

PRODUCING YOUR ULTIMATE PLAYING SURFACE



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Talking Turf are the distributors of Syngenta products to the Turf Market of Southern Africa. Shop www.talkingturf.co.za.

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**Talking Turf forms an alliance
with ASC Research Pty (Ltd)
for soil, water and
disease testing.**

**Annual soil and nematode
testing is highly
recommended.**



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Standard
Leaf or
Grass
Clippings

R410 Excl. VAT

Lowveld
Standard Soil
+ OrgC%

R575 Excl. VAT

Potable Water
for Human
Consumption

R1 400 Excl. VAT

Irrigation Water
Excluding Heavy Metals

R460 Excl. VAT

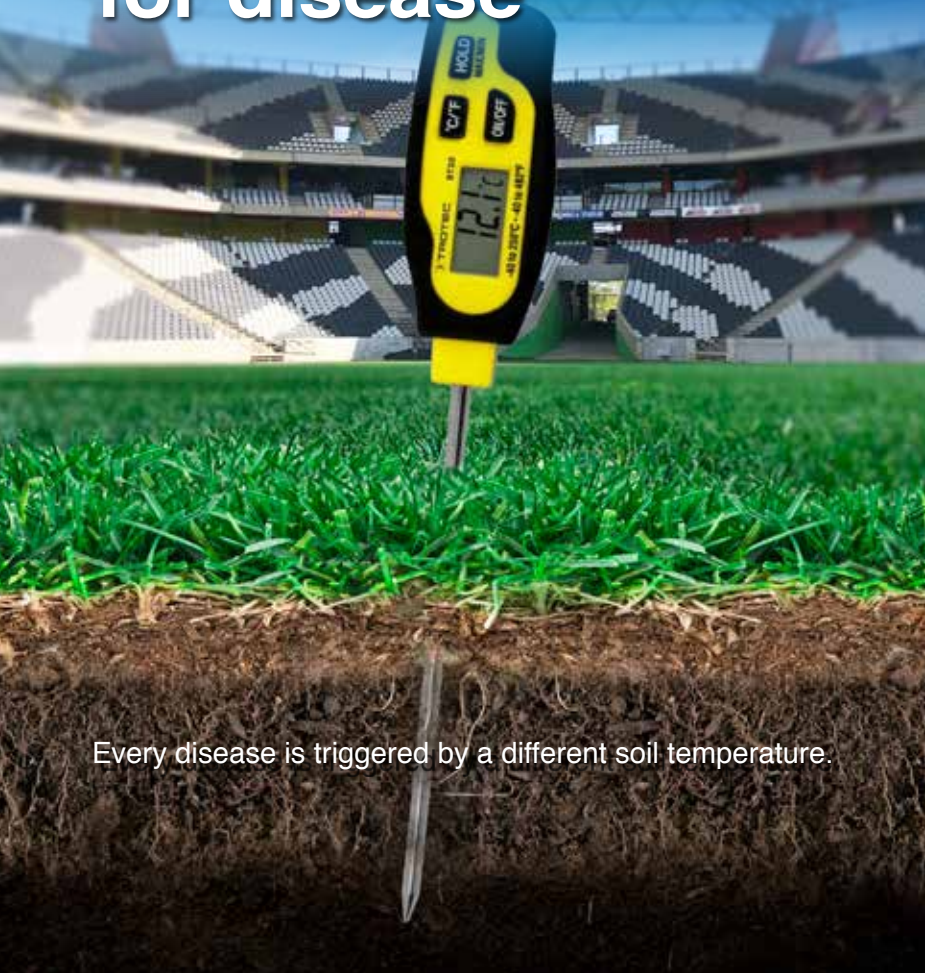
These are only a few of our analyses.

Prices valid until February 2022.

Full parameter and sampling
guidelines available on request.

Please visit our website www.labserve.net
or contact us for more information.

Soil temperatures are key indicators for disease



Every disease is triggered by a different soil temperature.

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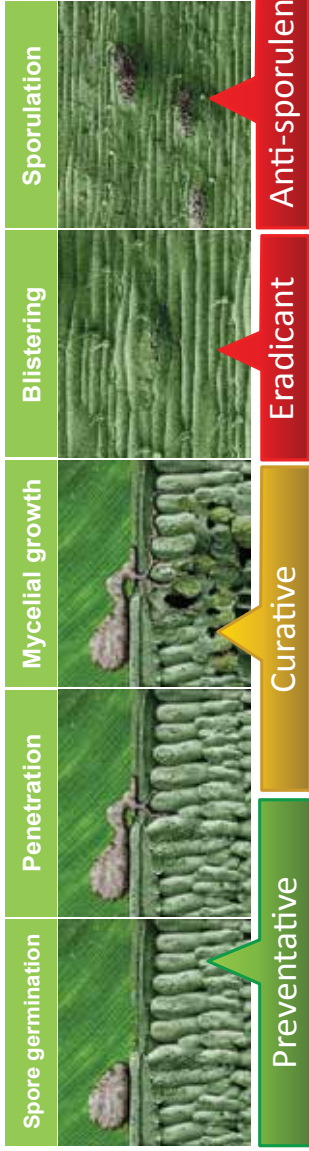
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Key:

- Preventative
- Curative
- Eradicant



Optimum timing for fungicide application to protect turf quality

Daconil Weatherstik Fungicide



Heritage Maxx Fungicide



Banner Maxx Fungicide



Subdue Maxx Fungicide



Headway MAXX turf Fungicide



Instrata Fungicide



Highly effective

Syngenta Products Application Timing

SYNGENTA PRODUCTS APPLICATION TIMING																
DISEASE	TIMING	FAVOURING AIR TEMP	FAVOURING SOIL TEMP	BANNER MAXX	DACONIL WS	HERITAGE	HERITAGE MAXX	HERITAGE MAXX	INSTATA	SIBDOE MAXX	QUALBRA	MERIDIAN	CASPER	PENANT MAGNUM	PRIMO MAXX	
	Active ingredient			Propiconazole	Chlorothalari	Azoxystrobin	Azoxystrobin	Azoxystrobin, pyrimethylnifluryl, Propiconazole	Chlorothalari, Propiconazole, Fludioxonil	Metenozam	-	Thiamethoxam	Diflamba, Proflutolium	S-metolachlor	Triepac-ethyl	
Anthracnose	Dec-Feb	15-25°C														
Brown Patch	Sept-April	>30°C-day time >15°C-night time														
Brown Ring Patch (Waitea Patch)	Sept-April	25-30°C														
Cabgrass	Oct	13°C														
Dollar Spot	Sept-April	15-30°C (High Humidity)														
Dry Spots	Sept-April	Localised/Dry Spots														
Fading Out	Dec-Feb	25-35°C														
Fairy Ring	May-Aug															
Goosegrass	Nov-Jan															
Grey Leaf Spot	Aug-April	26-32°C														
Large Patch	Aug-April	10-15°C (High Humidity)														
Leaf/Shear/Stripe Rust (Kikyo Patch)	Aug-April	18-30°C														
Microdochium Patch	Jun-Aug	1-15°C														
Mole Cricket	Sept-Jan	Apply Meridian after first rain / follow up 60 Days later.														
Plant Growth Regulator	Jan-Dec	>10°C														
Poa Annua	March, April, July	Seed germinates in Apr & Aug														
Powdery Mildew	Aug-Oct	15-22°C														
Pythium Leaf Blight	Nov-April	>20°C														
Pythium Root Rot	May-July	0-10°C														
Red Thread	Jan-Dec	4-29°C														
Rhizoctonia Zae (Rhizoctonia leaf and Sheath sp)	Dec-Feb	28-36°C														
Seedling Damping Off	After seeding	>20°C														
Spring Dead Spot	March, April, Sep	Treat in Autumn twice and once in Spring														
Summer Patch	Nov-Jan	29°C-day time 21°C-night time	>18°C													
Take-all Patch	May-Sept	4-15°C														
Take-all Root Rot (Bermudagrass Decline)	Late summer to early Winter following periods of overcast, warm wet weather.															
White Clover	Nov-Jan															
White Grub	Sept-Jan	Apply Meridian after first rain / follow up 60 Days later.														
Yellow Clover	Nov-Jan															

Disease Chart for Turf Varieties

ANTHRACNOSE	BROWN PATCH	BROWN RING PATCH (WAITEA PATCH)	DOLLAR SPOT	FAIRY RING	GREY LEAF SPOT	LARGE PATCH	LEAF STEM STRIPE RUST
Cool Season Creeping Bentgrass Paspalum Poa Annua	Cool & Warm Season Most species of warm & cool season turfgrass	Cool & Warm Season Creeping Bentgrass Paspalum Poa Annua Ultra-Dwarf Bermuda	Cool & Warm Season Most species of warm & cool season turfgrass	Cool & Warm Season Most species of warm & cool season turfgrass	Cool & Warm Season Bermudagrass Kikuyu Perennial Ryegrass Tall Fescue	Warm Season Kikuyu	Cool & Warm Season Bentgrass Kentucky Bluegrass Perennial Ryegrass Tall Fescue Zoysiagrass
MICRODOCHMIUM PATCH	POWDERY MILDEW	PYTHIUM BLIGHT	PYTHIUM ROOT ROT (ROOT DYSFUNCTION)	RED THREAD	RHIZOCTONIA ZEAE (RHIZOCTONIA LEAF & SHEATH SPOT)	SPRING DEAD SPOT	SUMMER PATCH
Cool Season Most species of cool season turf	Cool & Warm Season Bermudagrass Fine-Leaf Fescue Kentucky Bluegrass Perennial Ryegrass	Cool & Warm Season Most species of warm & cool season turfgrass	Cool & Warm Season Annual Bluegrass & Creeping Bentgrass most susceptible. Bermudagrass and Seashore Paspalum can also be affected.	Cool & Warm Season Bermudagrass Creeping Bentgrass Fine-Leaf Fescue Kentucky Bluegrass Perennial Ryegrass Poa Annua	Cool & Warm Season Most species of warm & cool season turfgrass	Warm Season Ultra-Dwarf Bermuda Bermudagrass Buffalograss Kikuyu	Cool Season Fine-Leaf Fescue Kentucky Bluegrass Poa Annua

