme should be implemented this autumn/winter.
- Apply a penetrant wetting agent (e.g. Despatch) to dry areas on surrounds and fairways.
- A bunker development programme is required involving an architect and shaper.

### Objective Measurements

Measurement	Average	Target Range
Soil Moisture (%)	28.4% (range 27-31%)	15-30%
Hardness (Gravities)	103 Gravities (range 101-104g)	90-120 g
Smoothness (mm/m)	24.3 mm/m	<25 mm/m
Trueness (mm/m)	7.2 mm/m	<10 mm/m
Green Speed	9 ft 4 in	9-10 ft
Organic Matter 0-20 mm (%)	7.0%	4-6%
Organic Matter 20-40 mm (%)	4.2%	<4%
Soil pH	5.3	5.0-6.0
Phosphate (P <sub>2</sub> O <sub>5</sub> )	11 mg/l	>10 (mg/l)
Potassium (K <sub>2</sub> O)	86 mg/l	>30 mg/l

Key: In Target Marginal Variance Out of Target

## Photo Observations and Comments



Figure 1: The greens were generally in excellent condition and have performed very well this season. Texture was good, firmness was in target and ball roll qualities were in target.



Figure 2: Due to prolonged use of alkaline irrigation water and the predominance of the susceptible bentgrass in the greens, Take-all patch is present to most greens causing some minor surface blemishes.



Figure 3: It is interesting and encouraging to see distinct populations of fine fescue are in the Take-all scars to the left of 11 illustrating fescue establishment is possible and should now form part of the strategy moving forward.



Figure 4: Anthracnose basal rot has seriously affected 2G & 8G but the botanical improvements to 2G has resulted in less grass loss compared to the last severe outbreak several years ago. That said surface quality has been significantly affected.



Figure 5: A good job has been done to re-establish bentgrass in the sward via overseeding but this should be augmented with intensive fescue overseeding to 2G & 8G immediately.



Figure 6: Several areas of green surround and approach have suffered in response to the dry weather and will require some renovation to restore grass cover.

## Recommendations

- The dry summer weather combined with the outbreaks of anthracnose and Take-all patch illustrate the requirement to make further improvements regarding grass composition.
- Most of the greens are wonderfully dominated by browntop bent but this grass is susceptible to Take-all. It is also more drought susceptible compared to fescue and therefore its presence in the naturally drier greens such as 2 & 8, would be a great benefit. In addition, a blend of bent and fescue provides the optimum sward in terms of consistent year-round performance and quality.
- So, to move this forward, fescue overseeding should become a regular part of the annual maintenance programme. To do justice to the process will require investment into the appropriate machinery either in the form of a Vredo disc seeder or Blec Multiseed dimple seeder.
- It is hoped one of these units could be obtained on hire or demonstration shortly to facilitate a full fescue overseeding to all greens using a high-quality mix such as Barenbrug Bar Fescue at 20-25 g/m<sup>2</sup>.
- For 2G & 8G, an immediate plant pot seeding using 10 mm tines is needed set to a shallow depth of 20 mm and then seed brushed down the holes and top dressed afterwards.
- Light and often liquid feeding with the 15:0:0 product should be made every 7-10 days to 2G & 8G to encourage recovery with 5 kg/ha of nitrogen applied with each feed.
- As the weather has returned to normal, sand top dressing should commence to ensure appropriate volumes are applied and to make up for lost ground this summer.
- The usual process of solid tining and sanding will be implemented through the autumn/winter but reduce the frequency to 2G & 8G until the sward is fully recovered to avoid damaging establishing seedlings.
- As discussed in the spring report, sustain regular brushing and aim to increase the frequency of hand mowing to at least twice a week but ideally more frequently.
- To reduce Take-all patch next year, apply two applications of manganese next year in May & June and at the very first signs of activity apply Heritage MAXX fungicide.
- Make an application of preventative fungicide during October-December to keep the surfaces scar free and clean from fusarium patch activity. A product such as Instrata Elite would be ideal.

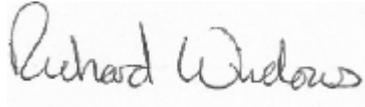
## Surrounds & Approaches

- To commence the recovery process to these areas, the first operation should involve the application of a penetrant type wetting agent such as Despatch or something similar.
- Solid tining and then overseeding with fescue should be implemented afterwards.
- A couple of applications of pelleted organic fertiliser such as Sustane or Terralift should complete the process.

