

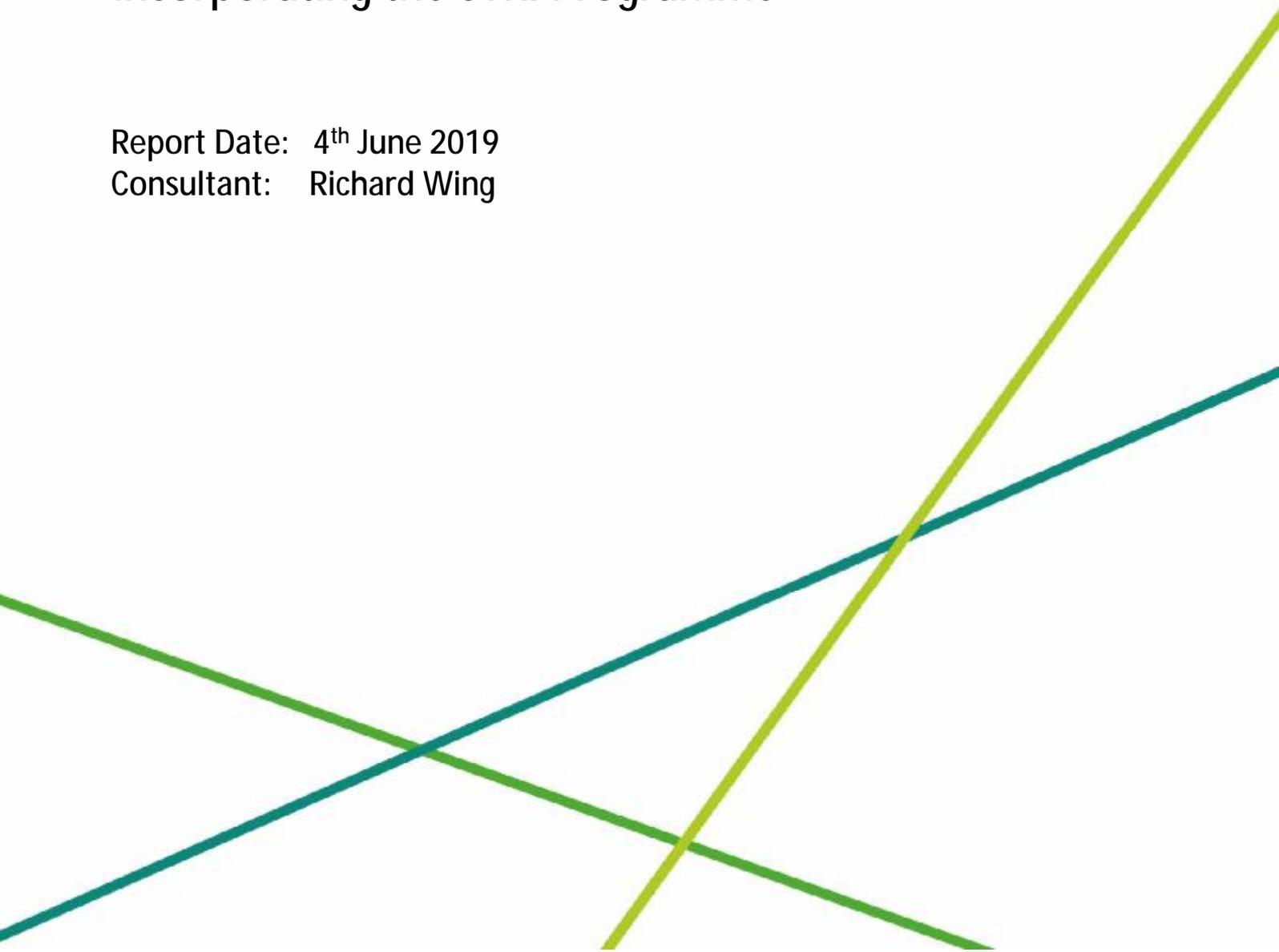


Making great sport happen

# GAILES LINKS GOLF COURSE

## Advisory Report on Gailes Links incorporating the STRI Programme

Report Date: 4<sup>th</sup> June 2019  
Consultant: Richard Wing



## The Glasgow Golf Club - Gailes Links

Date of Visit: Thursday 9<sup>th</sup> May

Visit Objective: To review the spring condition of the golf course, take performance measurements of the greens and confirm maintenance requirements.

Present: Drew Waddle – Greens Conveyor Douglas Burns – Deputy Greens Conveyor  
 Brian Dickson – Course Manager Gary Smith – STRI Ltd  
 Richard Wing – STRI Ltd

Weather: Overcast, 14° C

### Headlines

- The golf course has begun recovery from the damage caused during the drought of 2018.
- The organic matter content in the top 20mm of the greens profile has seen a slight increase over the past 12 months. This has been a consistent across the country due to the weather conditions of the previous summer.
- The playing characteristics of the greens are out of target due to the annual meadowgrass seed head production and lack of refinement opportunities.
- The fairways lost a considerable amount of grass cover last summer. Recovery has begun but the fairways remain weak.
- The removal of the gorse has been completed on the site with a dramatic effect. The re-establishing grasslands lack diversity due to the pure fescue seed used in seeding.

### Key Actions

- Intensify routine refinement through verti-cutting once growth rates accelerate.
- Continue to concentrate on mowing practices to provide playing surfaces and limit rolling to favour fine grass production.
- Increase the annual amount of top dressing to combat the slight increase in organic matter content.
- Apply Acelepryn insecticide under the emergency use approval to control leather jacket populations. Application timing is imperative to the efficiency of the chemical.
- Sustain nutritional and wetting agent inputs to the fairways and semi rough though the summer.
- Plan to carry out another intensive over-seeding of the fairways and semi rough in the autumn.
- Incorporate various grasses into rough seed mix and consider turf transplanting for greater diversity.