COOL SEASON	WARM SEASON
BENT GRASS	BEREA (LM)
FESCUES	BERMUDA
KENTUCKY BLUEGRASS	BUFFALOGRASS
POA ANNUA (ANNUAL BLUEGRASS)	KIKUYU
RYE	PASPALUM
TALL FESCUE	ULTRA-DWARF BERMUDA
	ZOYSIA

LEAF SPOT/ MELTING OUT	TAKE-ALL PATCH	TAKE-ALL ROOT ROT (BERMUDA GRASS DECLINE)
Cool & Warm Season	Cool & Warm Season	Warm Season
Creeping Red Fescue Kentucky Bluegrass Perennial Ryegrass Poa Annua Tall Fescue Some varieties of Bermudagrass	Colonial Bentgrass Creeping Bentgrass Ultra-Dwarf Bermuda	Bermudagrass Ultra-Dwarf Bermuda

KEY APPLICATION TIPS

ENSURE WATER PH IS 6,5 BEFORE ADDING PRODUCT:

- ✓ **SOIL BORNE DISEASES (WATER IN IMMEDIATELY)** – Example: Brown Patch, Brown Ring Patch, Large Patch, Take-all Patch, Fairy Ring
- ✓ **FOLIAR DISEASES (LEAVE ON THE LEAF FOR AT LEAST 3 HOURS)** – Example: Dollar Spot, Pythium Blight, Microdochium Patch
- ✓ Products **NOT TO WATER IN** – Daconil Weatherstik, Instrata, Subdue Maxx, Primo Maxx, Ryder
- ✓ Products to **WATER IN IMMEDIATELY** – Qualibra
- ✓ **COMPATIBILITY** – Qualibra is compatible with Karate, Meridian, Heritage/Heritage Maxx, Subdue Maxx
- ✓ **POA MANAGEMENT** – Tank mix Primo Maxx & Cultar (Don't apply Cultar within 14 days of Banner Maxx or Headway Maxx)
- ✓ **WEED CONTROL:**
 - **Fence/paving kill off – 3 litres/ha Fusilade Forte & follow up 21 days later – slow kill, but long-term kill.**
 - **Add 2 litres/ha Pennant Magnum as a pre-emergent for grass and weeds.** (Pennant Magnum – must be applied to moist soil & water in within 24 hours.)
- ✓ **NB TO DO FOLLOW UP APPLICATIONS FOR HERIBICIDES!**
- ✓ **LANDSCAPE AREAS** – Safe to spray Fusilade Forte/ Pennant mix over dicots (flower beds) – great tool! No more hand weeding!

