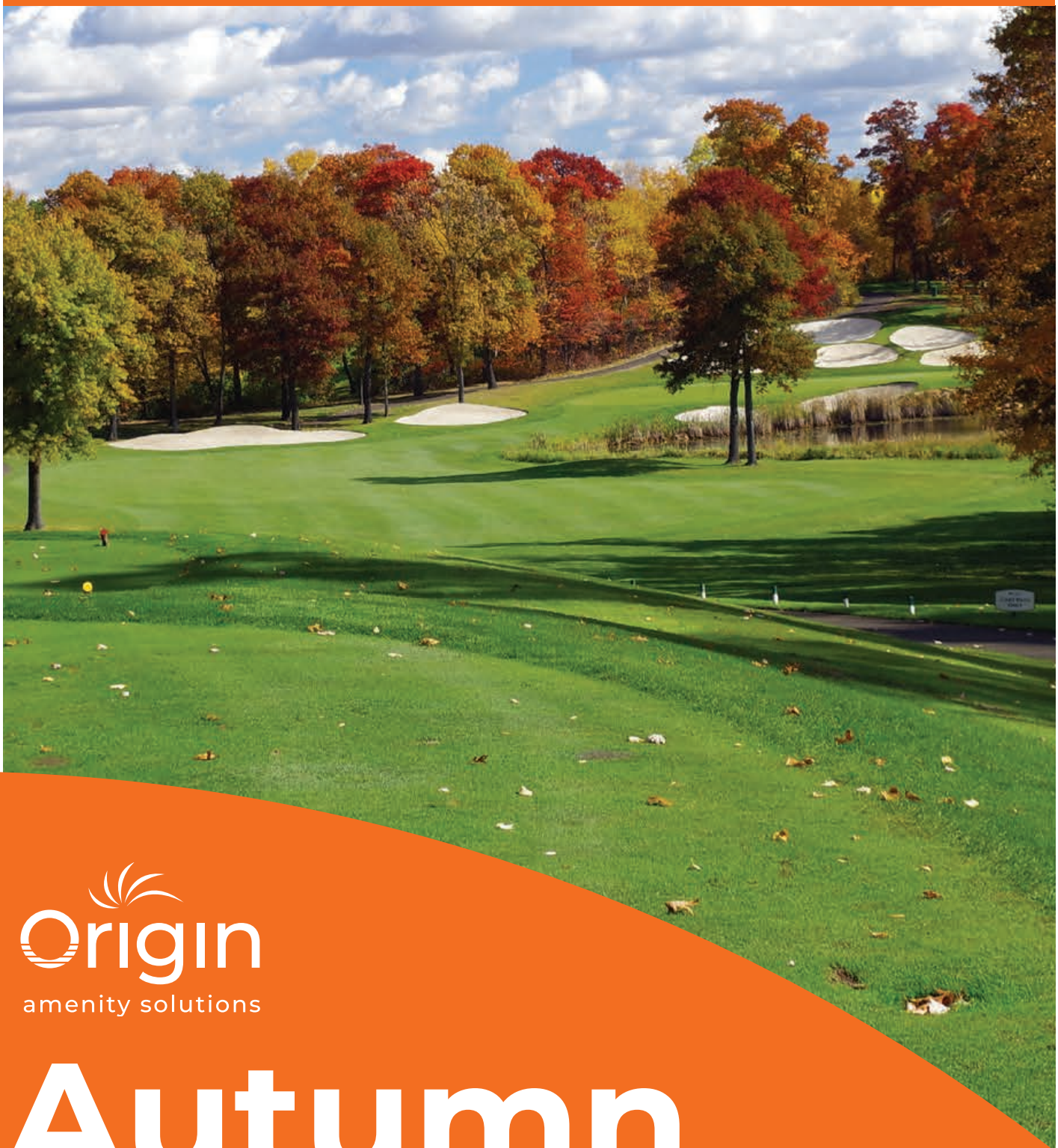


OAS SEASON UPDATE



  
**Origin**  
amenity solutions

# Autumn Disease

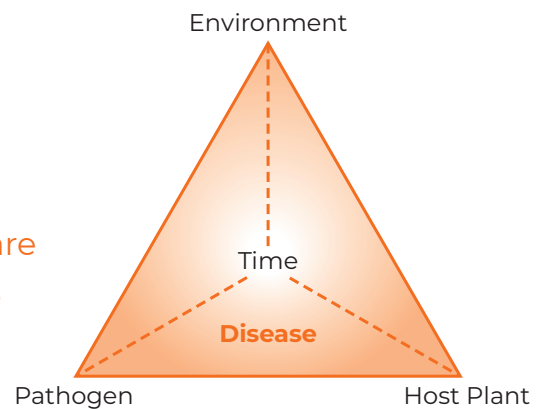
Targeted, proven solutions for the autumn season