### Objective Measurements

Measurement	Average	Target Range
Soil Moisture (%)	19.1% (Range 16-22.5%)	10-25%
Hardness (Gravities)	95G (Range 87-103G)	100-150 g
Smoothness (mm/m)	30.8 mm/m	14-25 mm/m
Trueness (mm/m)	13.7 mm/m	3-8 mm/m
Green Speed	8 ft 4 in	9 ft – 10 ft
Organic Matter 0-20 mm (%)	8.3%	4-6%
Organic Matter 20-40 mm (%)	3.9%	<4%
Soil pH	6.3	5.0-6.0
Phosphate (P <sub>2</sub> O <sub>5</sub> )	5 mg/l	>10 (mg/l)
Potassium (K <sub>2</sub> O)	54 mg/l	>30 mg/l

Key: In Target Marginal Variance Out of Target

## Photo Observations and Comments



Figure 1: The greens displayed a strong dense sward of fine grass with annual meadow grass seed head activity noticeable. The slow start to the growing season has restricted the ability to carry out more intensified refinement.



Figure 3: The semi rough remain weak following the drought of last summer. Due to the lack of irrigation coverage the recovery is very much reliant on the weather conditions.



Figure 5: The area of the sand between the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> holes has begun to stabilise with the germination of the fescue seed. The use of the fencing has helped in reducing the sand blow.



Figure 2: Although the fairways remain weak, they have showed signs of recovery over the last month. The surfaces are still in a precarious situation going into the summer.



Figure 4: The irrigated grass pathways have retained grass cover well. The presentation of these is excellent with a lower height of cut.



Figure 6: Other areas around the course where tree removal has been successful have begun to re-establish as grasslands following fescue over seeding. The grasslands lack diversity due to the use of a pure fescue seed.

## Recommendations

### Greens

- Due to the slight increase in organic matter work must be carried out this year to rectify this and bring the figure back down to the target range of 4 to 6%.
- Aim to apply a minimum of 150 tonnes per hectare of sand top dressing material. This should be carried out with regular light applications through the year.
- To help incorporate the sand top dressing into the Top 20 mm of the soil profiles carry out some sorrel rolling operations prior to applications of sand. This will also help keep the surface open through the season.
- Now that the growth rates are accelerating intensify light verti-cutting and reduce height of cut on the hand mowers to 3.5 mm to improve the playing qualities of the surfaces.
- Try to maintain the performance quality of the greens through regular cutting in preference to rolling to reduce the disturbance on the surface and favour the finer grasses in the sward.
- Support the granular applications of fertiliser with regular liquid feeding through the season. Utilise the urea based liquid fertiliser through the main section of the growing season and switch to ammonia sulphate from August onwards.
- Continue with monthly application Rigby Taylor Propel-R wetting agent through the season to help control the moisture levels in the soil profiles.
- A slight change to the timing and method of overseeding is required to improve the efficiency of the operation.
- To achieve the best results bring the browntop bent grass overseeding slightly earlier in the season when growth is at its peak level e.g. July to August. The method of over seeding should be as follows:
  - Verti-cut or Sorrel roll the greens to open up the sward.
  - Spread the seed on the surface using a drop spreader at 4 to 6 g/m<sup>2</sup>.
  - Apply a light sand top dressing to cover the seed.
- The fescue over seeding operation should remain later in the season as growing conditions in September are ideal for establishment.
- Commence a programme of phosphite in August (but start immediately this year) using a product such as Fighter Commando or equivalent from another supplier. This should be applied every month until November at 10-15 kg/ha.
- As previously recommended, use an iron product such as Higgi iron sulphate at 10 kg/ha or an iron-based product at the very first signs of disease activity from August to November. Use this when symptoms are seen rather than a proactive approach as the acidification effect of the iron can sting/check the disease.

### Green Collars Surrounds and Approaches

- Continue to extend greens maintenance including aeration and sand inputs out into the approaches to improve the consistency of these surfaces in line with the greens performance.

### Fairways

- The fairways have recovered well over the last few weeks but still remain weak. Management must be tailored to reduce all stress on the fairways this year.
- Continue with applications of wetting agent through the summer to help with the management of the moisture in the soil profiles. With the swards being weaker the surface will inevitably dry faster than in previous years.

- Make one more application of 25kg/ha of ammonium sulphate and if growing conditions are good in June apply 25kg/ha of soluble urea to strengthen the sward. Restrict applications if the condition becomes dry.
- Ensure the fairways do not become too dry in the spring. The sward is currently weak and will not cope with drought conditions for any length of time.
- Weed control of the invasive Parsley Piert is to be put on hold until it is felt that the turf health is strong enough to out-compete the weed.
- Sand top dressing remains an important issue to improve the playing quality of the turf. This should now be paused until the back end of the season.
- Provisions must be made for another intensive overseeding in the autumn. This is going to be a requirement for the next couple of years to re-establish a dense sward.

### Semi-Rough

- Extend all the maintenance applied to the fairways out into the semi roughs. If the weather conditions become dry again restrict fertiliser applications to avoid any scorching of the turf if irrigation inputs are not possible.