## Bunkers

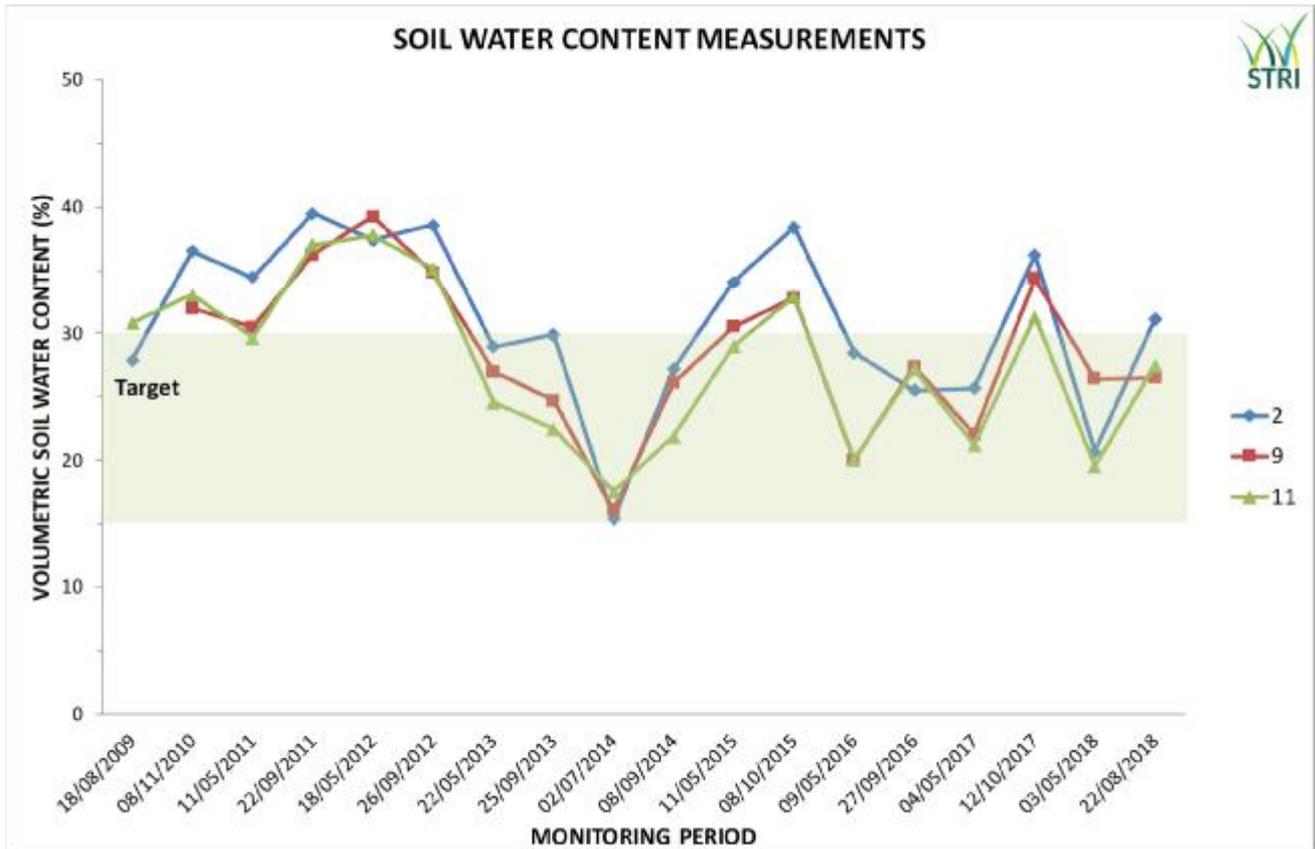
- A range of different golf course architects are being considered with a view to commissioning a full bunker appraisal and then renovation of all the bunkers on a phased approach over the next few years.
- The installation of an engineered bunker lining system should also be part of the renovation process.

