

# PRO PITCH

# PITCH MATTERS LITE

## ORGANIC MATTER THE DEVIL IN DISGUISE

Organic matter can be categorised into many forms, from historic thatch material found deeper in the profile to the accumulation of material upon the surface. Due to the ever growing popularity of end of season renovations within winter sports, the most common form of organic matter within professional sports pitches accumulates at the base of the sward as a result of desiccated plant material following usage and maintenance practices such as mowing.

Surface organic matter can accumulate throughout the season and have detrimental effects on the agronomic, physical and playing characteristics of a surface, impacting the following:

- **Infiltration Rates**
  - Organic matter acts as an impermeable barrier resulting slow movement of water away from the surface and into the rootzone / soil profile.
- **Traction and Rotational Resistance**
  - Poor traction as a result of limited interaction between studs and the upper soil profile.
- **Grass Coverage**
  - Anaerobic (insufficient air-filled porosity) conditions create an unfavourable environment for the grass plant.
- **Divot Damage**
  - A soft surface is more likely to see increased damage.
- **Nutritional Uptake**
  - Reduced uptake and efficacy of granular applications

Surface organic matter should be monitored and managed on a regular basis in order to maintain the integrity of the playing surface. Factors to consider include the following:



### Post Usage Maintenance

During pitch usage, vast numbers of stud marks are made within the surface by players, pushing the grass plant flat and into the surface. The grass plant subsequently struggles to survive due to the lack of light and slowly breaks down and decays into organic matter within the profile. In order to counteract this, it is advised that brushing of the turf against the mowing pattern is carried out post usage to help stand the grass plant upright and recover damaged and worn areas. All arisings from such brushing practices should be removed from the surface using rotary mowers or sweeper style machinery.

### Moisture Management

High soil moisture can lead to anaerobic conditions within the profile and prevent the natural degradation of organic material. The volumetric moisture content of the profile should be allowed to drop as low as 15% and maintained between 15%-20% during periods of non-usage in order to promote pitch quality. This value can be increased to 20%-25% during hours of play as this will help to consolidate the upper profile and reduce divot damage. Due to increased fixture demands, it is often found that irrigation used for match days and usage hours will often be sufficient to maintain pitch quality, alongside irrigation cycles used for the washing in of granular treatments during the Autumn and Winter months.



## **Sward Density**

The pressure of preparing a surface for professional players and television comes with increased nutritional inputs and external growth factors such as artificial lighting and under-soil heating, all of which leads to increased growth and density. Sward density should be managed to allow for airflow around the base of the plant and reduce the risk of over-crowding within the sward.

Practices such as verti-cutting should be carried out on a regular basis, up, as required by the sward, to allow for the sward to be thinned out and remove excess growth. Such a machine can be set up at +2mm to +5mm above the surface to allow for sufficient removal of material. The application of a liquid fertiliser is advised post operation to accelerate recovery.

## **Surface Grooming**

Any existing build up of surface organic material should be removed through mechanical practices. The use of a spring-tine rake should be implemented with the tines scratching along the surface in order to dislodge any existing build up of material. This process can be more invasive than the aforementioned verti-cutting as it will enter the sand profile below. Raking of the sward allows for the sward to open up, creating the perfect opportunity for granular feed to be applied once all debris and arisings have been removed.

## **Aeration**

Regular aeration allows for greater air movement within the profile and promotes the movement of moisture away from the surface, thereby slowing the production of organic matter. Aeration should be timed around fixtures, noting that aeration will soften the surface, but should be carried out every 2-4 weeks. Linear aeration is not possible on stitched and carpet hybrid pitches.



## **Renovation**

End of season renovations should ideally include the removal of all existing vegetation and organic matter to allow for superior pitch quality the following season. Thatch and organic matter content should be measured prior to carrying out any such works to allow for informed decisions to be made on the depth of material to be removed, along with the quantity of fresh sand material needed to replace it.

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## **Sand Topdressing**

Light applications of sand topdressing can help to dilute surface organic matter levels. Any form of sand topdressing should be carried out after surface grooming techniques as to not bury the existing organic matter deeper in the profile. The application of sand topdressing is advised to be carried out during break in fixtures lasting a minimum of two weeks to allow for the material to settle within the sward. Any sand used should be compatible with the existing rootzone.

## **Scarification**

Scarification of the surface allows for the disturbance and removal of organic material. This practice is seen as a much more aggressive form of verti-cutting as the blades penetrate into the surface allowing for deeper layers and historic organic matter to be removed.