# Managing Autumn disease

Microdochium Patch occurs when the pathogen, a susceptible host grass and favourable environmental conditions interact. Disease occurrence and intensity are affected by the duration that the three primary factors are aligned. Disease will develop when environmental conditions that favour the disease triumph.

Integrated management plans can be utilised to enhance plant health and plants defences as well as altering the environmental conditions to favour the turfgrass and discourage the pathogen. Water management plays a key role in cultural disease control; adequate drainage, thatch management, aeration, improved airflow and shade reduction on surfaces is essential. Dew and guttation fluid should be removed to reduce periods of leaf wetness; the use of dew dispersants at times of prolonged leaf wetness (continuous fog or light drizzle in mild, humid conditions) will support your physical management practises. We should also consider other cultural disease controls such as grass species, sward density, mowing height and frequency, soil temperature, and soil fertility as they can be in favour of, or against, a pathogen.

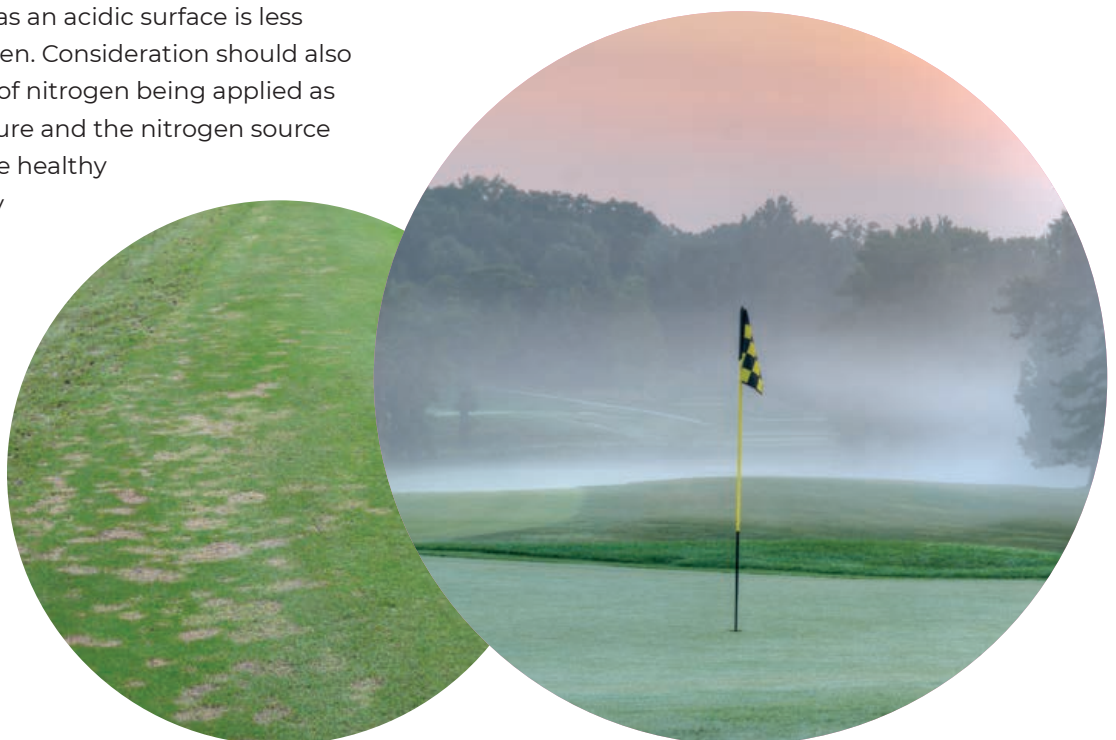
Fertilisers with an acidic pH will reduce the chance of Microdochium Patch, as an acidic surface is less favourable to the pathogen. Consideration should also be given to the quantity of nitrogen being applied as well as the soil temperature and the nitrogen source used. The plant should be healthy and recovering from play without a great increase in clip rate. Lush growth could leave the turf more susceptible to disease.