Signed

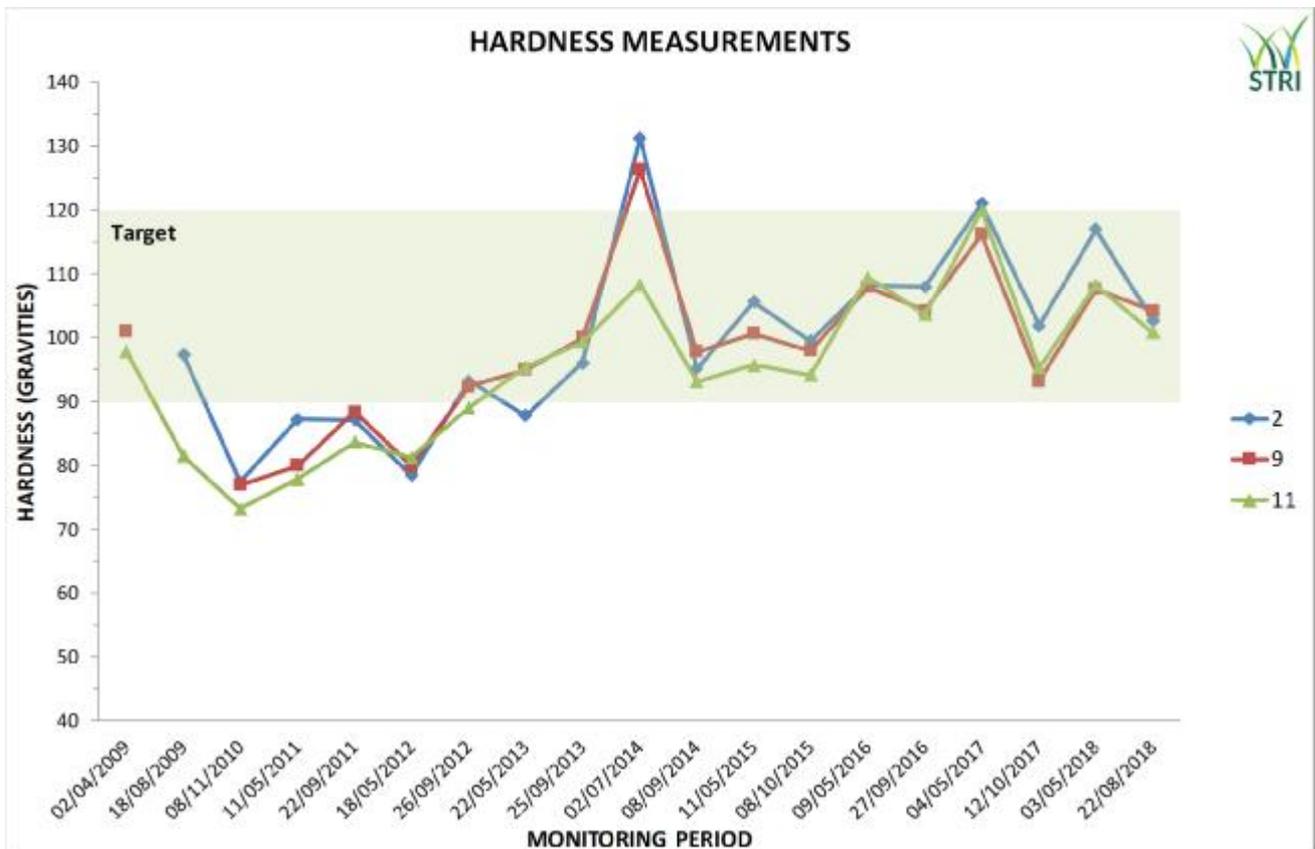
A handwritten signature in black ink that reads "Richard Windows". The signature is written in a cursive style and is placed on a light-colored rectangular background.