BENT GREENS APPLICATIONS

IF MICRODOCHUM PATCH PRESENT

JAN

FEB

DEC

MAR

NOV

APR

OCT

MAY

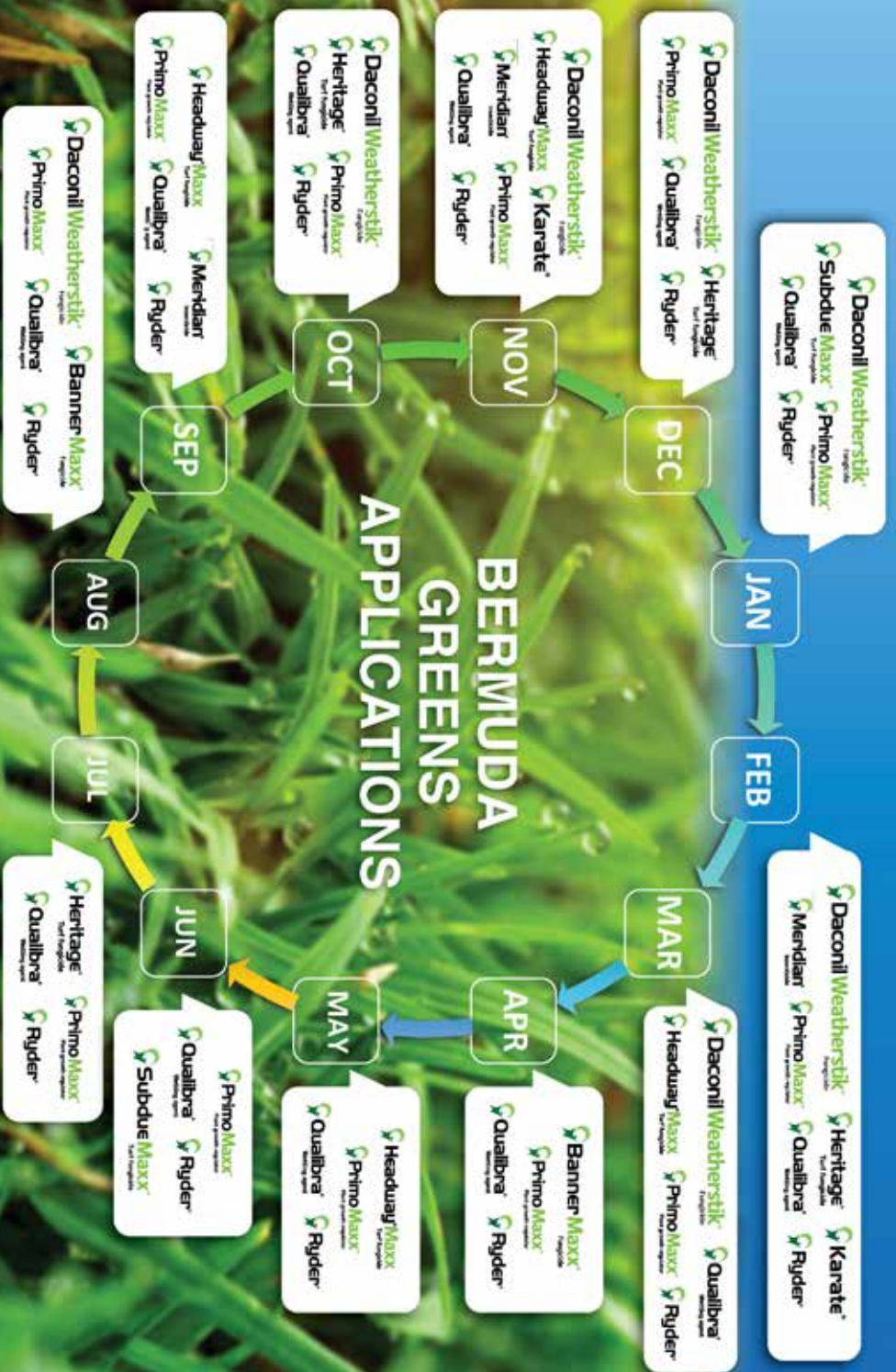
SEP

JUN

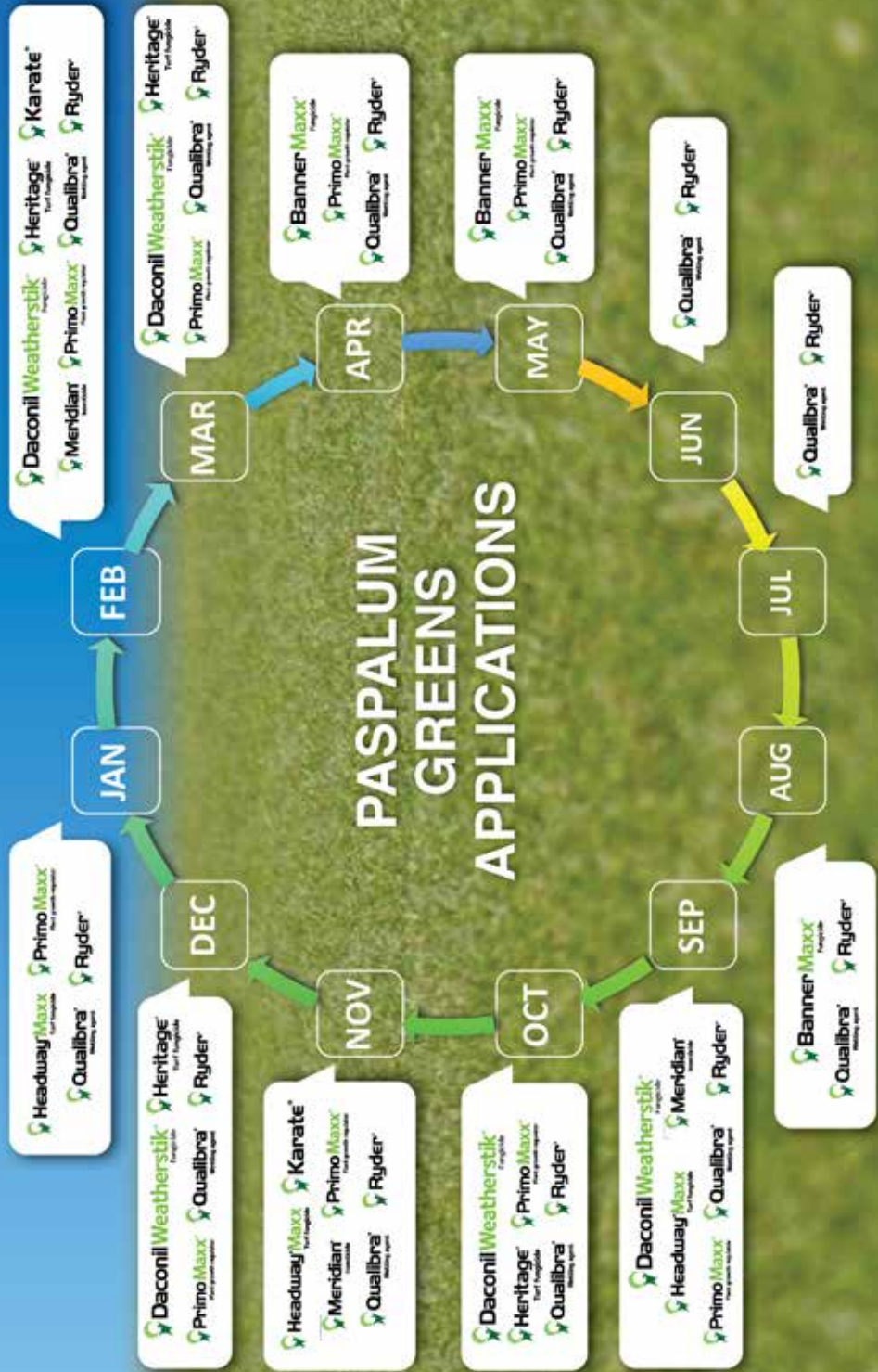
JUL

AUG

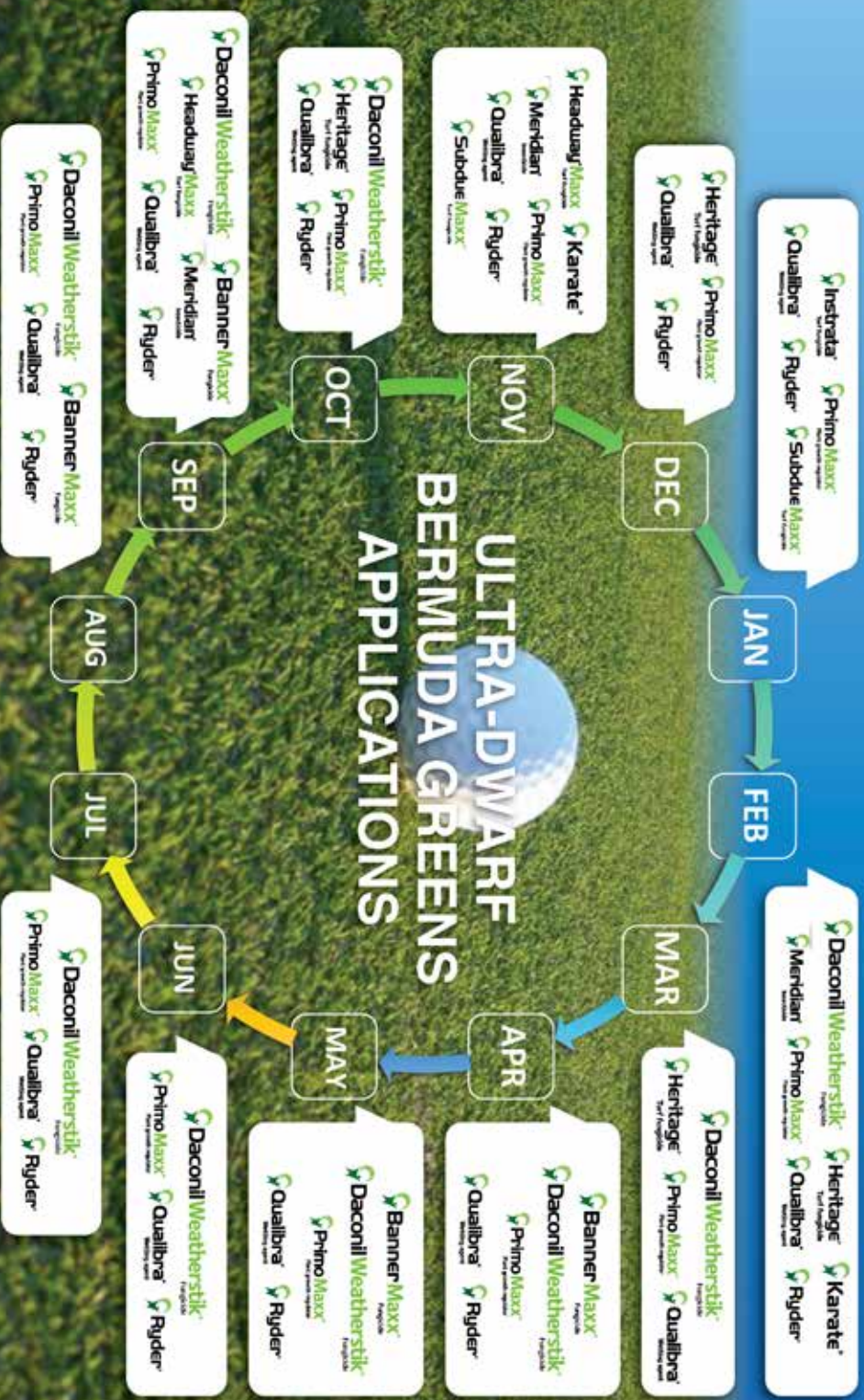
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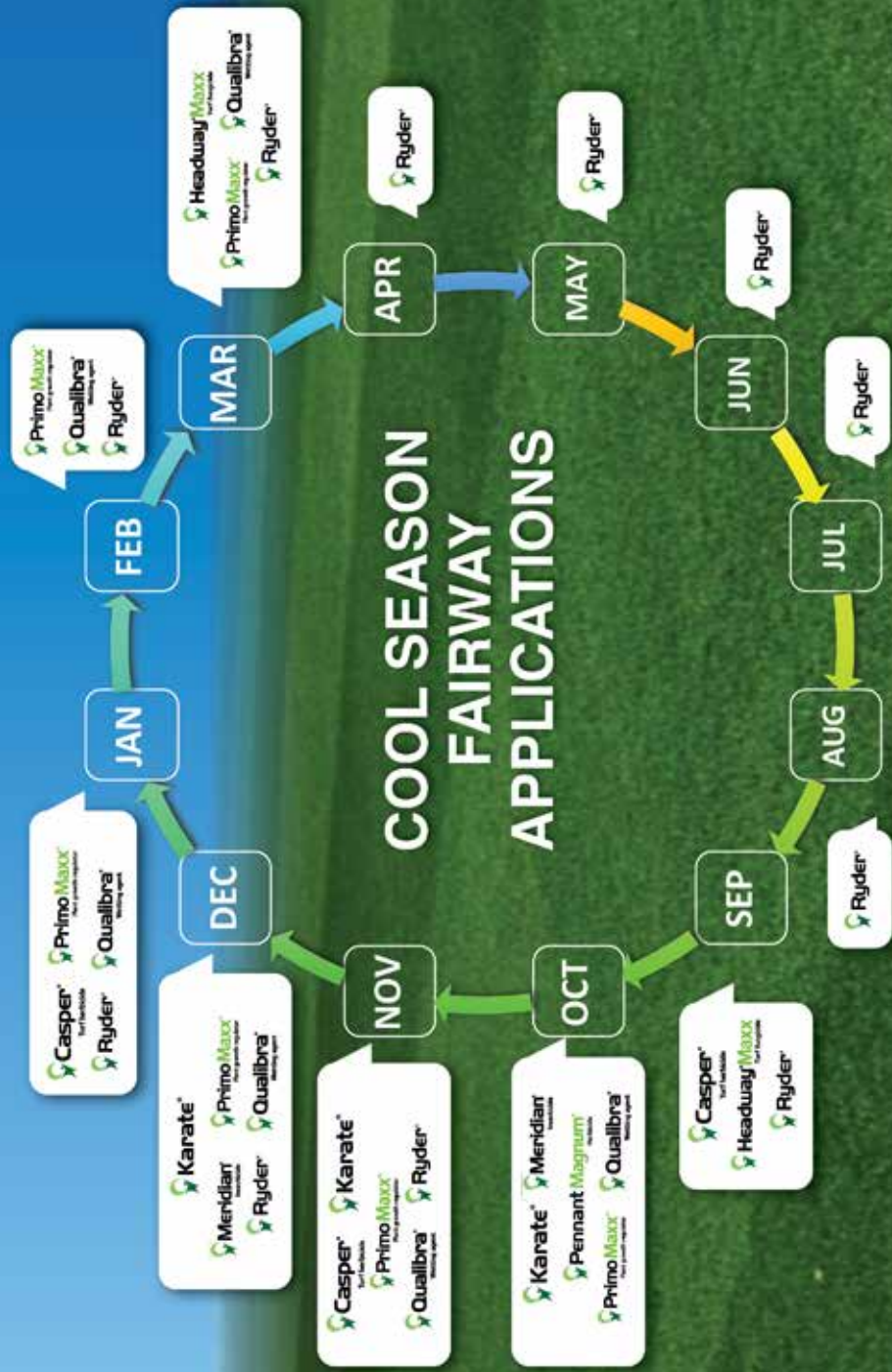
PASPALUM GREENS APPLICATIONS