Plant elicitors can be beneficial before and during periods of disease risk. Elicitors stimulate the plants natural defences (they trigger a defence response) and elicit phytoalexins that gather around the site of infection to resist the pathogen attack. Examples of plant elicitors are phosphite, salicylic acid and harpins.

Maintaining a diverse population of beneficial soil microbes can create suppressive soils to help keep disease symptoms at bay. While soil temperatures are still high, continue to encourage soil biology by introducing populations of beneficial soil microbes.

With the above in mind, the aim is to create an environment that is unfavourable to the pathogen and to support a healthy plant that is primed to defend itself against the pathogen, in this case *Microdochium nivale*.



# Product profile

Reducing the impact of Autumn weather on our turf requires planning, management and action – the OAS team are on hand to help. The team are backed by agronomists, ex-groundstaff, researchers and product managers that have a wealth of experience of coping with Autumn weather. Get in touch today!

## 20-20-30

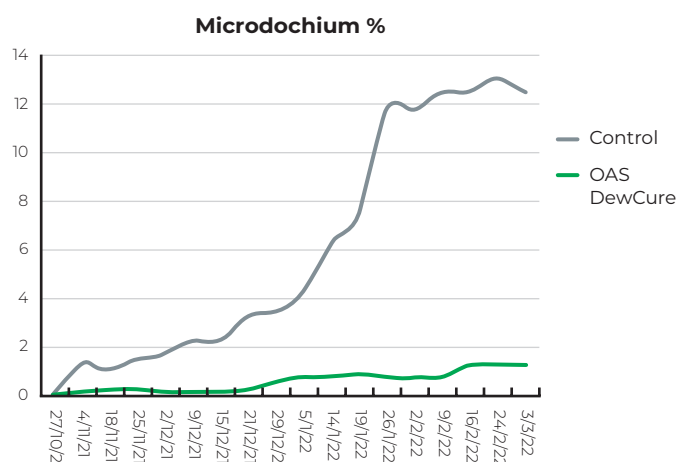
OAS' research and trials work to minimise *Microdochium nivale* has resulted in a strategy featuring non pesticidal 20-20-30 Tank Mix. This mix of Turfite® Elite, Liquid Turf Hardener and Seamac® Proturf Fe with Mantle®, is an extremely effective solution to preventing disease. It works by changing the leaf surface environment to make it harder for the pathogen to grow on and into the leaf surface, stimulating the plant's natural defence mechanism and improving plant health/growth by stimulating root and shoot development and chlorophyll production.

## OAS DewCure

Moisture is essential for disease pathogen development and dew formation on leaf tissue provides the perfect environment for fungal diseases to spread and thrive. Autumn and winter conditions are generally wet and mild and we can see continuous days or weeks where the canopy remains damp, with the continuous risk of high disease pressure.

The use of OAS DewCure is an effective tool, along with cultural methods, to reduce the risk of disease outbreaks and pathogen development. It works by coating the leaf surface, minimizing the amount of dew formation, limiting the conditions in which fungal diseases thrive.

Trial work has shown that applications of OAS DewCure can significantly help reduce disease levels when applied correctly and at regular intervals as part of an integrated approach.



## Turf Hardener

Balancing nitrogen levels throughout autumn and winter can provide turf managers with difficult decisions, over applying can result in disease outbreaks, whereas under applying can lead to a weak plant more susceptible to infection. Origin's Turf Hardener 3-0-3+1.6%Mg+4Fe is a well-balanced fertiliser with three sources of nitrogen that will provide a phased release, without any flushes and provide the plant with essential nutrients to maintain health and density throughout slower growth periods. The additional iron also contributes to acidifying the surface creating conditions less favourable to disease.

## OAS Penetr8-R

OAS Penetr8-R is an effective penetrant wetting agent that works by reducing the surface tension of water allowing it to move quicker through the soil profile, minimising moisture levels in the turf canopy and aiding water movement through the profile. Applications of OAS Penetr8-R increase the infiltration rate and provide a drier profile and surface, minimising favourable disease conditions.

## Symbio Biotabs

Strengthen your soil by adding some natural soil biology. The beneficial bacteria and fungi in Symbio Biotabs will help you grow a healthier sward, aid thatch reduction and keep the soil profile porous and aerated. The species will also create protective barriers around the plant root through symbiotic associations.