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# Objective Data

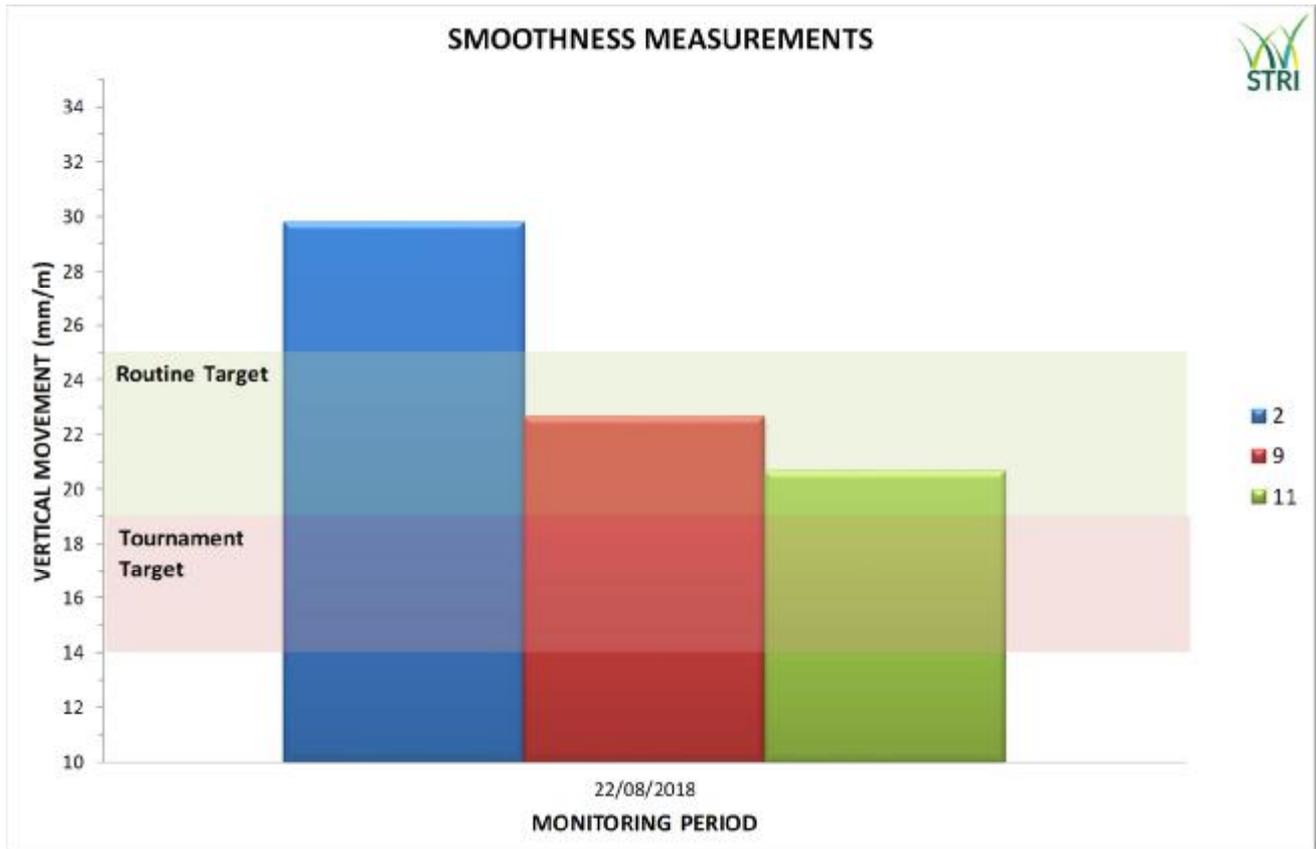


Objective Data Graph 1: Average soil moisture was 28% and within or just outside target following 6-7 mm overnight rainfall.

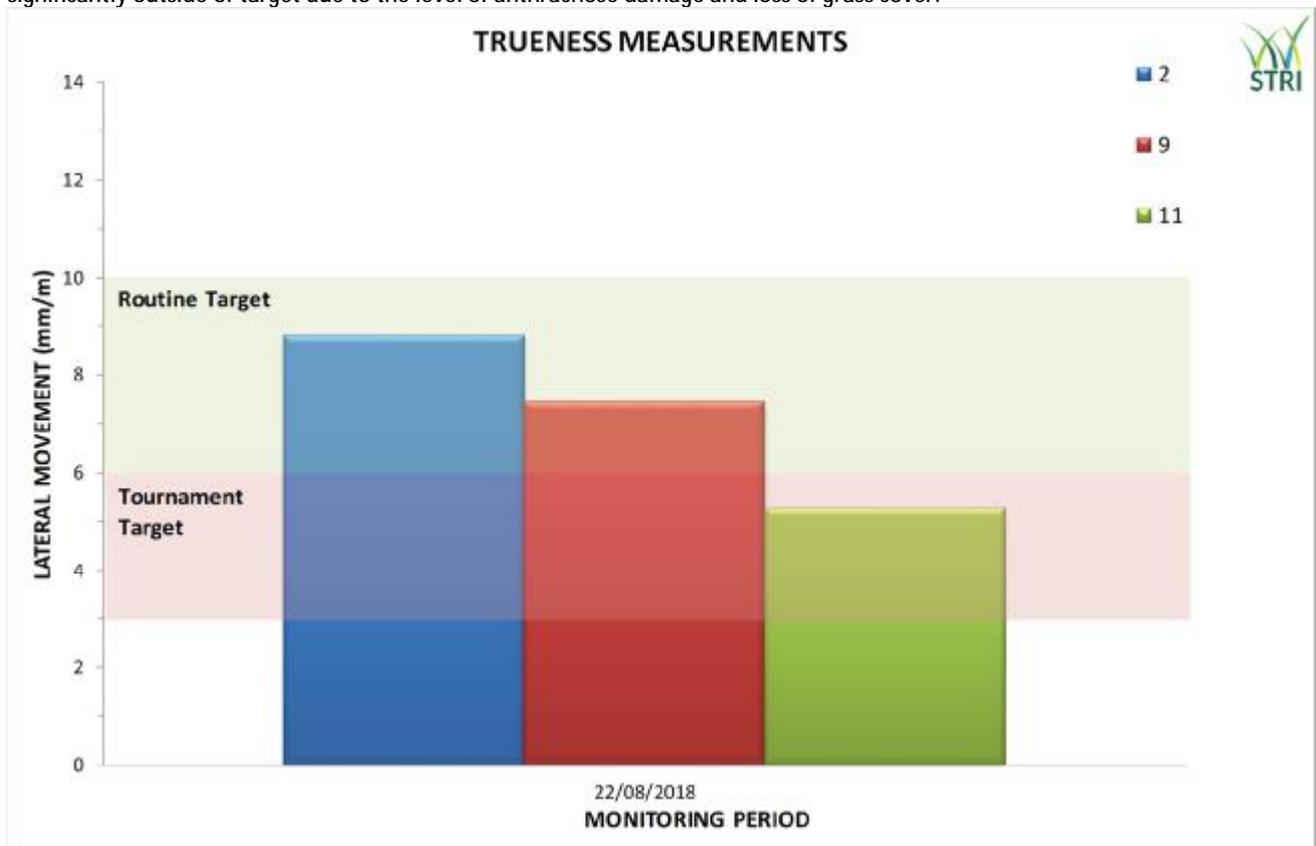


Objective Data Graph 2: Average firmness was very good at 103 gravities and within the middle of the target range which is excellent given the rainfall and relatively high soil moisture values.