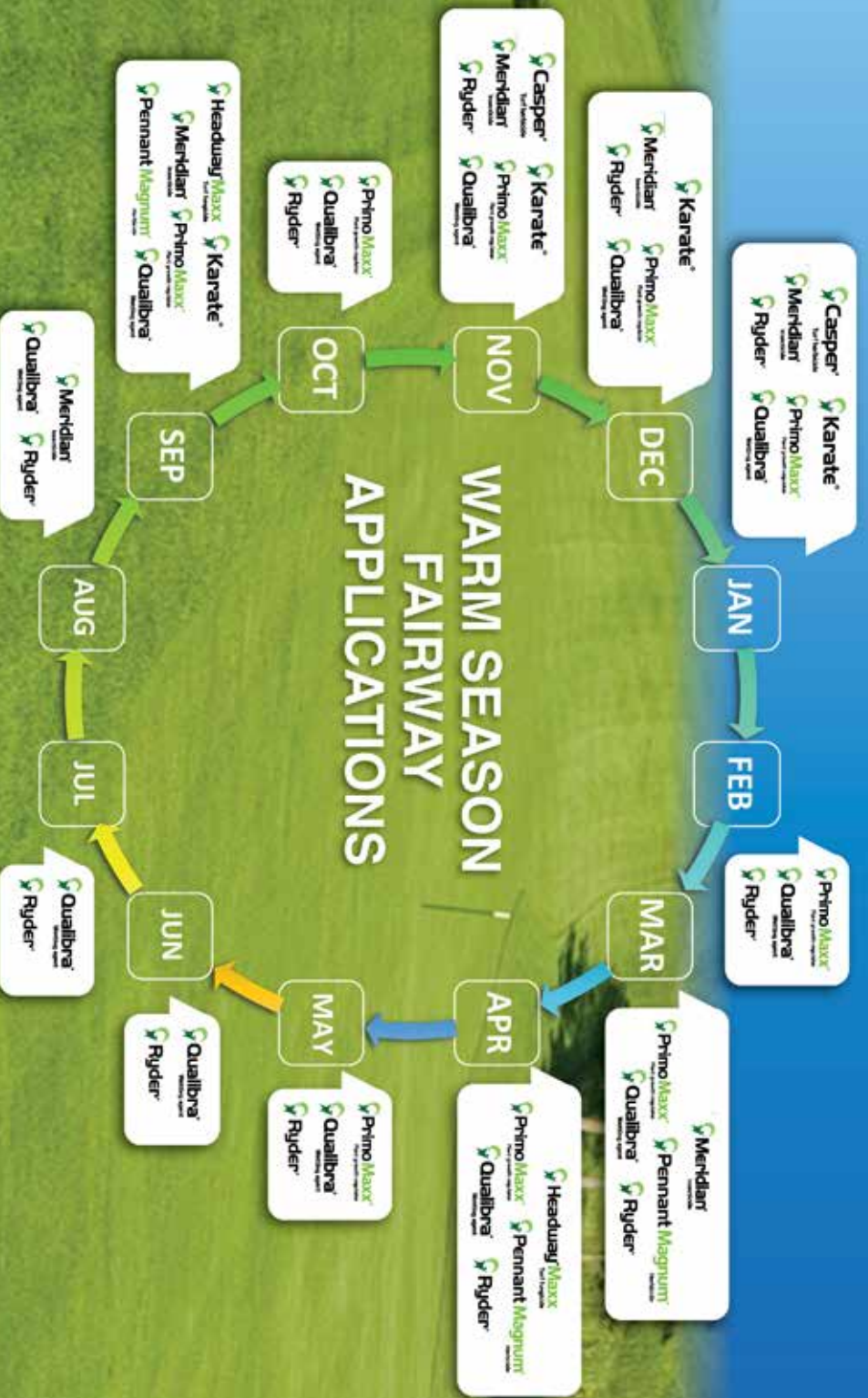


ULTRA-DWARF BERMUDA GREENS APPLICATIONS



COOL SEASON FAIRWAY APPLICATIONS





Anthracnose

Causal Agent:

Colletotrichum cereale (formerly *Colletotrichum graminicola*)



Anthracnose on Creeping Bentgrass close up



Anthracnose on Creeping Bentgrass



Anthracnose on Poa Annua close up



Anthracnose on Creeping Bent & Poa Annua grass mixed

Susceptible Turfgrass:

Creeping Bentgrass, Paspalum, Poa Annua

Symptoms:

Anthracnose is most destructive during warm weather. It causes **irregularly shaped patches** that are **yellow to brown in colour**. Leaf lesions that are yellow with black centers may also occur. Anthracnose also causes a basal stem rot from late Winter to Autumn. Infected shoots are easily detached. The dead foliage and stems also become covered with acervuli – tiny, spined, black fruiting bodies – that require magnification to identify.

Conditions Favouring Disease

Greens established with Poa Annua or susceptible varieties of creeping bentgrass can be attacked by Anthracnose throughout the entire growing season. In creeping bentgrass putting greens, the basal rot form of the disease is most active during hot weather in the summer, whereas the foliar blight is most common during cool and cloudy conditions. The opposite is true on Poa Annua, with the basal rot being most severe in cool, cloudy weather and the foliar blight more common during hot, dry weather. The fungus may also survive as darkly pigmented aggregates of hyphal cells (stromata) that are formed on stolons and at the base of tillers. Exposure of the stromata to sunlight and moderate temperatures of **15 to 25°C (59 to 77°F)** can induce formation of conidia. The conidia may serve as initial inoculum for basal rot Anthracnose in the spring or early summer.



Anthraco

Best Management Practices (BMP) for Anthracnose control:

Rutgers University research has shown that using **Banner Maxx + Daconil** and **Heritage Maxx + Daconil**, one can prevent and control Anthracnose. However, **BMP (Best Management Practices) are equally important:**

- Maintain optional moisture levels (using a moisture meter is a great way to achieve this).
- Reduce leaf wetness periods.
- Regular dusting (this significantly reduces Anthracnose severity as you are protecting the crown of the plant).
- Rolling (up to 3 times per week).
- Rather reduce mowing height than cut back on N.
- Apply a granular application of N in spring and then maintain the nitrogen levels with 18 - 22,5 kg of N/ ha per week in early spring and reduce to 4kg /ha per week in late spring and summer.
- Maintain good nitrogen (3,6 % in the leaf) and potassium levels.
- Potassium Nitrate is a good source of N (avoid Potassium Chloride, Ammonium sulphate and Ammonium Nitrate).
- Maintain a soil pH of 6.
- Primo Maxx (apply 0.3 - 0.6 l/ha) – every 7-14 days during the growing season. Primo Maxx not only allows you to maintain your greens speed, but has also reduced the disease severity unlike the competitor products.

Keys products for Anthracnose prevention and control:

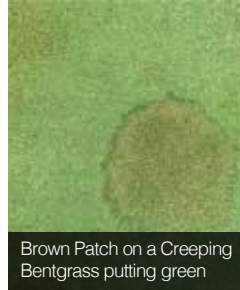
- Optimum **water volume is 750 l/ha** when targeting Anthracnose – **good nozzles** are also part of the secret to success.
- Daconil Weatherstik – research has shown you require lower rates every 14 days – generic products require more regular applications at higher rates. **Best results with a tank mix of Banner Maxx/Daconil and Heritage Maxx/Daconil.** The mixes work better as there are more than 12 strains of Anthracnose per green and different strains have different resistance levels to different chemistry.



Brown Patch

Causal Agent:

Brown Patch: *Rhizoctonia solani*



Susceptible Turfgrass:

Most species of warm and cool season turfgrass

Symptoms:

The symptoms of Brown Patch can vary depending on the grass cultivar, climatic and atmospheric conditions, soil, and intensity of the turfgrass management. This disease typically causes **rings or patches** of blighted turfgrass that measure 12 cm to more than 3 m in diameter. It also causes **leaf spots** and **“smoke rings”**— thin, brown borders around the diseased patches that appear most frequently in the early morning. Key ID tip on greens: when doing a disease check in the dew, look towards the sun. This way you may see smoke rings developing. After the leaves die in the blighted area, new leaves can emerge.

Conditions Favouring Disease:

Brown Patch favours high relative humidity as well as **temperatures of over 30°C during the day and over 15°C at night**. This disease can be quite active at cool temperatures on warm-season grasses in the Spring and Autumn as temperatures in the turfgrass canopy, which is where infection starts, can often exceed air temperatures. It also occurs in areas that experience more than 10 hours a day of foliar wetness for several consecutive days. Brown Patch infestation is more severe when the turf is cut to a height less than the optimum for that turfgrass species from the surviving crowns. On wide-bladed species, leaf lesions develop with tan centers and dark brown to black margins.

Integrated Turf Management Tips:

- Use low to moderate amounts of nitrogen, moderate amounts of phosphorous, and moderate to high amounts of potash
- Avoid nitrogen applications when the disease is active
- Increase the height of cut
- Increase the air circulation
- Minimise the amount of shade
- Irrigate turf early in the day
- Improve soil drainage
- Reduce thatch
- Remove dew from turf early in the day
- For best results, use contact or penetrant fungicides to prevent Brown Patch



BANNER MAXX GETS TO WORK **FASTER**

The trusted choice to use curatively when disease symptoms become apparent. The fast absorption and systemic movement combines to ensure effective “stopping power”.



Banner Maxx acts in THREE ways to minimise the effects of turf diseases:

Preventative

Prevents visible disease damage occurring

Curative

Control disease after infection but before symptoms are expressed

Eradicant

Limits disease spread and aids in recovery of new leaf

Uptake and Translocation

- ✓ Excellent rain fastness- 1 Hour
- ✓ Rapid uptake into leaf tissue with little root uptake
- ✓ Excellent translaminar movement
- ✓ Gradual “acropetal” movement towards leaf tip

Brown Ring Patch (Waitea Patch)

Protect your turf from Brown Ring Patch

Brown Ring Patch is a disease that can take hold of your turf during spring, early summer as daytime temperatures increase. However, with the right timing and the right product, you can get rid of Brown Ring Patch and keep your turf healthy all season long.