### Tree & Scrub Removal

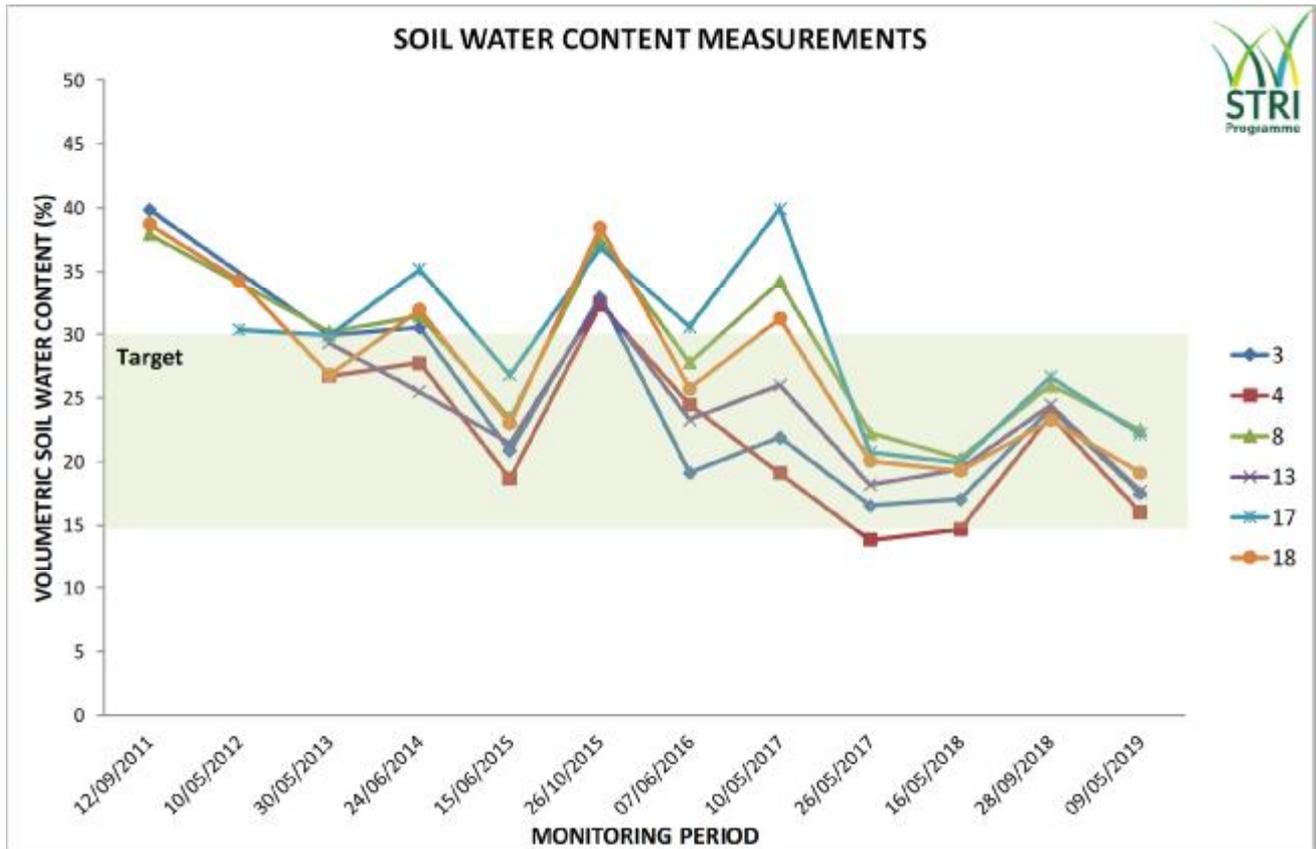
- As previously recommended, to increase the diversity of grass and wildflower species through the open sand areas, selected areas should be seeded with a mix comprising 60% red fescue, 20% sheep's fescue & 20% native wild flowers from Scotia Seeds, Brechin. The wild flowers should comprise of: vipers bugloss, ladies bedstraw, birds foot trefoil, yellow rattle (as little as possible), autumn hawkbit, kidney vetch, wild carrot, self-heal and sheeps sorrel. Sow the grass mix at 8 g/m<sup>2</sup> and wildflowers at 2 g/m<sup>2</sup>. This is best done by hand and bulked up with kiln dried sand.
- Other areas closer to play should have sweet vernal grass and crested dogstail at 5 g/m<sup>2</sup> in amongst the fescue already sown.
- To create a break in the visual sparseness of the newly stripped bare sand, consider transplanting some well positioned "chunks" of established rough grassland. This will lessen the visual impact of the bare sand and accelerate the naturalisation of the area. Though established rough turf can also be used in areas the required quicker stabilisation.