## Symbio Vermi Extract

Contains a broad spectrum of beneficial micro-organisms. Promotes greater root development and sward density. Increased diversity of beneficial biology outcompetes pathogens for food sources as well as degrading organic matter and improving the physical characteristics of soil. Better soils will drain more efficiently and will consequently be better aerated.





# R-Range Grass Seed

In partnership with leading grass breeders, OAS has developed a range of grass seed that can survive the ever-changing climate conditions we are witnessing, whilst being suitable for applications across the sports, golf, amenity and landscape markets.

Fine grass species and cultivars for greens, such as Festuca and Agrostis, are more resilient to pests and diseases with a deeper, denser root mass and require less inputs. Consider ultra-fine dwarf perennial ryegrass cultivars, which offer benefits such as quicker germination at lower temperatures. This enables faster establishment in wear areas, repairing disease scars and producing a more consistent surface.

For tees affected by wear and Microdochium, using Tetraploid perennial ryegrass in seed mixtures is worthy of consideration. They germinate at temperatures as low as 4°C, establish quickly, are deep rooting and produce a resilient turf surface.



## Germination by species

Grass Species	10 Days				20 Days				Optimum Soil Temp °C	Expected Days to Germination
	% Germination									
	4°C	10°C	28°C	38°C	4°C	10°C	28°C	38°C		
Tetraploid Perennial Ryegrass	47%	99%	99%	43%	64%	99%	99%	43%	5 to 16	3 to 10
Diploid Perennial Ryegrass	15%	90%	91%	23%	59%	92%	93%	23%	7 to 16	5 to 10
Annual Ryegrass	54%	99%	99%		79%	99%	99%		4 to 14	3 to 10
Strong Creeping Red Fescue	0%	57%	68%	14%	18%	77%	74%	17%	10 to 18	7 to 14
Slender Creeping Red Fescue	0%	51%	61%	21%	16%	69%	66%	13%	10 to 18	7 to 14
Chewings Fescue	0%	54%	63%	25%	17%	72%	69%		10 to 18	7 to 14
Hard Fescue	0%	60%	71%	16%	24%	83%	76%	13%	10 to 18	7 to 14
Sheeps Fescue	0%	59%	71%	16%	22%	80%	74%	13%	10 to 18	7 to 14
Browntop Bent	0%	56%	68%	13%	9%	74%	71%	13%	15 to 22	10 to 14
Creeping Bent	0%	42%	55%	7%	6%	55%	57%	16%	15 to 22	10 to 14
Smooth-stalked Meadowgrass	0%	24%	67%	6%	5%	86%	73%	7%	15 to 22	12 to 28
Tall Fescue	0%	45%	76%	52%	5%	81%	86%	45%	16 to 28	7 to 14

Note: This is **germination** (usually unobserved in the soil profile), not emergence. Differences occur between cultivars within a species. Time to emergence varies for example, seed energy, sowing depth, cultivar growth rate. Establishment influenced by root growth and tillering, supported by sufficient moisture, air, temperature and nutrients. Fescue germination % begins to decline when soil temperatures exceed 24°C.

Source: Top Green Research & Origin Amenity Solutions.



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### R105: Golf & Bowling Greens

100% Browntop bent mixture with two elite cultivars. Fine-leaved with superb shoot density and a strong disease resilience profile.

**Pack Size:** 10kg

**Order Code:** OAI000822

### R103: Golf & Bowling Greens

100% Browntop bent mixture with two consistently strong cultivars that offer excellent Winter colour, good shoot density and disease tolerance.

**Pack Size:** 10kg

**Order Code:** OAI000847

### R1: Golf & Bowling Greens

Fescue/Browntop bent mix (80/20). Contains highly rated Chewings fescue, Slender creeping red fescue and two elite bent cultivars offering a good diversity of three species and six cultivars. The mixture has strong shoot density, good year-round colour and recovery, with good disease resilience.

**Pack Size:** 20kg

**Order Code:** OAI000834

### R9 & R91: Greens & Tees

100% Ultra-Fine Dwarf Rye mixtures. Very rapid establishment and good shoot density with excellent disease tolerance. Ideal for quickly re-establishing surfaces after damage from biotic and abiotic stress during the playing season.