Brown Ring Patch close up



Brown Ring Patch on Paspalum greens



On Ultra-Dwarf Bermuda greens



Brown Ring Patch on Bent greens

Susceptible Turfgrass:

Creeping Bentgrass, Paspalum, Poa Annua, Ultra-Dwarf Bermuda

Symptoms:

Brown Ring Patch is a widely spread disease on greens in South Africa. This disease infects the roots and slowly works its way up the plant. It can take months before symptoms are visible on the playing surface. Rhizoctonia diseases are spread by dead or alive plant material so best to apply a systemic fungicide like Headway Maxx prior to any cultural practices. Infection typically begins as thin yellow rings, ranging from several inches to a foot in diameter (10 cm to 0.3 m). Rings may be circular or irregular in shape, and may become brown over time. **Patches** often have a **greenish colour behind the yellow ring** which tends to be **soft** and **sunken**. Symptoms are very similar to those of Yellow patch, and can also be confused with fairy ring and summer patch. Unlike yellow patch however, Waitea patch tends to occur over a broader range of temperatures, and persists into the warmer weather of the summer.

Conditions Favouring Disease:

The disease can first appear in the cooler weather of the spring and persist into the warm temperatures of the summer. Infection has been shown to occur between **10° - 35° C** with **optimal temperatures of 25° to 30° C**. The pathogen is thought to infect the upper roots, crown, stem and leaves of individual plants. It also appears to degrade thatch, which can cause sunken rings on putting greens.



syngenta®

Naturally POWERFUL DISEASE CONTROL

Targeting the pathogen at the very early stages, eliminating disease before it has chance to cause damaging effects on the turf. Heritage is also very effective at the end of the disease cycle.

Five-way turf disease protection:

- ✓ **Targets disease** attack **before** damage is caused
- ✓ Gives long lasting protection for **28 days**
- ✓ Systematic strobilurin fungicide - **protects the turf as it grows**
- ✓ Has **natural origins**
- ✓ **Root, crown and foliar** uptake

Broad-spectrum protection

Heritage is a systematic fungicide with preventative and curative properties for control of some of the toughest turf diseases.

Anthracnose	Melting Out	Red Thread
Brown Patch	Microdochium Patch	Rhizoctonia Zeae
Brown Ring Patch (Waitea Patch)	Necrotic Ring Spot	Rusts
Fairy Ring	Powdery Mildew	Spring Dead Spot
Grey Leaf Spot	Pythium Blight	Summer Patch
Large Patch	Pythium Root Rot	Take-all Patch
Leaf Spot	Seedling damping off	Take-all Root Rot

Only systemic strobilurin which protects the plant as it grows

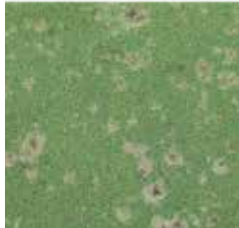
Dollar Spot

Causal Agent:

Clarireedia homoeocarpa



Dollar Spot lesions on Kentucky Bluegrass



Dollar Spot on Creeping Bentgrass



Dollar Spot close up



Dollar Spot on Kentucky Bluegrass

Susceptible Turfgrass:

Most species of warm and cool season turfgrass

Symptoms:

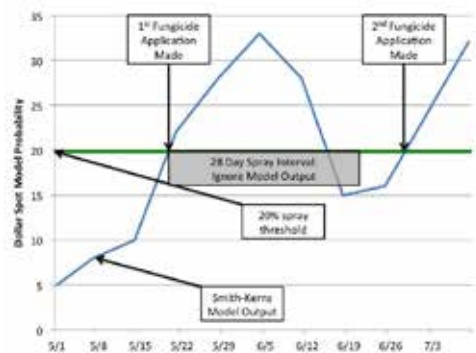
Dollar Spot causes **sunken, circular patches** that measure up to 5 cm in diameter on golf greens and several inches on higher mown turf. The patches turn from **brown to straw colour** and may eventually coalesce, forming **irregularly shaped areas**. Infected leaves may display small lesions that turn from yellow green to straw colour with a reddish-brown border. The lesions can extend the full width of the leaf. Multiple lesions may occur on a single leaf blade.

Conditions Favouring Disease:

Dollar spot is favoured by temperatures between **15°C to 30°C** and **continuous high humidity**. This disease is particularly favoured by warm days, cool nights, and intense dews. It also infects areas with low levels of nitrogen and becomes more severe in dry soils.

Integrated Turf Management Tips:

- Use an adequate level of nitrogen, particularly in the Spring and early Summer
- Mow grass at regular intervals
- Reduce thatch
- Increase the air circulation
- Irrigate turf deeply and as infrequently as possible to avoid drought stress
- Remove dew from the turf early in the day
- Convert to a turfgrass cultivar (especially for Bentgrass) that is more tolerant to dollar spot
- Apply contact and/or penetrant fungicides on a preventive basis



Smith and Kerns Dollar Spot Model





POWERFUL CONTACT FUNGICIDE

A powerful contact fungicide that acts on the outside of the turf plant creating a strong barrier to prevent fungal infection.

Daconil Weatherstik VS Generics

- ✓ Stays in suspension after **6 hours** - **better mixability**
- ✓ Smallest **particle size** for **maximum benefit**
- ✓ **Easier** handling
- ✓ **Greater efficiency, longer shelf life**, less sediment
- ✓ **Reduced foaming**
- ✓ Daconil has a neutral pH for optimal performance
- ✓ **Superior adhering power** for **extended coverage** on the crown and sheath of grass blades
- ✓ **Best overall disease control**
- ✓ Provides **residual control** for **14-21 days**.



Fairy Ring

Varying Causes and Symptoms:

Three types of Fairy Ring symptoms can change the appearance and/or health of turfgrass.



TYPE I SYMPTOMS

Damaged or dead turf from drought stress.

Causes:

- Hydrophobic (water-repellent) thatch and soil.
- Accumulation of ammonium to toxic levels.
- Release of hydrogen cyanide or other toxins into the root zone.



TYPE II SYMPTOMS

Rings of dark green or quickly growing turf. These symptoms usually occur early in the season, and indicate that more severe Type I symptoms may follow. They are most evident in **under-fertilized turf**.

Cause:

- The release of nitrogen and other nutrients into the soil.



TYPE III SYMPTOMS

Mushrooms or other fruiting bodies produced in a ring. They are most common during periods of wet weather preceded by drought.

Cause:

- Mycelial mass buildup around the outer ring.
- Although Type II and III symptoms are not devastating to turf, they do **detract from uniformity** and can **affect playability**.

Both warm and cool season grasses are susceptible to Fairy Ring, and the disease is most damaging in the sandy soils that are preferred for putting greens. By creating optimal playing conditions for the golfer, we also create optimal growing conditions for fairy ring pathogens.

Integrated Turf Management Tips:

- Maintain regular, preventive applications with Heritage Maxx throughout the season.
- Initiate applications early in the season when soil temperatures reach **12°C to 15°C**.
- Deliver the active ingredient to the infested zone of the soil profile.
- Apply soil surfactants regularly to maintain soil conditions and turf health.
- Preventive fungicide applications do not require tank-mixing with a soil surfactant, but curative applications generally do.
- Determine how deep fairy ring infestation is for watering-in product applications.
- 2.5 – 3.8 mm of irrigation is needed if limited to the thatch layer.
- 6.3mm of irrigation if 50-80mm deep in soil.
- Repeat applications on regular intervals to maintain consistent suppression in the soil.

Fungicides are a long-term, preventive approach, not a short-term fix.



Superficial Fairy Ring

Causal Agent:

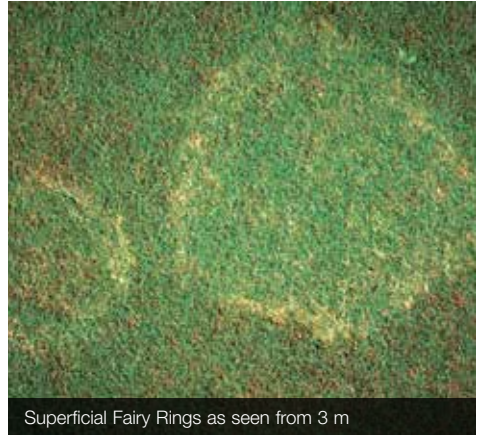
Coprinus kubickae, *Melanotus phillipsii*, *Trechispora alnicola*, *Trechispora cohaerens*, *Trechispora farinacea*, other species

Susceptible Turfgrass:

Most species of warm and cool season turfgrass

Symptoms:

Symptoms vary depending on the type of Superficial Fairy Ring. This disease can **cause patches with felted, white mycelium**. Sometimes the patch is **sunken** and has a ring that measures approximately 2.5 cm wide at the border. Also, the lower leaves on the turfgrass in the affected areas can die.



Superficial Fairy Rings as seen from 3 m

Conditions Favouring Disease:

Superficial Fairy Ring is favored by the summer season for cool season turfgrass. For areas where warm season turfgrass is the principle turfgrass species and dormancy is sporadic or doesn't occur, superficial fairy ring can be a common problem. While the patches typically disappear in the cool seasons for cool season turf or in the summer for warm-season turf, they can remain if the turf is not properly managed.