Signed

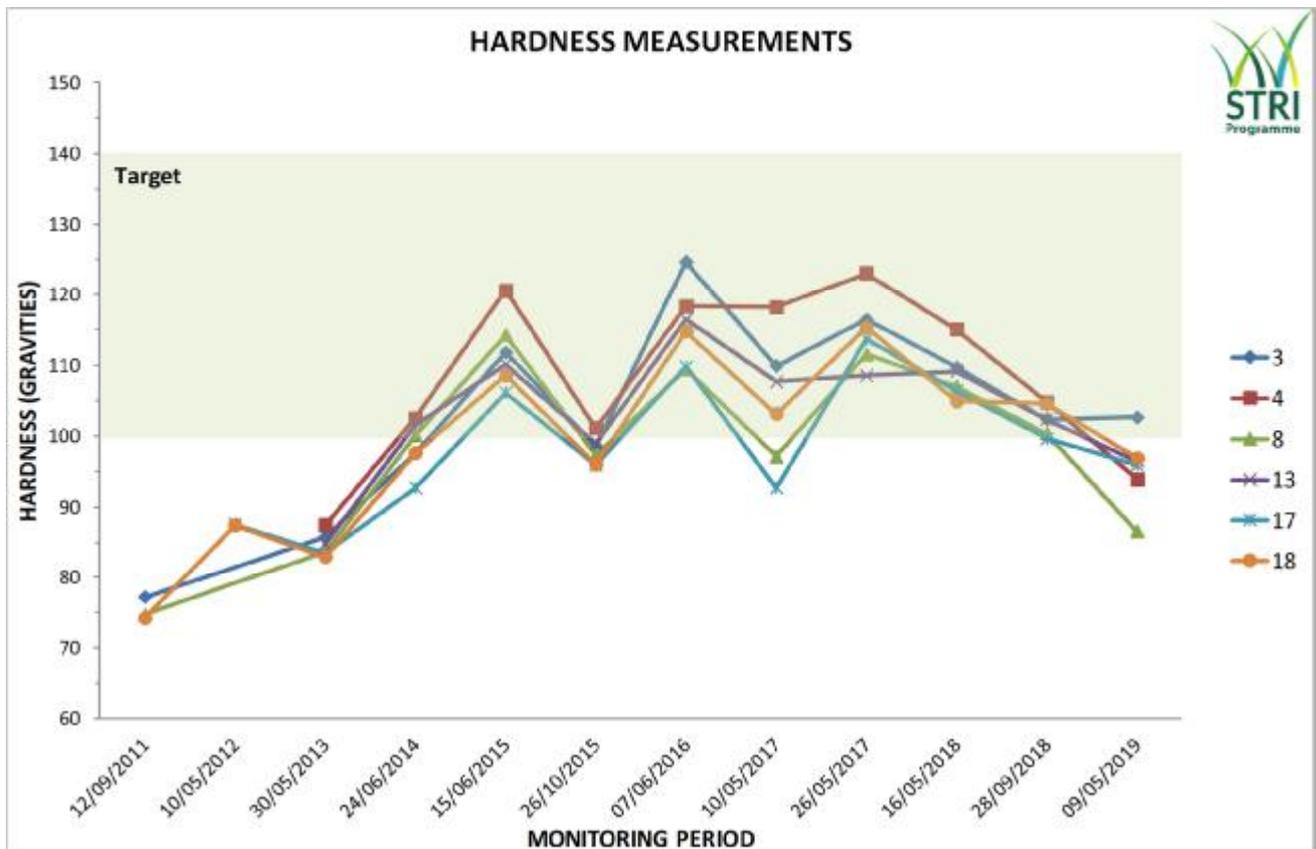
A handwritten signature in black ink that reads 'Richard Wing'. The signature is written in a cursive style with a prominent underline under the name 'Wing'.