## Objective Data (continued)

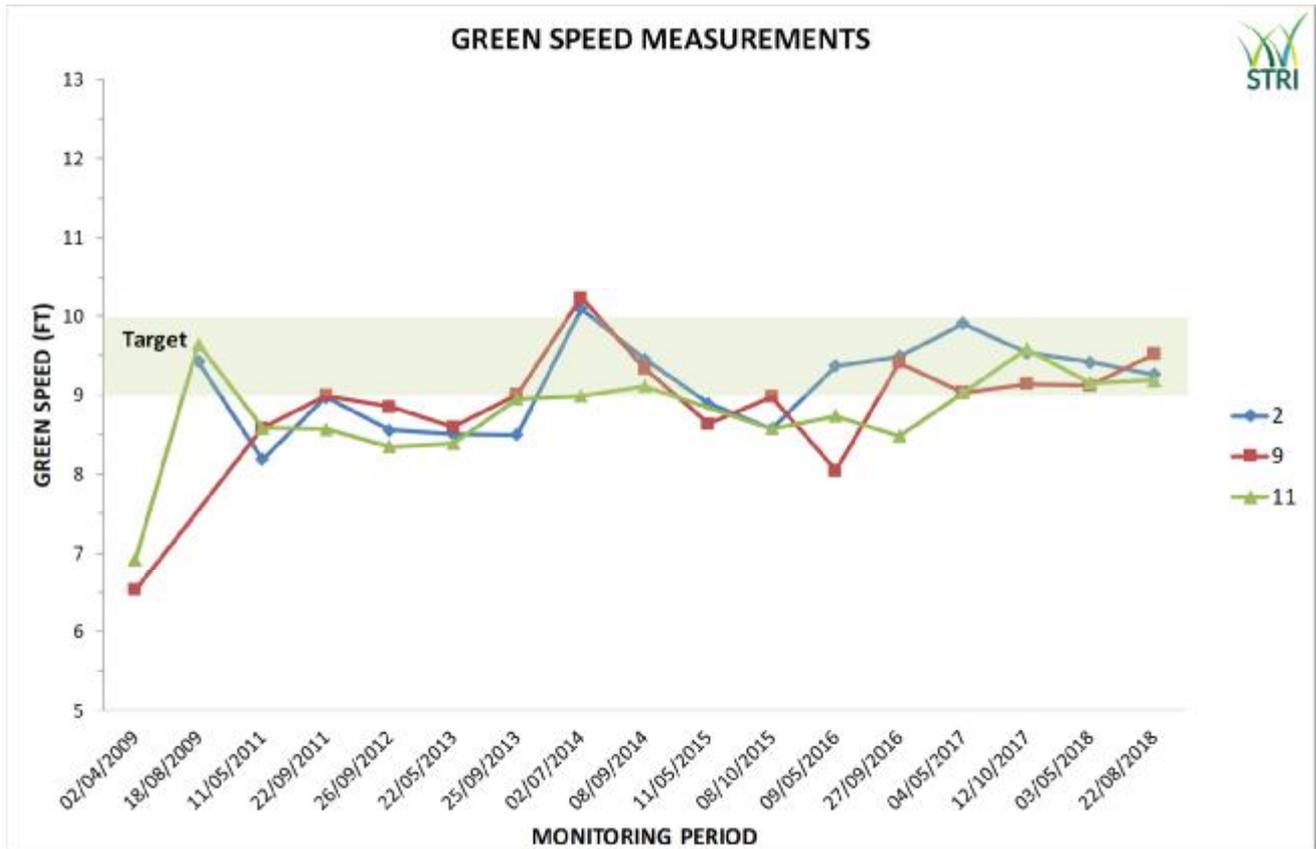


Objective Data Graph 3: Smoothness values to 9G & 11G were very good and within the desired target and very good. 2G was significantly outside of target due to the level of anthracnose damage and loss of grass cover.