**Pack Size:** 20kg

**R9 Order Code:** OAI000840

**R91 Order Code:** OAI000846

### R25 CRT: Tees/fairways

Ryegrass mix containing 25% Tetraploid, 25% Creeping Rye and 50% Diploid Ryegrass. For exceptional Winter wear performance on tees and fairways with quick germination and recovery. Excellent disease tolerance profile.

**Pack Size:** 20kg

**Order Code:** OAI000844

### Super Root: Tees/Fairways

Contains 30% Tetraploid, 30% Diploid and 20% Creeping Ryegrass and 20% Strong creeping red fescue. Superb surface recovery and wear tolerance with good disease tolerance.

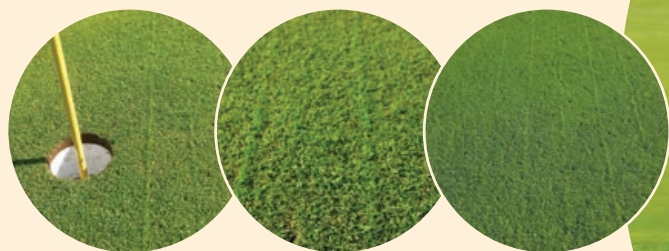
**Pack Size:** 20kg

**Order Code:** OAI000866

## Why use Mycorrhizal Grass Seed Coat during overseeding?

- It improves the establishment of fine grass seed in new and old greens.
- It increases plant tolerance to stress conditions.
- It expands root mass allowing increased uptake of nutrients and water.
- Mycorrhizae fungi also create barriers around roots to protect against pathogen attacks.

It is easy to apply. Simply mix Mycorrhizal Grass Seed Coat with your preferred grass seed and sow evenly in the usual way. Results can be seen in as little as 9 days.



Trial pictures taken 9 days after overseeding.



# Fungicides

In the UK, growers only have five Fungicide Resistance Action Committee (FRAC) modes of action, nine actives and nine primary formulations available for disease control. FRAC works to prolong the effectiveness of fungicides liable to encounter resistance problems and to optimise performance should resistance occur.

Origin Amenity Solutions is the only company in the UK that can provide all the registered formulated products supported by detailed trials information and practical use advice on all five fungicide groups and Mode of Action (MOAs). The FRAC Mode of Action classification provides advisors with a guide to the selection of fungicides for use in an effective and sustainable fungicide resistance management strategy.

Envu and OAS are introducing to the UK market, Harmonix® Turf Defense. This is a new turf bio-control fungicide product with broad spectrum disease management. Harmonix has FRAC Biological Multisite mode of action so is ideal for use in combination with other products for integrated fungicide management programmes.

OAS has developed a range of unique disease control programmes to cover all requirements and budgets.

- Full synthetic programmes alternating and tank mixing leading chemical formulations.
- Hybrid programmes with reduced reliance on synthetic fungicides by sequencing with either
  - Nutritional Disease Management products e.g., 20:20:30 plus Mantle or
  - Harmonix® Turf Defence

The critical elements of an integrated fungicide programme is not just the components of the programme but timing the application of preventative treatments. Using our Growth Potential timings we can optimise timing to obtain reliable performance and cost effective efficacious programmes.

## Turf fungicide FRAC mode of action periodic table 2022

<b>G1</b> Sterol Biosynthesis Inhibitors Sterol integration in cell membranes Group <b>3</b>	<b>C1</b> Carboximides (SDHIs) Mitochondrial respiration in complex II Group <b>7</b>	<b>C3</b> QoIs Mitochondrial respiration in complex III Group <b>11</b>	<b>E2</b> Phenylpyrroles os-1 histidine kinase in osmotic regulation pathways Group <b>12</b>	<b>BM</b> Multisite Biological Multisite Group <b>BM 02</b>
<b>Tb</b> Tebuconazole	<b>Fr</b> Fluopyram	<b>Tf</b> Trifloxystrobin	<b>Fd</b> Fludioxonil	<i>Bacillus amylolique-faciens</i>
<b>Di</b> Difenoconazole	<b>Br</b> Benzovindiflupyr	<b>Py</b> Pyraclostrobin	<b>Az</b> Azoxystrobin	



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# Prepare your irrigation system throughout Winter

Now's the time to review, maintain and possibly replace your irrigation system.

Origin Amenity Solutions is the UK distributor of RainBird irrigation products.