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# Objective Data

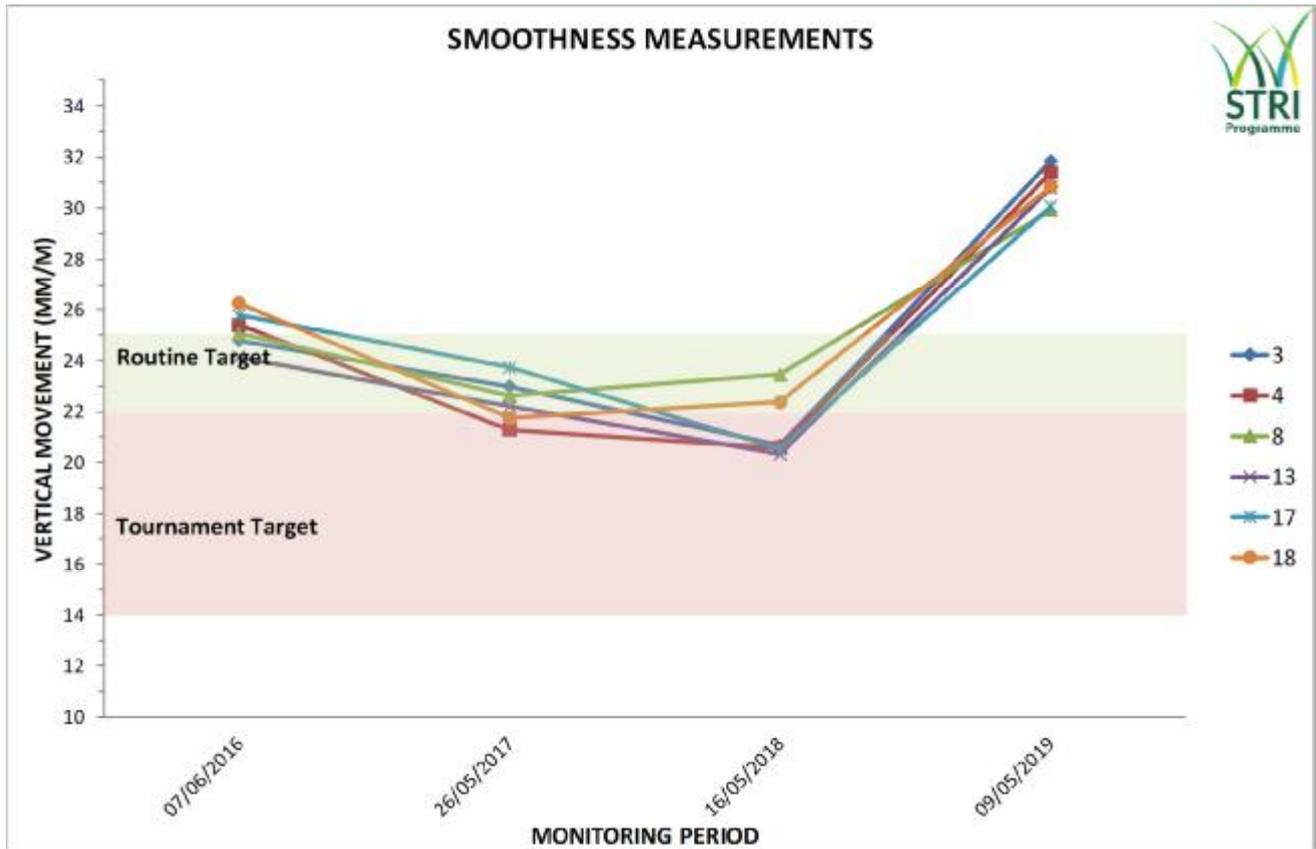


Objective Data Graph 1: All the soil moisture measurements were in target at an average of 19.1%.

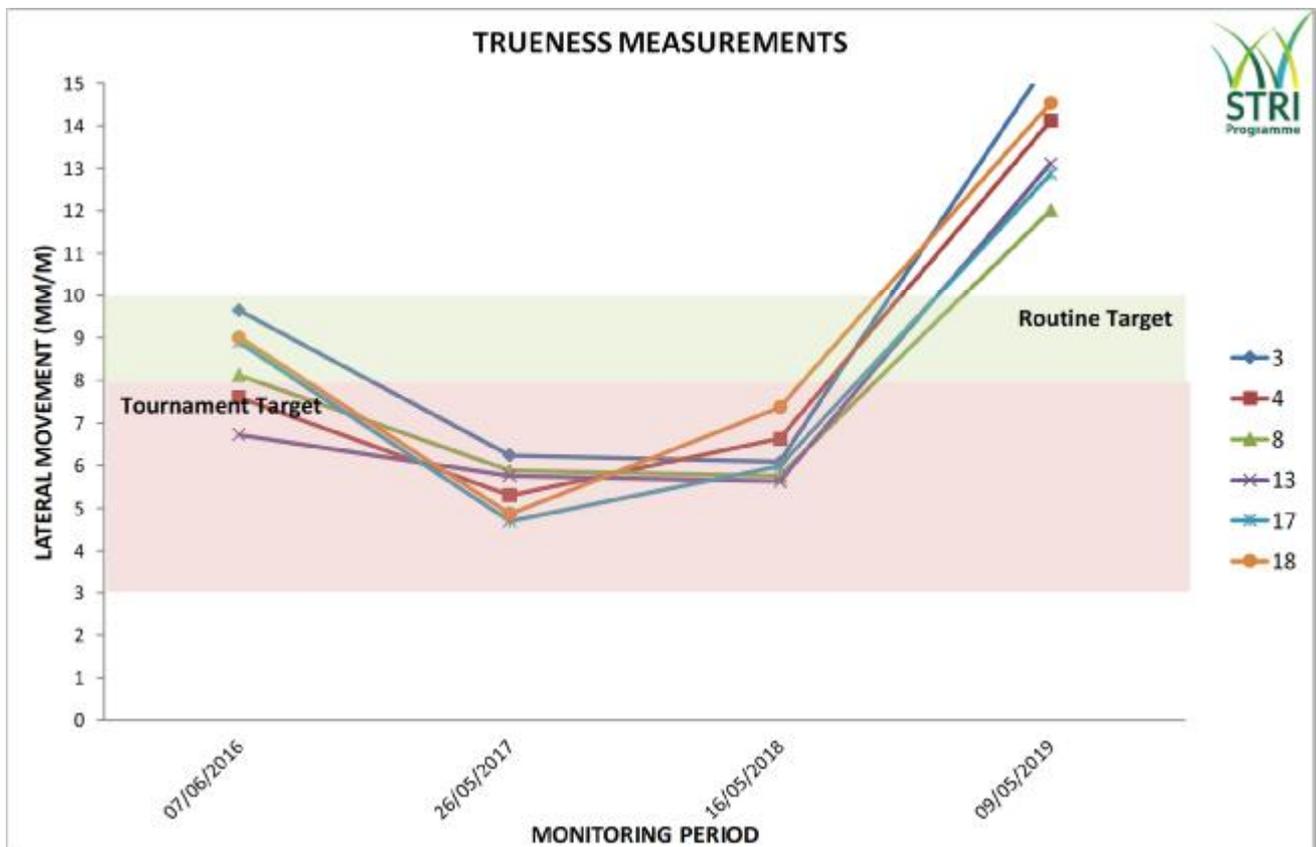


Objective Data Graph 2: Surface firmness measurements were towards the lower end of the target range at an average of 95 gravities.