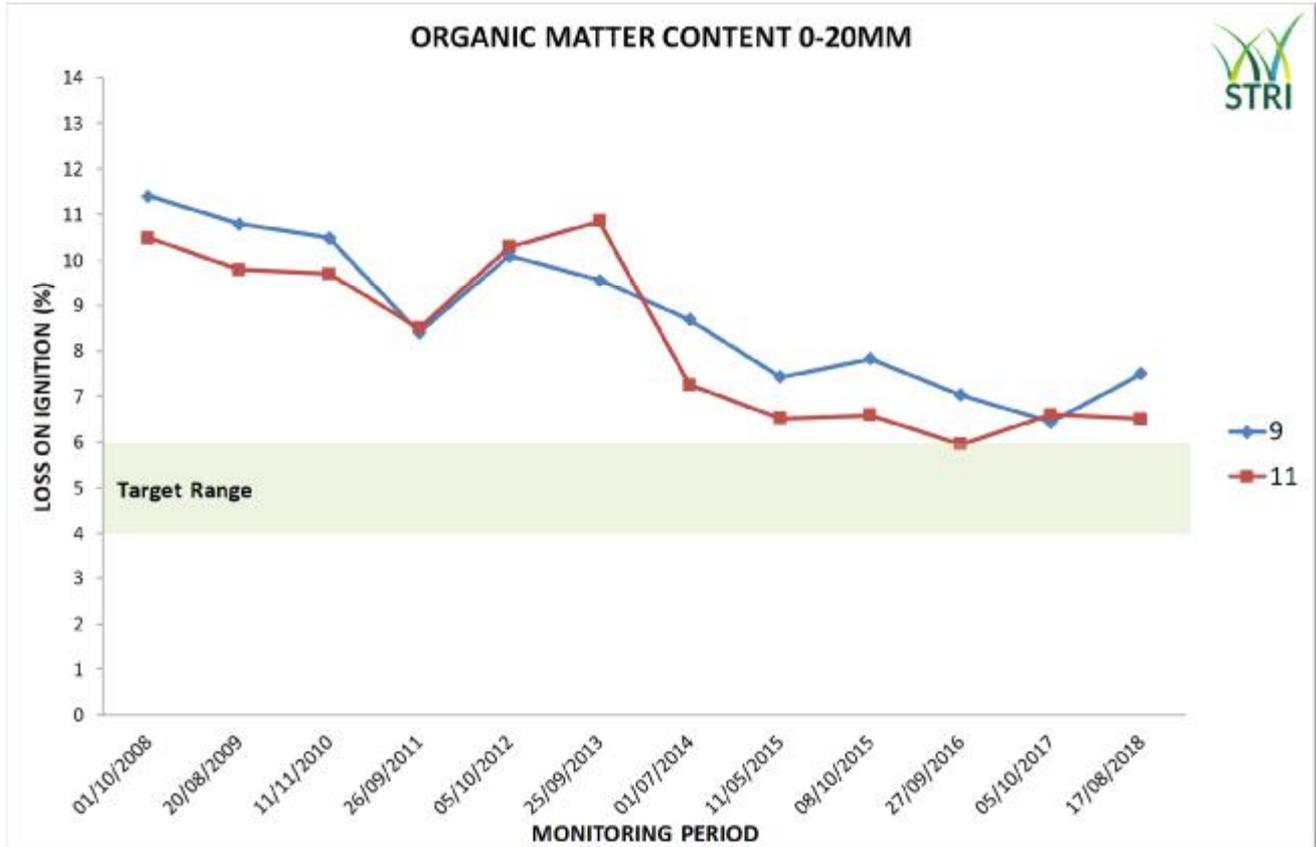
Objective Data Graph 4: Trueness values were very good and all greens were within target.

