GRASS COURTS PREPARATION 2023

STAFF / COURTS

- Neil Stubley is Head of Courts and Horticulture. He was promoted from Head Groundsman (held position 2012-2016).
- Neil is working his 28th Championships and is only the eighth person to hold the position in the AELTC's history.
- The Groundstaff are a permanent team of 18 people, growing to 31 for the period of The Championships.
- At the AELTC Grounds, Neil and his team look after 18 Championships and 20 practice courts.

GRASS COURT PREPARATION AND MAINTENANCE BY NUMBERS

10
tonnes of seed used annually on the courts.

200
tonnes of soil used each year to level the courts.

275mm
depth of soil on a tennis court.

18%
percentage of clay in the soil.

200mm
depth of grass roots by The Championships.

16
electric lawn mowers used to cut the grass.

1,822
times the correct ball bounce height is checked during The Championships.

3,177
the hours of play on the courts during The Championships.

6,080
times the plant health/ Chlorophyll Index is checked during The Championships.

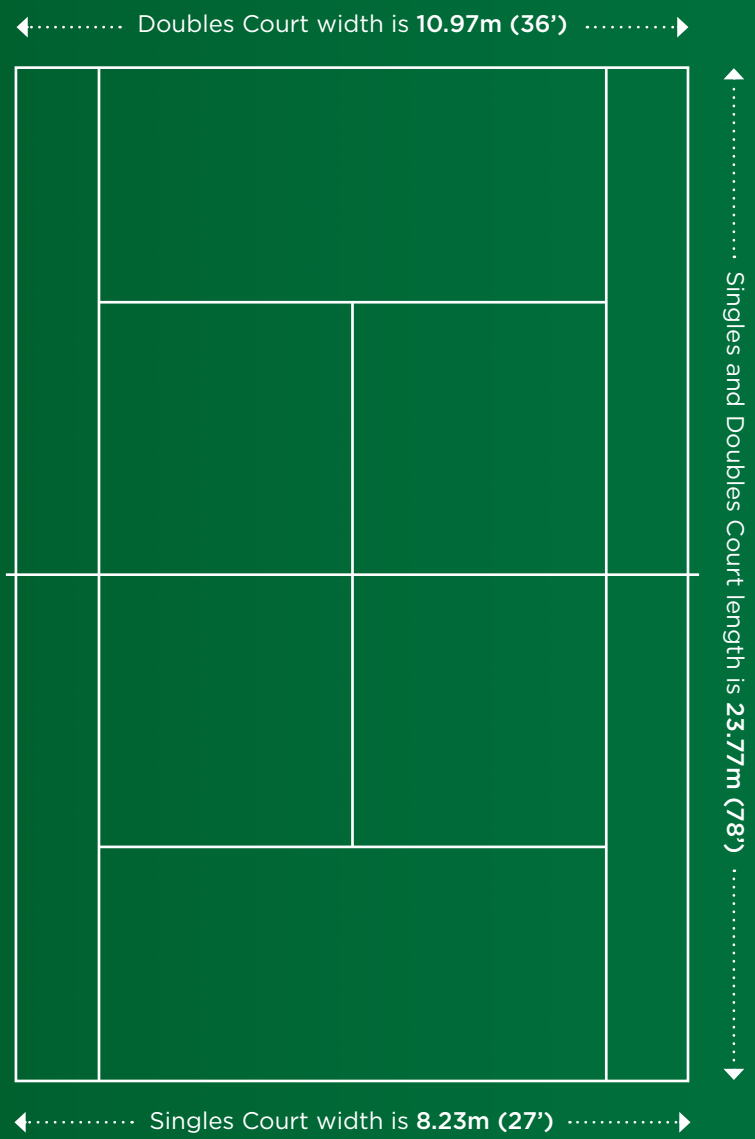
18,240
times the hardness of the courts is checked during The Championships.

31,200
times the baselines are checked for live grass/wear during The Championships.

54
million grass plants on Centre Court at the start of The Championships.

COURT DIMENSIONS

Total area of grass on each of Centre & No.1 Courts is 41m x 22m.