## Objective Data (continued)

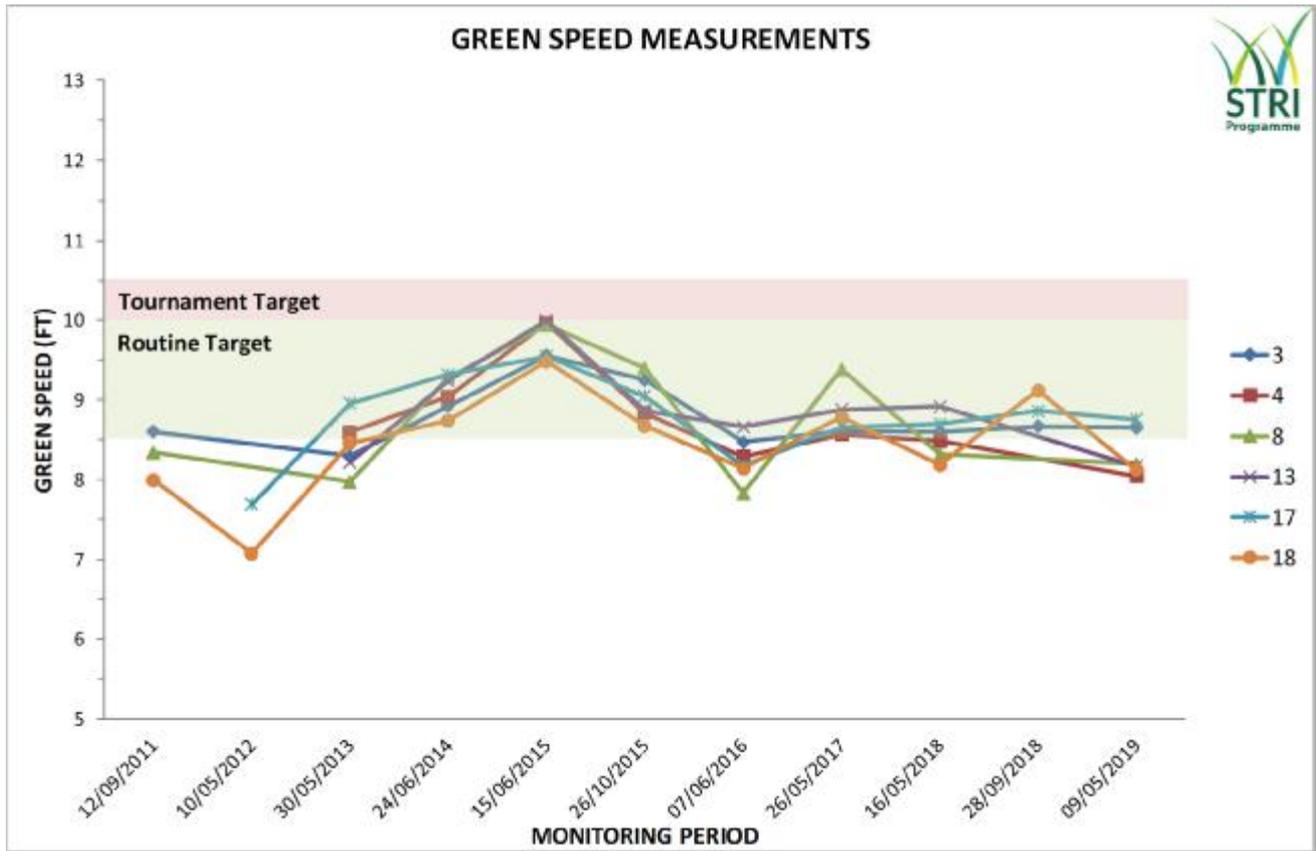


Objective Data Graph 3: The smoothness measurements were out of target at an average of 30.8 mm/m. The flowering of the annual meadow grass seed heads, in combination with the lack of opportunity to carry out intensive refinement is affecting the ball roll quality.

