

The Grass of LaLiga

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LaLiga is a private sports association composed of the 20 football clubs/SADs (Public Limited Sports Companies) of LaLiga Santander and the 22 of LaLiga SmartBank, responsible for organizing professional football competitions of a national scope in Spain.

Since 2013, with Javier Tebas assuming the presidency, LaLiga has embarked on a path of growth and continuous innovation based on financial control, centralized sale of audiovisual rights, and a strategy of internationalization and technological leadership. All of this has positioned it as a benchmark in the sector and one of the best professional leagues in the world of sports, enabling it to attract new generations.

As part of this growth, in 2016 LaLiga introduced the Television Broadcasting Regulations (the current version dates from the 2018/19 season), which governs every aspect of the event that is a football match: from the various stadium infrastructures (lighting, cameras, access, pitch, locker rooms...) to the timing of each activity (team arrivals, interviews, pitch watering...). It also includes the creation of the match director role, responsible for supervising compliance with every point of this regulation in each of the 842 matches played per season under LaLiga's control.

This regulation was LaLiga's first step towards ensuring the quality of playing surfaces. Included in Chapter 2: General Infrastructure is Section 2.3: Pitch, covering the following points:

- Audits and monitoring plans
- Material and human resources
- Drainage system
- Grass condition report
- Measurement equipment
- Height
- Coverage
- Uniformity
- Mowing
- Marking
- Irrigation

Within the match director's checklist, the following parameters related to the pitch are included:

- No drainage problems are detected on the pitch.
- The grass condition report is submitted on time and the information is accurate.
- The grass height is within the stipulated range.
- The pitch coverage is complete, and no partial reseedling is observed without prior communication.
- The color is uniform and no significant presence of weeds is detected.
- Mowing and marking of the pitch comply with the provisions of this section.
- The referees' warm-up area is properly designated and marked.

- The goal nets comply with the standards set out in this section.

For each of these parameters, the match director must assess whether the standard is met. If it is, nothing is noted in the final match report. If not, the issue can be recorded as a “non-compliance”, which results in a financial penalty for the club, or as “observations” in cases where the issue has a low impact on the television broadcast or for other reasons (such as lack of uniformity or coverage due to turf disease). In such cases, the club is required to present an action plan and is given a deadline to resolve the problem before it is recorded as a non-compliance.

In 2018, as a logical next step in the ongoing improvement of pitch quality, LaLiga created the position of Pitch Quality Coordinator. This role falls under LaLiga’s Audiovisual Department, due to its link with the aforementioned Television Broadcasting Regulations.

The role is based on two very clear objectives:

MATCHES MUST BE PLAYED ON THE SCHEDULED DAY AND TIME WITHOUT ANY DELAYS OR CANCELLATIONS DUE TO PITCH CONDITIONS.

To achieve this, a constant monitoring of the 42 LaLiga pitches is essential, keeping track of:

- Renovation work, seasonal transitions (e.g., Bermuda to ryegrass), events, turfing, stitching, etc.
- Pitch condition, infiltration capacity, and action plans for adverse weather.
- Weather conditions during each match, with email alerts and specific protocols in case of heavy rain or snow.

PITCH QUALITY MUST BE IMPROVED,

AND GREATER UNIFORMITY MUST BE ACHIEVED ACROSS ALL STADIUMS.

The three pillars of pitch quality are:

1. Safety – from the perspective of injury prevention. While a blow received during the game may not be related to the pitch, muscle overloads or ligament injuries can be reduced by controlling the pitch’s biomechanical parameters: hardness, rotational resistance, impact restitution, etc.
2. Playability – A pitch that behaves consistently, where the ball bounces and rolls properly, allows for fast, dynamic play. Players can perform at their best knowing the ball will behave predictably. Key factors include ball bounce and roll, mowing height, and pre-match irrigation.
3. Aesthetics – A pitch that is well-mowed and marked, with uniform, vibrant grass color, clear mowing stripes, sharp white lines, and clean, well-maintained goals and nets, is the finishing touch.

If the first two quality criteria (safety and playability) aren’t met, it doesn’t matter how good the pitch “looks in photos” before the match. But once those are ensured, presentation makes all the difference.

Today, players focus only on the ball. When contesting an aerial challenge, they don’t even look at the ground they’re landing on, not even in winter. In LaLiga Santander and LaLiga SmartBank, there are 42 professionals ensuring that neither shadows, nor cold, frost, rain, or storms affect the playing field where, in every match, 22 players battle for 3 points.

The main milestones since the creation of this role can be summarized as follows:

- Over 100 inspection and advisory visits to stadiums each season
- Formation of a working group on pitch quality, composed of the groundskeepers from each club
- Creation of the Greenkeeper app, which replaces the former turf condition report and has become a valuable consultation tool
- Irrigation audits of stadiums, to assess and characterize irrigation systems and propose improvements
- Distribution of measurement kits (for hardness, rotational resistance, and infiltration rate) to LaLiga SmartBank clubs to support data-driven decision-making
- Training sessions for pitch management professionals
- Promotion and recognition of the groundsmen's work through videos shared on LaLiga's TV and web channels, as well as press articles
- Advocacy with authorities during the COVID-19 lockdown, ensuring grounds maintenance professionals were allowed to access stadiums to carry out essential work

The Greenkeeper app collects all pitch-related data submitted by the home team. These data are gathered using specific sensors and devices that record biomechanical characteristics by applying weight and movement through football boots. However, even something as simple as a groundsman running their hand across the turf to assess whether watering is needed remains useful.

In the near future, we aim to integrate many more features into this app using cutting-edge technology such as big data, artificial intelligence, and machine learning, among others.

Even now, Greenkeeper is already a highly valuable tool. It tracks information such as grass mowing height, planned irrigation schedules, temperature at match time, and pitch hardness. This allows the visiting team to select the appropriate stud type for their boots, and also to assess whether the pitch has damaged areas or whether it will play particularly fast or slow.

In the future, thanks to Greenkeeper, we will be able to determine how many staff are needed to manage the pitch, whether heating systems should be activated in response to monitored temperature drops, or how to respond to extreme risks such as snow or flooding. It will also help prevent fungal infections or nematode outbreaks.

Ahead of each match, clubs will evaluate various pitch parameters and receive recommendations. Players will be able to share their feedback, and overall, the app will foster greater communication among all stakeholders involved in pitch quality.

To achieve this, Greenkeeper will be coordinated with Mediacoach, another LaLiga tool used for tactical game analysis, which can tell us how the turf responds during duels, sprints, decelerations, directional changes, and highlight which zones may require special attention—insights made possible through heat maps.