COURT PREPARATION

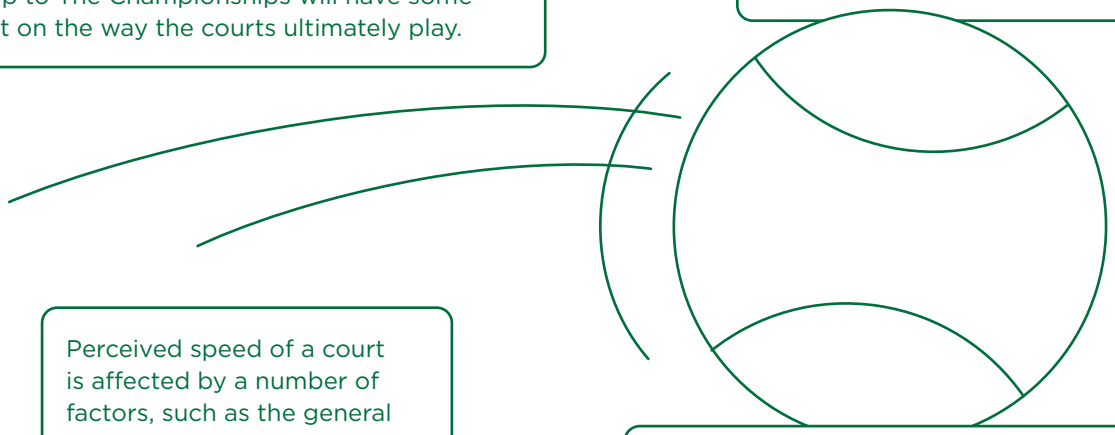
- Grass is a living surface and must be on the tipping point of being under stress to provide the best playing surface. Finding the balance between the best court aesthetic and best playing surface is a constant challenge that the Groundstaff need to meet for the 30 days they are required to have the courts held at event condition.
- The courts are prepared in a similar manner each year to produce the highest quality playing surface – with even, consistent bounce as well as the ability to withstand prolonged wear and tear for a minimum of 14 days – for the world's best players to display their full range of skills.
- Preparation is independently verified by the Sports Turf Research Institute (STRI) in Yorkshire, UK, which provides research and consultancy services to the AELTC throughout the year.
- During final preparation week and throughout The Championships, the STRI takes daily measurements of surface characteristics of courts to measure court performance. These measurements include:
  - **Surface Hardness:** this is measured in gravities with a Clegg Impact Hammer (24 drops) on all courts. On Day One of The Championships, surface hardness should measure between 170 and 220 gravities, with courts as closely grouped as possible.
  - **Live grass cover:** this is measured with a point quadrat on Centre Court, Court No.1 and Court No.2. Assessments are done in the high wear positions behind baselines and below 'T'. 100 points in each of eight positions are identified as live or dead grass/bare ground on each of the three main Show Courts.

  - **Chlorophyll Index:** this is measured on all courts with a Chlorophyll meter. These measurements are correlated with live grass cover measurements to obtain a measure of 'predicted' live grass cover on all courts.
  - **Ball rebound:** a ball is dropped from 100 inches in the same positions as surface hardness measurements and height of rebound is recorded. This is compared to rebound on a hard (concrete) surface and relative rebound is calculated as a percentage. ITF standards require a rebound of 80%.
  - **Soil Moisture:** tubes have been installed in Centre Court, No.1 Court, No.2 Court, Court 6 and Court 14 in which a moisture probe can be inserted to measure volumetric soil moisture at depth from 50–400 mm. Soil moisture levels have a direct bearing on surface hardness, live grass cover and ball rebound.
  - **Cracking:** all courts are inspected daily for signs of cracking. These assessments are done on lines around service boxes and a line 3m behind baselines.
- All data collected is made available to Groundstaff to help inform management of courts throughout The Championships. Data can also be compared with that collected in previous years.

SPEED OF COURTS AND THE BALL

Unlike other surfaces, grass is a living plant in an outdoor environment when weather varies throughout the year. Weather conditions in the run up to The Championships will have some effect on the way the courts ultimately play.

There has been no intention either this year or in previous years to produce slower courts or ones suited for a particular type of game.



Perceived speed of a court is affected by a number of factors, such as the general compacting of the soil over time, as well as the weather before and during the event.

The atmosphere can also have an effect on the ball which will seem heavier and slower on a cold, damp day and conversely lighter and faster on a warm, dry day.

THE GRASS / GRASS COURT DURABILITY

- The grass plant itself has to survive in this dry soil. Expert research has again shown that a cut height of 8mm is the optimum for present day play and survival.
- Courts are sown with 100% Perennial Ryegrass (since 2001) to improve durability and strengthen the sward to withstand better the increasing wear of the modern game.
- Independent expert research from the STRI proved that changing the grass seed mix to 100% Perennial Ryegrass (previously 70% Rye/30% Creeping Red Fescue) would be the best way forward to combat wear and enhance court presentation and performance without affecting the perceived speed of the court.

ENSURING A CONSISTENT BALL BOUNCE

- The amount a ball bounces is largely determined by the soil, not the grass. The soil must be hard and dry to allow 14 days of play without damage to the court sub-surface.
- To achieve the required surface of even consistency and hardness, the courts are rolled and covered to keep them dry and firm. Regular measurements are taken to monitor this.
- If the court is too soft, when the players run, jump and slide, the pimples on their shoes will damage the surface and increase the chance of an irregular bounce.