Integrated Turf Management Tips:

- Maintain adequate fertilization to minimize symptoms
- Reduce thatch by vertical cutting and aerifying
- Topdress and cultivate turf to control mat and thatch
- Improve soil drainage
- Increase mowing height



Grey Leaf Spot

Causal Agent:

Pyricularia grisea



Grey Leaf Spot close up



Grey Leaf Spot on Perennial Ryegrass



Grey Leaf Spot from 6m

Susceptible Turfgrass:

Bermuda, Kikuyu, Perennial Rye and Tall Fescue

Symptoms:

The symptoms of Grey Leaf Spot vary depending on the grass cultivar. On **Kikuyu**, Grey Leaf Spot first appears as **small, brown spots on the leaves and stems**. The spots quickly enlarge to approximately 0.5 cm in length and become bluish-grey in colour and oval or elongated in shape. The mature lesions are tan to grey in colour and have depressed centers with irregular margins that are purple to brown in colour. On **Perennial Ryegrass** and **Tall Fescue**, symptoms first appear as small, **water-soaked lesions that turn brown**. Lesions may have a yellow halo. The leaf tips will have a twisted or **fishhook** shape.

Conditions Favouring Disease:

Grey Leaf Spot favours temperatures between **26°C to 32°C**. It is also found in areas with high nitrogen levels and that are stressed by various factors, including drought and soil compaction. This disease is most severe during extended hot and humid periods.

Integrated Turf Management Tips:

- Avoid medium to high nitrogen levels during mid-summer
- Irrigate turf deeply and as infrequently as possible to avoid water stress
- Allow water to remain on leaves for only a short period of time
- Reduce thatch by vertical cutting
- When possible, plant turfgrass that is resistant to Grey Leaf Spot
- Avoid using herbicides or plant growth regulators when the disease is active
- Apply penetrant fungicides on a preventive basis



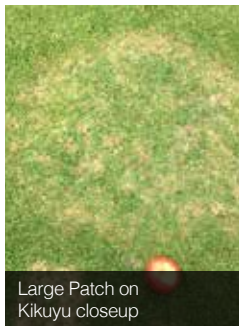
Large Patch (Kikuyu Patch)

Causal Agent:

Rhizoctonia solani



Large Patch on Kikuyu
close up



Large Patch on
Kikuyu closeup



Large Patch on Kikuyu
Fairways



Large Patch on Kikuyu

Circular shape

Irregular shape

Susceptible Turfgrass:

Kikuyu

Large patch is a widely spread disease on Kikuyu fairways, Kikuyu sports fields & Kikuyu lawns in South Africa. This disease infects the roots and slowly works its way up the plant. It can take months before symptoms are visible on the playing surface. This disease is spread by dead or alive plant material so best to apply a systemic fungicide like Headway Maxx prior to any cultural practices.

Application Timing:

- Autumn with a follow up application 21 days later
- Headway Maxx at 2-3 litres/ha is very effective
- A spring application of Headway Maxx is also recommended

Integrated Turf Management Tips:

- Treat in Autumn and Spring 2-3 litres/ha Headway Maxx
- Do a follow up application 21 days later in Autumn
- Best to spike prior to applying Headway Maxx and water in immediately for a few minutes
- It is not how much water, but how quickly you water in that is important
- Preventative rate: 2-3 litres/ha Headway Maxx
- Curative rate: 3-9 litres/ha



DUAL ACTION LONG-LASTING TURF DISEASE CONTROL



Complimentary action of two world-leading active ingredients:

AZOXYSTROBIN + PROPICONAZOLE

Dual Action Control

- ✓ First **double action fungicide** with **disease control** activity from **leaf to root**
- ✓ **For all sports turf surfaces**
- ✓ **Fast uptake** and **highly systemic activity**
- ✓ The **first-choice** option throughout the growing season
- ✓ Approved for key **foliar** and **soil-borne turf diseases**
- ✓ When targeting **root borne diseases** it is best to **spike** prior to the application and **water in** Headway Maxx immediately for **6 minutes** for root borne diseases.

Target Diseases:

Anthrachnose	Fairy Ring	Microdochium Patch	Seedling damping off
Brown Patch	Fusarium Patch	Powdery Mildew	Red Thread
Brown Ring Patch	Grey Leaf Spot	Pythium Blight	Rhizoctonia Zeae
Dollar Spot	Large Patch	Pythium root dysfunction	Summer Patch

Microdochium Patch

Causal Agent:

Microdochium nivale
(same species that causes pink snow mold)

Susceptible Turfgrass:

Most species of cool season turf



Microdochium Patch on Bent greens



Microdochium Patch close up

Symptoms:

Microdochium Patch causes patches that are **yellow** or **reddish-brown** in colour and 2.5 to 15 cm in diameter. The **periphery** of the patches are reddish brown or **pink in colour**. “Smoke rings” – thin, brown borders around the diseased patches that appear only in the early morning – can occur. The patches occur in cool, wet weather. Blighting in streaks can also occur as a result of spore tracking on equipment wheels.

Conditions Favouring Disease:

Microdochium Patch thrives in temperatures from **0 to 15°C** and in locations that experience **more than 10 hours a day of foliar wetness** for several consecutive days. It also favours areas high in nitrogen fertility and low in phosphorous and potash. Microdochium Patch also infects areas with slow growing conditions and heavy thatch.

Integrated Turf Management Tips:

- Best to start preventative applications in early May and continue through winter
- Maintain balanced fertility but avoid urea sources of nitrogen
- Avoid using lime. Alkaline soils enhance disease development
- Increase air circulation to speed turf’s drying process.
- Minimise the amount of shade
- Reduce thatch
- Apply fungicides prior to or at the first signs of disease. Turf recovery is more likely in the Autumn
- Make additional fungicide applications as needed during the Winter. Turf recovery is slow during the Winter so maintain a fungicide programme to reduce turf damage



FAST ACTION

DISEASE CONTROL INSIDE OUT



*Fast activity on
the leaf AND in
the thatch*

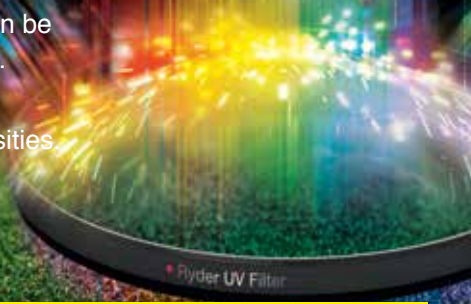
- Stop disease infection fast
- Stop disease developing
- Stop disease spread

Multi-active
combination gives
Protectant, Curative
and **Eradicant** activity
across all key turf diseases

**THE ONE SOLUTION TO TACKLE
TURF DISEASES ALL YEAR ROUND**

RYDER protects your turf from the cold and keeps it green throughout WINTER

- Great lasting colour – that can be tailored to your turf demands.
- Protection from harmful UV radiation and high light intensities.
- Rainfast in 1 hour.



A brilliant tool for WARM SEASON TURF during the cold winter months from April through to August/September!

Fairways – winter: Apply 2 litres/ha every 6 – 8 weeks. You could start by just spraying April & August to assist the plant into and out of winter.

Before Ryder



Bermudagrass

After Ryder



Bermudagrass



Greens

Before Ryder

After Ryder

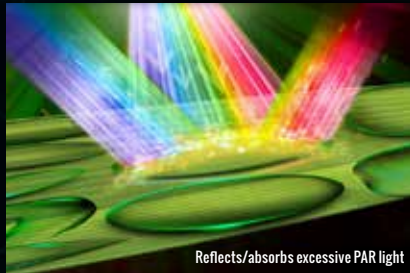
How does RYDER work?

RYDER absorbs and reflects not only damaging UV light but also will help protect against excessive light during the summer periods of overwinter cold stress.

RYDER helps protect against harmful UV light and excessive light



Reflects/absorbs UV light



Reflects/absorbs excessive PAR light



Application advice

Use a water volume of 600-750 litres per hectare.

Greens and turf maintained at under 12mm

Apply at a rate of 0.75 to 1.5 l/ha

Turf maintained above 12mm

Apply at a rate of 1.0 to 2.0 l/ha

For superior coverage apply 0.5-1.0 l/ha in each of two directions.

Use higher rates for a deeper green colour, higher heights of cut and greater protection against light stress.

RYDER can be used at any time of the year but plan programmes when stressful periods are expected.

RYDER - Pigment applications on Bermuda

Ryder pigment can be used many times during the year. At times, just to add some color after vertical mowing and topdressing. This will help keep your greens lean and not looking "lush"!

Ryder will work better when applied to green turf, just before going dormant. You can spray it on dormant turf, but the results will not be as good and a higher rate may be required.

Apply Ryder twice prior to dormancy - 3-4 weeks apart. First as they go dormant and second to help break the dormancy. The green color absorbs more heat and can speed up recovery by 2-3 weeks in sunny weather. For areas that do not get as cold, spray Ryder every couple of weeks to keep the green during periods of light frost and cooler temperatures.

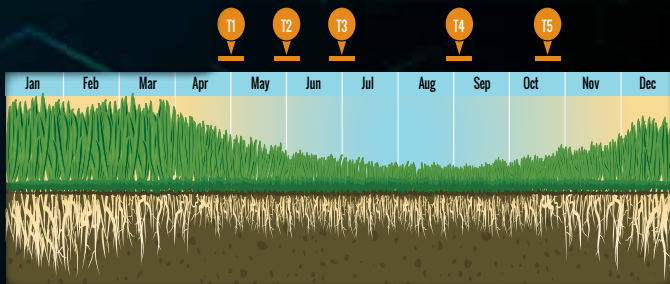
T1 and T2 at 2 litres/ha.

T3 at 1l/ha as you will have built colour.

T3 is after last mowing and spray in two directions (second spray at 90° to first spray) to improve coverage.

T4 and potentially T5 can increase spring recovery and break of dormancy. 1-2 litres/ha based on the colour you have.