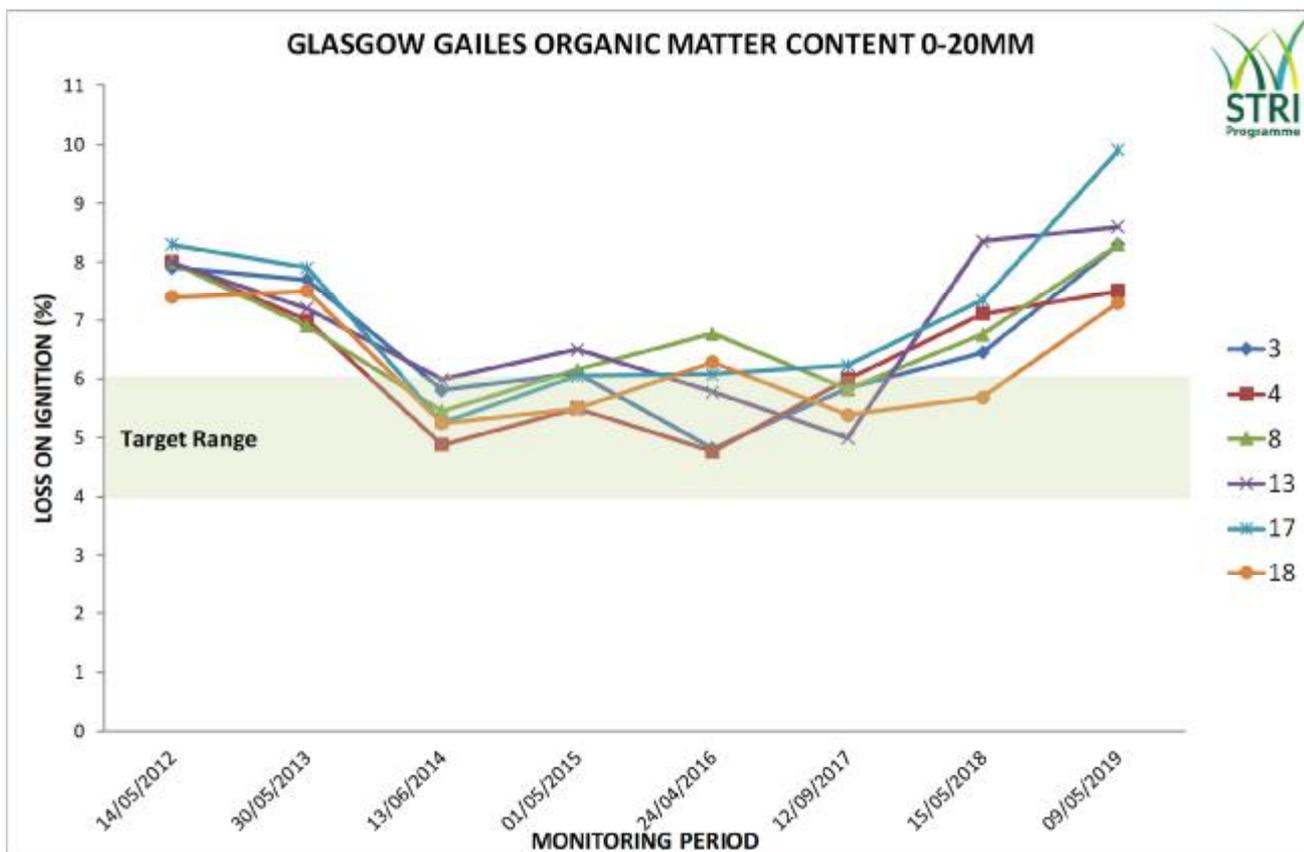


Objective Data Graph 4: Likewise, the trueness measurements were all out of target at an average of 13.7 mm/m

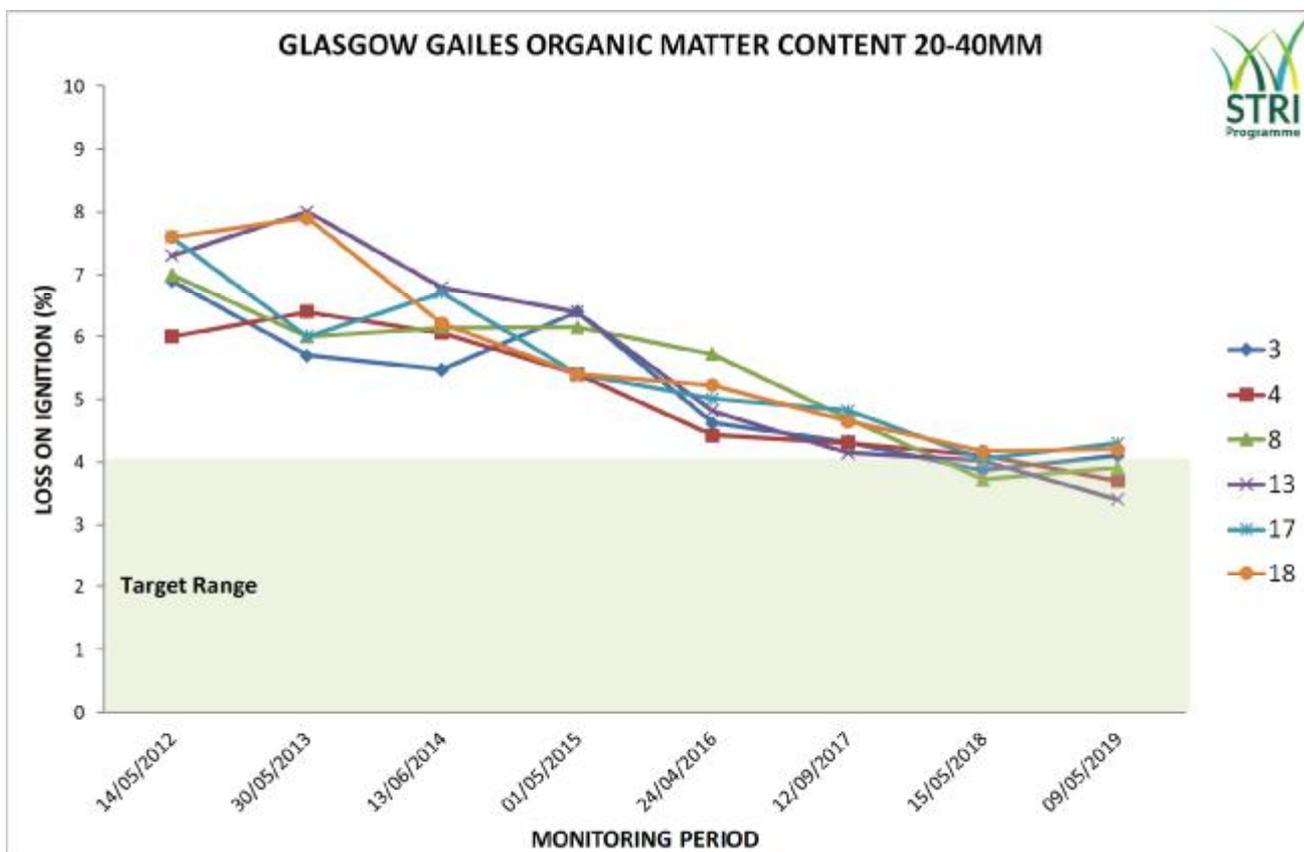
# Objective Data (continued)



Objective Data Graph 5: At an average of 8'4", the green speeds were towards the lower end of the target range. Some of the green speed measurements were affected by surface moisture from the rainfall during the visit.



Soils Laboratory Graph 1: The organic matter content in the top 20 mm of the soil profiles has seen an increase over the last 12 months to an average of 8.3%. This is due to the weather conditions of the previous summer and has been a trend nationwide.



Soils Laboratory Graph 2: At an average of 3.9%, the organic matter contents in the soil profiles from 20 to 40 mm are within target range.