## Our extensive product range includes:

- Drip & Sprinklers
- Controllers & Decoders
- Valves & Valve Boxes
- Pipe & Fittings
- Hand Watering
- Filtration

For bespoke irrigation system assistance, please contact us:

**T: 0800 138 7222**

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Our brands:

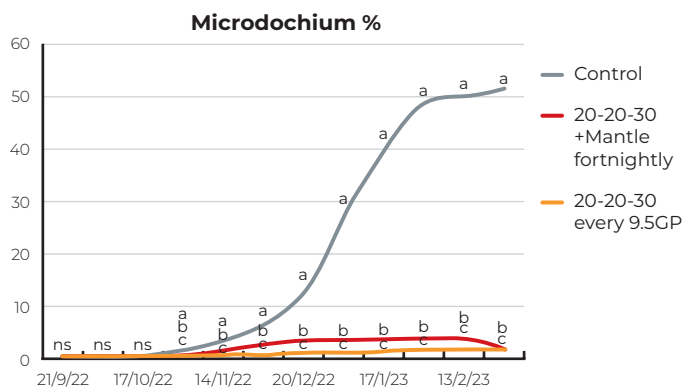


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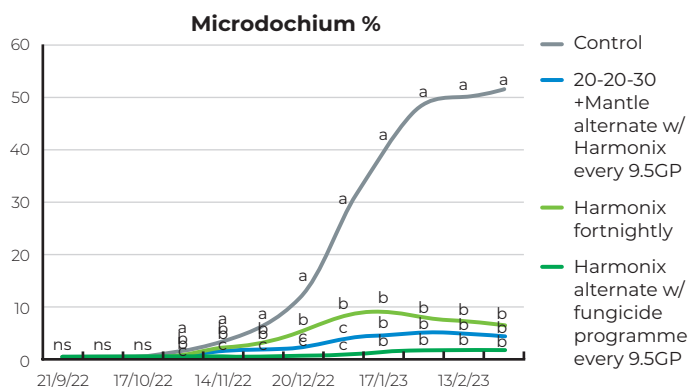


# OAS Turf Science and Research Centre update

Trials were carried out at our research centre in the Autumn/Winter of 2022/23. We wanted to trial the efficacy of the 20-20-30 + Mantle mix when applied every 9.5 Growth Potential (GP) compared to 'calendar' applications where it is applied every two weeks up until Christmas, and then fortnightly afterwards. All applications began in the second week of September.



Both programmes worked extremely well in a very high-pressure situation with untreated plots reaching over 50% disease damage by the end of the trial. Plots treated with 20-20-30 + Mantle every 9.5GP kept disease down under 2% for the whole trial period. 20-20-30 + Mantle fortnightly kept disease to a maximum of 3.5% over the whole trial period.



(Different letters indicate statistically significant differences, P<0.05. NS = Not Significant)

Trials with Harmonix Turf Defense (HTD) are the first year of trials to help Turf Managers successfully incorporate Biological Fungicide products into their Integrated Turf Management (ITM) plans. We are still learning about the performance of these products on turfgrass, but our first year of trials have helped us gather important data for the future.

We trialled HTD in three programmes:

1. HTD applied fortnightly.
2. HTD applied alternately with 20-20-30 + Mantle every 9.5GP.
3. HTD applied alternatively with a programme of fungicides every 9.5GP.

No added nutrition was applied to these treatments which led to some nutrient-led stress where HTD was used with fungicide and on its own which may have increased disease.

All three treatments significantly reduced disease. HTD applied fortnightly kept disease down below 9% throughout the trial, but this was not felt to be an 'acceptable' level of control. The lack of nutrition on a USGA green caused even higher levels of plant stress.

HTD alternating with 20-20-30 + Mantle every 9.5GP had better results with maximum disease levels at 5% throughout the trial with a considerably better turf appearance due to the nutrition within the 20-20-30 + Mantle package.

The treatment of alternating HTD with a fungicide programme every 9.5GP gave the best results of all with disease under 2% even with no nutrition for over 5 months. It is likely that even light levels of nutrition added over the autumn/winter would have reduced both plant stress and disease levels further. The combination of HTD plus fungicides performed as well as a fungicide-only programme, but reduced fungicide applications from 6 to 3 over the whole period.

For more information, call **0800 138 7222** or email [sales@originamenity.com](mailto:sales@originamenity.com)

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