RYDER Autumn / Winter programme



Powdery Mildew

Causal Agent:

Erysiphe graminis

Susceptible Turfgrass:

Bermudagrass, Fine-Leaf Fescue, Kentucky Bluegrass, Perennial Ryegrass

Symptoms:

The disease first appears on the leaves as individual **tufts of fine, white mycelium**. The tufts enlarge and coalesce, causing the leaves to have a **greyish-white or powdery appearance**. Severely infected turf turns yellow, then tan and brown in colour. Stressed turf that is severely infected can die. Severely infected turf, especially in shaded areas, can become thinned.



Powdery Mildew

Conditions Favouring Disease:

Powdery Mildew is favoured by humid, cloudy weather with temperatures between **15°C and 22°C**. It occurs in areas under stress, with low light, and with high humidity. Powdery Mildew is also common in areas with poor air circulation, but does not require a film of water to infect turf.

Integrated Turf Management Tips:

- Water as needed to avoid drought stress
- Avoid levels of nitrogen and irrigation that produce lush leaf growth
- Raise the mower height
- Prune tree limbs to improve air circulation and the amount of sunlight
- Convert to a polystand of shade-adapted turfgrass



Pythium Blight

Causal Agent:

Pythium aphanidermatum, other *Pythium* species



Pythium Blight on Perennial Ryegrass



Pythium Blight close up



Pythium Blight from 6m

Susceptible Turfgrass:

Most species of warm and cool season turfgrass

Symptoms:

Pythium Blight appears suddenly during hot, humid weather. This disease causes **greasy, brown circular spots** that are initially about 2 cm to 5 cm in diameter and then rapidly enlarge in size. The spots are water-soaked and dark-coloured early in the morning. They also form **fluffy white masses of fungal mycelium** (cottony blight) and can coalesce to form large, irregular areas of dead turf. Infected patches may appear brownish-orange in colour.

Conditions Favouring Disease:

Pythium Blight **favours night temperatures of over 20°C**. It occurs in areas that experience more than 10 hours a day of foliar wetness for several consecutive days. It is found in the wettest areas of turf and in areas with poor drainage and air circulation. Lush-growing turf growing under nitrogen fertilization is particularly susceptible to the disease.

Integrated Turf Management Tips:

- Avoid mowing wet turf when the foliar mycelium is evident to minimise spreading the disease
- Reduce thatch
- Avoid excessive nitrogen application during hot weather
- Increase air circulation to speed the drying process of the turf
- Minimise the amount of shade
- Irrigate turf early in the day. Avoid late-day watering
- Improve soil drainage
- Irrigate turf deeply and as infrequently as possible and Bermudagrass



THE PYTHIUM SPECIALIST

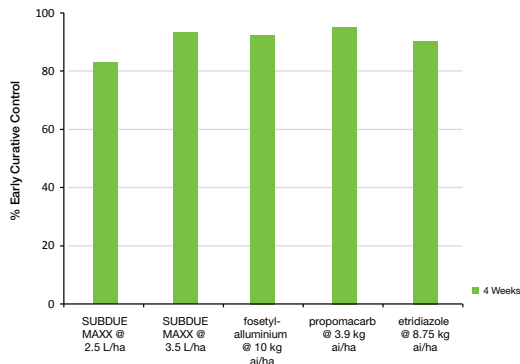
One of the best preventative and early curative systemic fungicides for effective control of *Pythium* spp. in your greens.

What SUBDUE MAXX offers you:

- ✓ A **highly effective, economical solution** for *Pythium* in all turf species
- ✓ **Protection** of germinating seedlings during overseeding with **high turf safety**
- ✓ The **combination** of **fast absorption** and **even systemic movement** as well as **contact action** in soil, resulting in full plant protection. Best to apply in 600-800 litres/ha water volume and don't water in
- ✓ MAXX technology allows for **excellent tank mix** compatibility with other fungicides and foliar fertilizers



Pythium Control



Pythium Root Rot (Root Dysfunction)

Causal Agent:

Pythium aphanidermatum, *Pythium aristosporum*, *Pythium graminicola*, *Pythium vanterpooli*, other *Pythium* species



Pythium Root Rot close up



Pythium Root Rot



Pythium Root Rot

Susceptible Turfgrass:

Annual Bluegrass and Creeping Bentgrass most susceptible. Bermudagrass and Seashore Paspalum can also be affected.

Symptoms:

Pythium Root Rot is common on highly maintained turf, such as golf course greens. Although symptoms of *Pythium* Root Rot are typically non-distinctive, this **disease can appear as yellow, irregularly shaped patches**. The affected turfgrass is thin, off-colour, and slow growing, while the root system is stunted with reduced volume and vigour. Foliar mycelium does not occur.

Conditions Favouring Disease:

Some *Pythium* species favour temperatures between **0°C and 10°C** while **others thrive in temperatures between 21°C and 32°C**. *Pythium* Root Rot occurs in areas with high soil moisture, poor drainage, and low light. It also infects locations with low mowing height and excessive wear.

Integrated Turf Management Tips:

- Increase the height of cut
- Apply optimum amounts of nitrogen, phosphorous, and potash
- Reduce mowing frequency and use lightweight mowers
- Avoid over-watering
- Apply low amounts of nitrogen in the Spring when roots are forming
- Minimise the amount of shade
- Improve the drainage of the turf
- Reduce soil compaction
- Apply penetrant fungicides on a preventive basis



Seedling Damping Off

Damping off is a seedling disease that may develop before or after the emergence of turfgrass seedlings



Seedling Damping off close up



Greasy texture and dark coloured turf with Seedling Damping off



Mycelium present on Seedling Damping off

When the disease develops after emergence, seedlings initially appear flaccid and twisted as if suffering from wilt. The seedlings continue to decline, turning dark in colour and greasy in appearance, and then quickly disintegrate to leave areas of bare soil. Damping off initially develops in localized spots, but the disease often spreads rapidly to injure large areas. In severe cases, tufts of mycelium may be observed in affected areas when the leaves are wet. Turfgrasses are most susceptible to damping off during germination and seedling emergence.

Red Thread

Causal Agent:

Red Thread – *Laetisaria fuciformis*

Susceptible Turfgrass:

Most turfgrasses, but particularly severe on Bermudagrass, Creeping Bentgrass, Fine-Leaf Fescue, Kentucky Bluegrass, Perennial Ryegrass and Poa Annua

Symptoms:

Red Thread causes patches that are



reddish-brown in colour and 2.5 to 10 cm in diameter up to 0.5 m.

Conditions Favouring Disease:

Red Thread thrives in temperatures between **4°C to 29°C** and in locations that are low in nitrogen. It also occurs in areas that experience more than 10 hours a day of foliar wetness for several consecutive days.

Integrated Turf Management Tips:

- Mow turf frequently and collect clippings to remove diseased portions of the leaves
- Maintain adequate nitrogen and a balanced fertility
- Apply moderate to high amounts of phosphorous and potash
- Maintain the soil pH between 6.5 to 7.0
- Reduce shade
- Increase the air circulation to the turf's drying process
- Irrigate turf deeply and as infrequently as possible
- Use fungicides to control disease when it is a chronic problem

 **BannerMaxx**
Fungicide

 **DaconilWeatherstik**
Fungicide

 **Heritage**
Turf fungicide

 **HeritageMaxx**
Turf fungicide

 **HeadwayMaxx**
Turf fungicide

 **Instrata**
Turf fungicide

 **Foliar**
FEED

Rhizoctonia Zeae (Rhizoctonia Leaf and Sheath Spot)

Causal Agent:

Rhizoctonia zeae and
Rhizoctonia oryzae

Susceptible Turfgrass:

Most species of warm and cool season turfgrass



Rhizoctonia Leaf & Sheath Spot

Symptoms:

The symptoms of Rhizoctonia Leaf and Sheath Spot can vary dramatically depending on the grass cultivar, climatic and atmospheric conditions, soil, and intensity of the turfgrass management. This disease typically causes thinned areas resembling scalped areas or semi-circular thinned rings in warm-season turfgrass and can also be commonly confused with fairy ring or hydrophobic areas. In cool season turfgrass, **small patches of blighted turfgrass** that measure 12 cm or more in diameter may exist in conjunction with brown patch. The disease can often have a **darker red/orange hue** to the infected turfgrass. Leaf spots may, but oftentimes do not, occur. These thin areas can also be slower to respond to fungicides as the disease is most active at high temperatures which can impede turfgrass re-growth.

Conditions Favouring Disease:

Infection from the pathogens that cause Rhizoctonia Leaf and Sheath Spot is not as fast as with Brown Patch or Large Patch (*R. solani*), nor does it occur in the same conditions. Infection is most favoured by high canopy temperatures of **28°–36°C**. This disease can be quite **active in the heat of the Summer** as temperatures in the turfgrass canopy exceed the 37°C range. Turfgrass that is stressed from drought and over-reliance on irrigation with poor quality water high in carbonates and salinity is more subject to infection. This can be a seemingly hot, dry weather disease as only humidity or moisture within the crown is necessary for infection.

Integrated Turf Management Tips:

- Avoid nitrogen applications when the disease is active
- Increase the height of cut on greens, especially during drought conditions
- Increase the air circulation
- Irrigate turf early in the day
- Manage leach salts periodically with heavy irrigation events
- Reduce thatch
- Use fans when practical to improve air flow and lower canopy temperatures
- For best results, use contact or penetrant fungicides to prevent brown patch



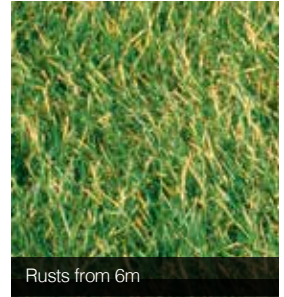
Rusts: Crown, Leaf and Stem

Causal Agent:

Crown – *Puccinia coronata*; Leaf – *Uromyces dactylidis*; Stem (Black) – *Puccinia graminis*; Stripe (Yellow) – *Puccinia striiformis*

Susceptible Turfgrass:

Bentgrass, Kentucky Bluegrass, Perennial Ryegrass, Tall Fescue, Zoysiagrass



Symptoms:

Rust diseases cause **light yellow flecks initially** on the **leaf blades** and **sheaths**. The flecks enlarge, **elongate**, and **turn yellow in colour**. The infected areas rise above the epidermis and then **rupture**, **releasing spores** that are **yellowish-orange** to **reddish-brown** in colour. The leaf blade turns yellow starting at the tip and progressing to the base sheath. A severe disease infection can cause the shoot to turn yellowish to reddish-brown in colour and slow in growth. The turf may appear thin as individual shoots die.