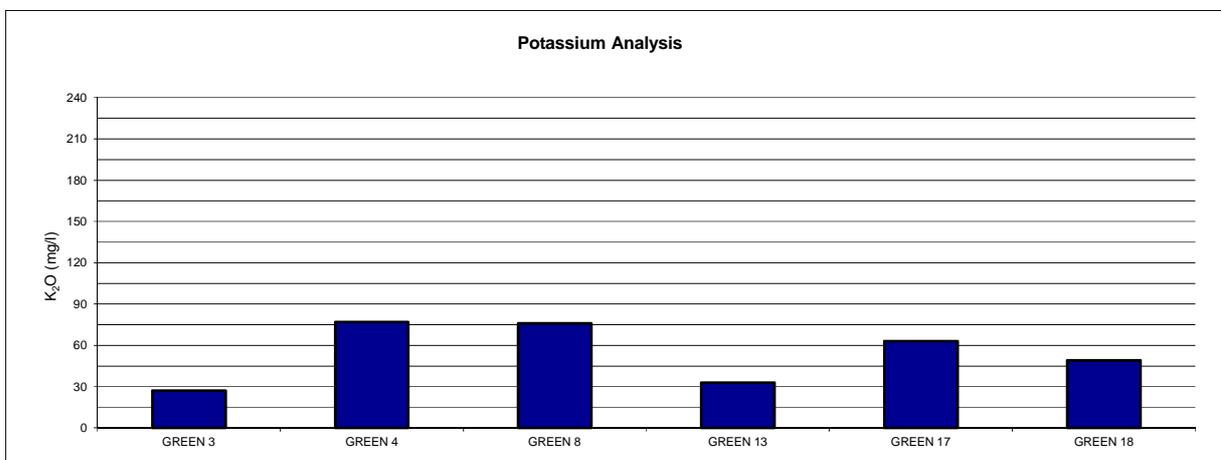
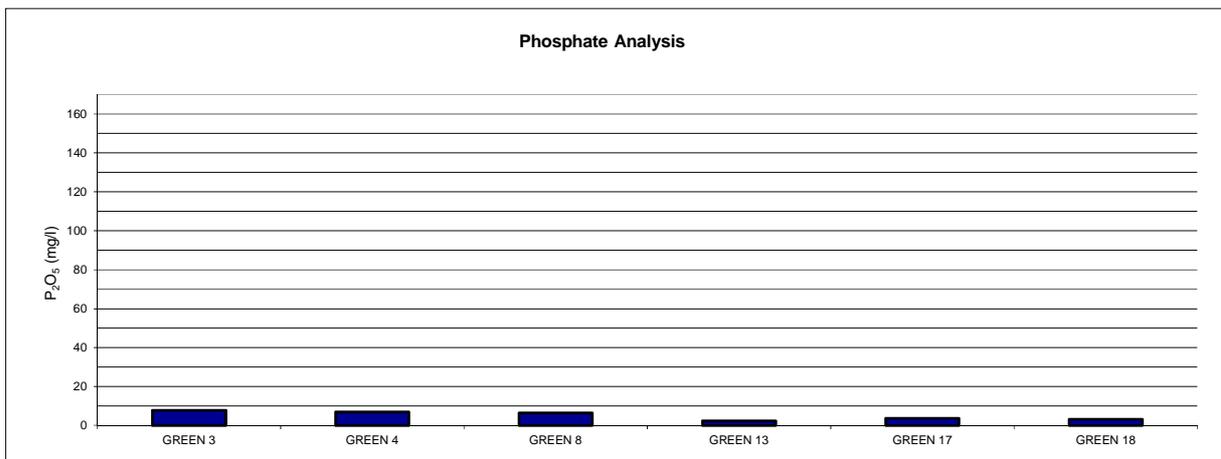
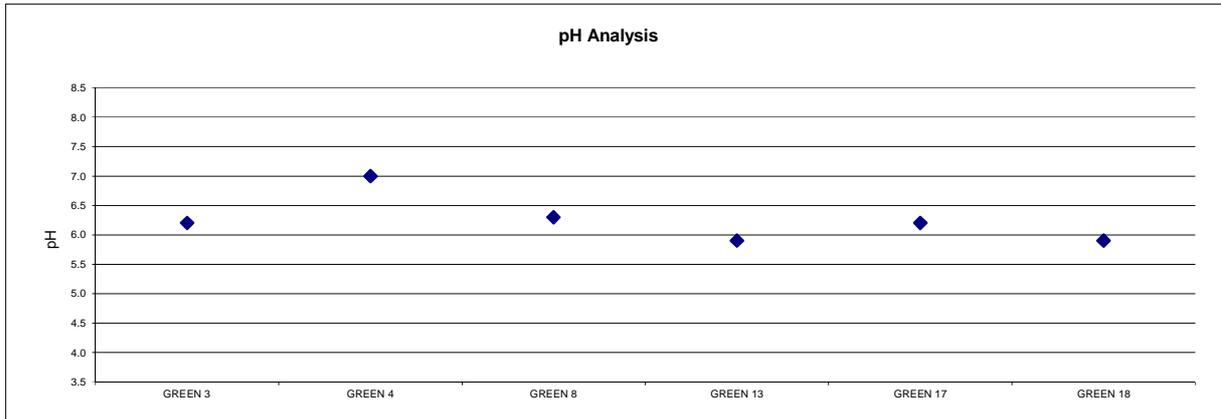
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**SOIL CHEMICAL ANALYSIS**

**GLASGOW GAILES LINKS**

**Date: 07/03/19**



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