THE BALL

- There have been no changes to the specification of the ball since 1995, when there was a very minimal alteration in compression.
- The tins of balls are opened on court – the first set immediately before the match and thereafter just before each scheduled ball change.

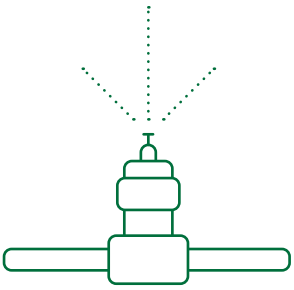
COURT MAINTENANCE

- Court grass composed of 100% rye grass (chosen for its durability).
- 10 tonnes of grass seed is used each year.
- All courts are re-lined, rolled and mown daily during The Championships.
- Court wear, surface hardness and ball rebound are all measured daily.
- All courts renovated in August and September each year. In 2017, the Groundstaff trialled a steaming method on four of The Championships courts, with the ambition to further reduce the AELTC's reliance on pesticides in future years. The trial was judged a success, and in 2018, the steaming method was used on Centre Court and five other courts and continues to be used as part of the post-Championships maintenance regime.

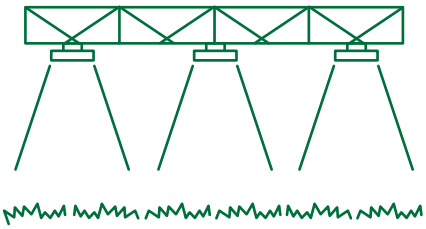
AREAS OF MAINTENANCE

Grasses – with our extensive research over many years, we now have grasses that are much more tolerant to wear and dry conditions.

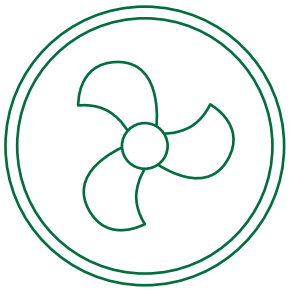
Fertiliser – modern technologies have ensured we can be more accurate with nutrition, helping extend the health and longevity of the grasses.



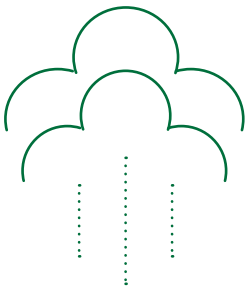
Irrigation – each court now has its own unique irrigation programme, allowing for improved and targeted irrigation.



Grow Light – incorporating grow light(s) ensures we can maintain good plant health across winter, so we have stronger plants going into the grass court season.



Court Fans – supplementary air movement across the courts helps dry the surface throughout winter, helping to fight against plant leaf diseases.



Steaming – this exercise has allowed us to better manage weed grasses (Poa) so we can achieve near 100% desirable grasses that withstand the challenges of grass court tennis.

ELECTRONIC LINE-CALLING

- Adopted in 2007 on Centre Court and No.1 Court to decide on line-calls.
- Additional courts adopted as follows: No.2 Court (2009), No.3 Court (2011), Courts 12 and 18 (2015), Courts 14-17 (2019). From 2021, all Championships courts have had this technology.
- 10 cameras are required on each court to enable the electronic line-calling technology.

LINES

- Paint is not used to mark the lines on the court. A transfer wheel marker is used to apply a white compound containing titanium dioxide to make it durable.
- All the lines are 50mm wide except the baselines, which are 100mm.

COURT COVERS

- All courts have been provided with covers since 1971.
- Centre Court received a new cover in 1998, 2011 and 2019. Weighs one tonne (wet and dry) and takes 17 people approximately 22-28 seconds to cover the court. Made from a translucent material, the cover allows a greater amount of light to the grass. Air ventilation under the cover is aided by four large fans (two at either end).
- No.1 Court received a new cover in 1997, 2010 and 2019.

COURT COVERERS

- 210 Court Coverers.
- Trained two weeks prior to The Championships.
- Gradual training which then builds up on speed.
- Safety is paramount but speed is essential – approximate timings 22-28 seconds.
- Removing the umpire's chair with umpire still sitting in it was introduced in 2001.
- Centre/No.1 teams:
  - 20 people to cover the court.
  - Two to remove the nets.
  - Two to remove umpire/linespersons chairs.
- Outer Courts teams
  - Six people per team.

RAIN PREPARATIONS

System of numbers used to alert and instruct the court coverers if rain or bad weather is expected:

01 Court covering teams to be courtside.

02 Cover at Chair Umpire's discretion.

03 Compulsory cover as soon as possible.

04 Inflate the covers.

05 Deflate the covers.

06 Uncover.

07 Dress the courts

Referee inspects a court once the covers are taken off and before the court is dressed with the net etc. Decision on timing of process made by the Head of Courts and Horticulture and Referee.