# Objective Data (continued)

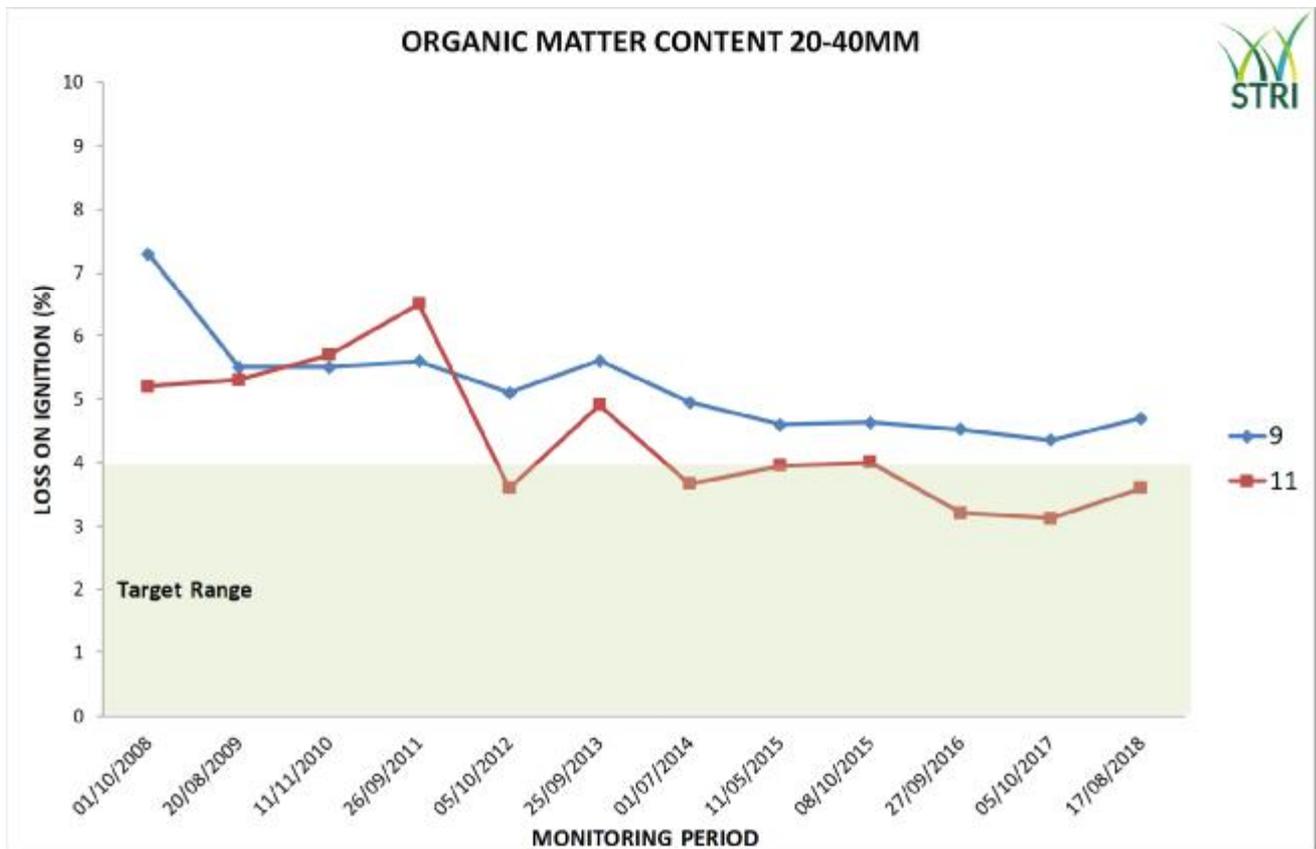


Objective Data Graph 5: Average green speed was 9 ft 4 in and all greens were within target and excellently consistent.

# Soils Laboratory Data



Soils Laboratory Graph 1: Average organic matter from 9G & 11G has increased from 6.5% to 7.0% over the past year in response to reduced sanding through the summer. 2G has been omitted as there may have been a sampling error.



Soils Laboratory Graph 2: Average organic matter has stayed relatively static at 20-40 mm.

## ORGANIC MATTER CONTENT

CLIENT: LADYBANK GC  
ADDRESS: ANNSMUIR,  
LADYBANK,  
FIFE, KY15 7RA.

DATE RECEIVED: 06/08/18  
DATE REPORTED: 16/08/18  
RESULTS TO: RJW

TEST RESULTS AUTHORISED BY:  
  
Michael Baines, Laboratory Manager

CONDITION OF SAMPLE UPON ARRIVAL: MOIST

SAMPLE NO	DESCRIPTION	LOSS ON IGNITION (%) <sup>*</sup>	
A17098/1	2	0-20 mm	10.96
		20-40 mm	7.35
		40-60 mm	5.55
		60-80 mm	6.30
A17098/2	9	0-20 mm	7.52
		20-40 mm	4.67
		40-60 mm	3.23
		60-80 mm	3.54
A17098/3	11	0-20 mm	6.47
		20-40 mm	3.58
		40-60 mm	2.83
		60-80 mm	2.69

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



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

Testing Certificate 2159 - 01



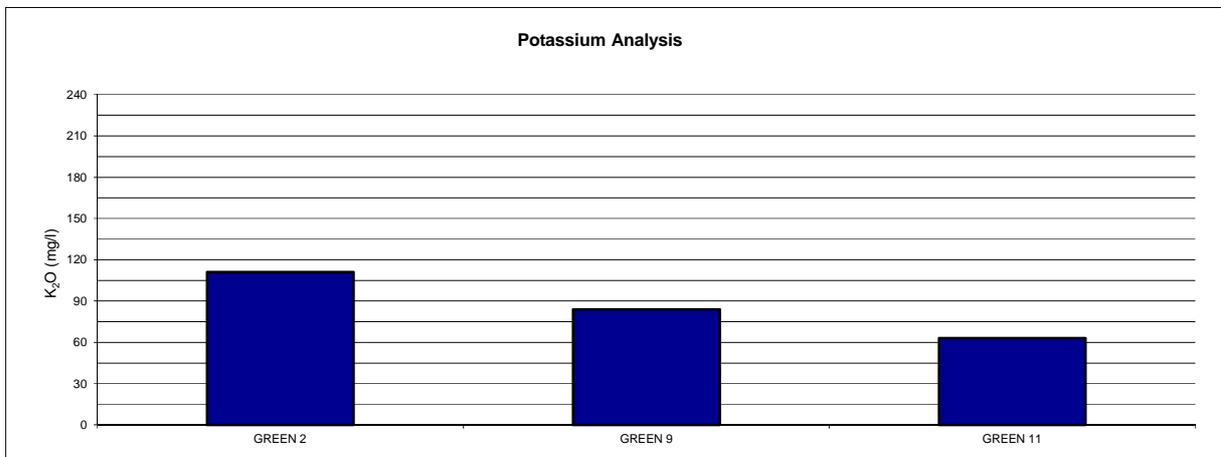
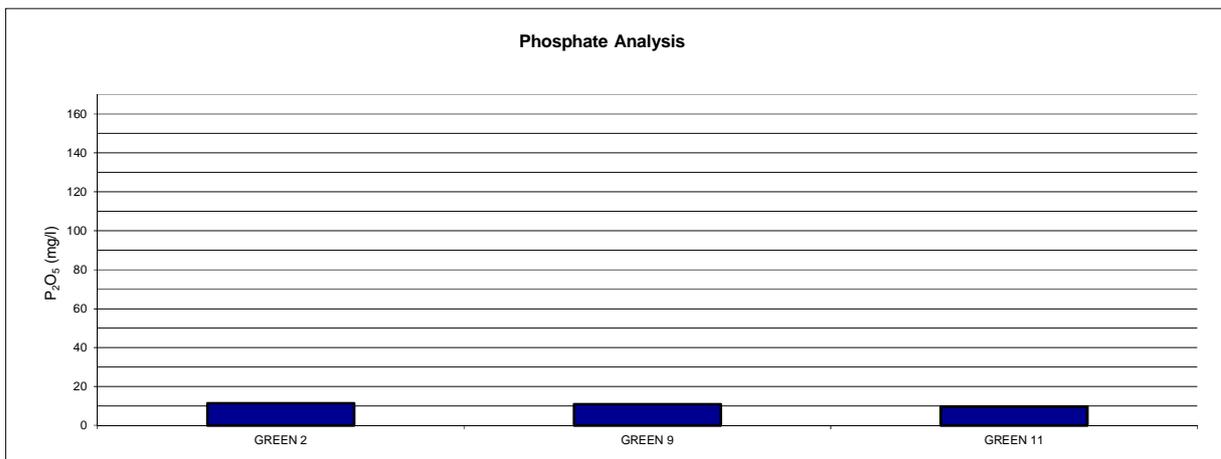
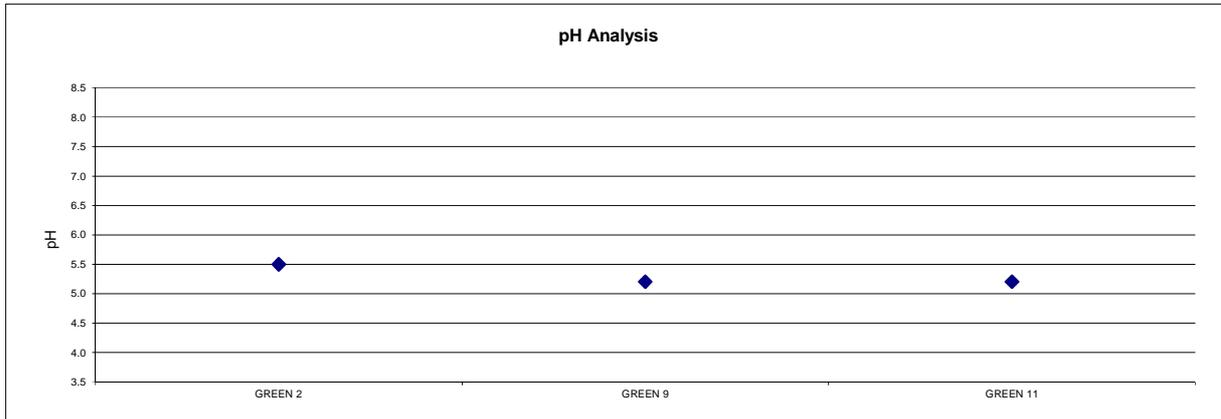
# STRI

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## SOIL CHEMICAL ANALYSIS

## LADYBANK GC

Date: 06/08/18



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