Conditions Favouring Disease:

Rust diseases typically occur in early Spring through Autumn, depending on the location of the turf. Rusts favour moist, low-light areas. Depending on the species, rusts favour temperatures between **18°C and 30°C**. Severe rust infections occur on slow-growing turfgrass, particularly those with low nitrogen levels and/or plant water stress.

Integrated Turf Management Tips:

- Convert to a turfgrass species or cultivar (especially for Kentucky Bluegrass and Perennial Ryegrass) that are resistant to rust diseases found in the area
- Apply adequate levels of nitrogen
- Remove clippings from turf
- Reduce thatch
- Reduce shade and improve air circulation
- Regulate irrigation to minimise the amount of time moisture remains on the leaf surface. Water deeply and infrequently
- Use penetrant fungicides to control rust diseases on slow-growing grasses and to grasses that are not mown



Spring Dead Spot

Causal Agent:

Ophiosphaerella korrae,
Ophiosphaerella sp. formerly
known as *Leptosphaeria* sp.

Susceptible Turfgrass:

Ultra-Dwarf Bermuda,
Bermudagrass, Buffalograss, Kikuyu



Spring Dead Spot close up



Spring Dead Spot from 6m

Symptoms:

Infected Bermudagrass shows disease symptoms as it emerges from Winter dormancy. Spring Dead Spot appears as **bleached, straw-coloured, circular patches** that measure up to several feet in diameter. The **roots** of affected plants turn **dark brown to black**.

Conditions Favouring Disease:

Spring Dead Spot favours **cool, wet weather in Autumn** and daily temperatures, of **less than 16°C** in May. Symptoms are usually seen in Spring. This disease is typically found where thatch is more than 1.2 cm thick and in locations with poor drainage and low potash levels. Heavy applications of nitrogen in late Summer often increase disease severity the following Spring. Spring Dead Spot is more severe on Bermudagrass that is over three years old and in locations with long dormancy and cold temperatures.

Integrated Turf Management Tips:

- Treat in Autumn and do a follow up application 21 days later. Also do a Spring application. Best to spike prior to applying fungicide and water in immediately for a few minutes.
- Avoid late Summer or Autumn applications of nitrogen fertilizers which may enhance disease severity
- Use ammonium sources of nitrogen combined with potassium for fertilizer from Spring through early August
- Control weeds in affected turf to enhance recovery from Spring Dead Spot
- Apply moderate to high levels of phosphorous, potash, and minor elements
- Improve drainage of turf
- Reduce thatch
- Convert from common varieties to hybrid Bermudagrass with good Winter hardiness
- Use preventive fungicide applications in late September or October



Summer Patch

Causal Agent:

Magnaporthe poae

Susceptible Turfgrass:

Fine-Leaf Fescue,
Kentucky Bluegrass and
Poa Annua



Summer Patch close up



Summer Patch from 6m

Symptoms:

Summer Patch appears as **circular** or **irregularly shaped patches** that measure from several inches to several feet in width. Initially, patches appear as slow-growing thinned or wilted turfgrass. Mature patches are **brownish-yellow** to **straw-coloured** and can coalesce as they increase in size. The leaves of the plant turn yellow to brown from the tip to the base. The **roots** turn moderate to **dark brown**. Summer Patch can exhibit a ring-like appearance where a less susceptible grass species survives inside the diseased patch.

Conditions Favouring Disease:

Root infection is **initiated** when **soil temperatures exceed 18°C**; however, foliar symptoms of Summer Patch are favoured by temperatures **over 29°C during the day** and **over 21°C at night**. It is also commonly found in areas that are sunny, exposed, and with high soil moisture, high soil pH, compaction, poor drainage, and low mowing height. This disease is typically more severe in turfgrass that has been fertilized with nitrate-nitrogen.

Integrated Turf Management Tips:

- Use acidifying fertilizers
- Increase the height of cut
- Reduce soil compaction through aeration and use of lightweight equipment
- Syringe when the temperature is over 29°C
- Improve the drainage of the turf
- Convert to resistant species, such as tall Fescue, Bentgrass, or Perennial Ryegrass
- Apply fungicide preventively in Spring



Take-all Patch

Causal Agent:

Gaeumannomyces graminis var. avenae



Take-all Patch close up



Take-all Patch on Ultra-Dwarf
Bermuda



Take-all Patch on Bentgrass

Susceptible Turfgrass:

Colonial Bentgrass, Creeping Bentgrass, Ultra-Dwarf Bermudagrass

Symptoms:

Take-all Patch symptoms initially appear as small, circular reddish-brown spot patches. Symptoms will progress to **wilted, circular patches** that are **brown** or **bronze-coloured** and can measure up to several feet in diameter. Symptoms are most evident during periods of stress induced by hot, dry weather. Infected plants have **dark-brown roots**.

Conditions Favouring Disease:

Take-all Patch is most common on newly established turf and severity decreases as the turf stand matures. It will occur on sites that have light textured soils, low organic matter content, manganese deficiency, and pH above 6.5. Take-all Patch occurs when soil temperatures reach between **4°C – 15°C**. Take-all Patch typically occurs in cool, wet conditions and in areas with a high soil pH – most severe at pH 6.5 or above. This disease is more severe on less fertile and sandy soil.

Integrated Turf Management Tips:

- Use acidifying fertilizers
- Apply moderate to high levels of phosphorus, potash, and minor elements where these nutrients are depleted from the soil
- Improve the drainage of the turf
- Reduce thatch
- Improve drainage
- Apply penetrant fungicides in the early Spring after the first mowing and in the late Summer or Autumn



Take-all Root Rot (Bermudagrass Decline)

Causal Agent:

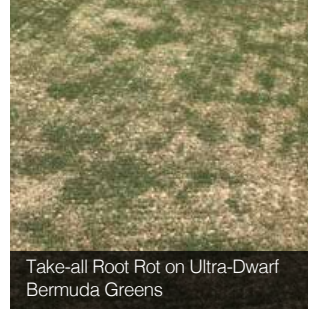
Gaeumannomyces graminis var. *graminis*



Take-all Root Rot close up



Take-all Root Rot to scale



Take-all Root Rot on Ultra-Dwarf Bermuda Greens

Susceptible Turfgrass:

Bermudagrass and Ultra-Dwarf Bermudagrass

Symptoms:

Symptoms appear in **patches** or **rings** up to several feet in diameter. Patches may coalesce to form large irregularly shaped areas, especially where **turf is stressed** from **traffic, poor drainage, or shade**. Affected turf initially shows symptoms of reduced growth, chlorosis, or leaf dieback. As the turf continues to decline it may turn tan, yellow or orange before collapsing and dying. Roots, stolons, and and/or rhizomes are sparse and noticeably rotten in affected areas.

Conditions favouring disease:

The Take-all Root Rot pathogen grows across a wide range of soil temperatures, but most infection likely occurs when the turf is weak or stressed. Low light levels combined with cool temperatures or extended periods of wet weather are the most common triggers. **The disease is most severe in poorly drained areas and where soil pH is greater than 7.0.** Stress from low mowing, inadequate fertility, excessive traffic, or shade cause the turf to be more susceptible. High populations of plant-parasitic nematodes also contribute to Take-all Root Rot development.

Integrated Turf Management Tips:

- Maintain soil pH below 7; most turfgrasses perform best when soil pH is between 6 and 6.5.
- Avoid lime applications unless directed by soil test results.
- Reduce turf stress by increasing mowing height, providing adequate fertility, and minimizing mechanical wear.
- Implement a nematicide programme if populations are at damaging levels
- Cultivate regularly to increase soil aeration and root growth.
- Improve soil drainage and avoid over-irrigation.
- Make preventive fungicide applications on a 14- to 28-day interval when conditions are conducive to development.



INSECT TARGET TIMING

Use Preventatively or Curatively

Meridian offers high levels of pest control and has been shown to be highly effective in controlling the damaging larval stage of White Grubs and Juvenile Mole Crickets, Ants, Black Maize Beetles and Rove Beetles.

Sep

- Eggs
- Early larvae
- Grubs

Oct-
Nov

- Ants
- Mole Crickets
- Termites

Dec-
Mar

- Army Worms
- Black Maize Beetle
- Rove Beetle



KEY FEATURES

- ✓ True broad spectrum control of surface-feeding insects
- ✓ Formulated to provide high water solubility for faster results
- ✓ Highly effective at low rates of application
- ✓ Can be applied preventatively or when small white grubs/juvenile mole crickets are present
- ✓ Easy to use formulation

APPLICATION TIMINGS TO REDUCE ADULT INSECT POPULATIONS AND DAMAGE:

Apply preventatively:

1,2kg/ha Meridian

1 L/ha Karate Zeon

These products can be tanked mixed with any Syngenta fungicides OR Qualibra Wetting Agent



syngenta.



A NEW post-emergent broadleaf weed herbicide

**CASPER Turf Herbicide is a CLEVER COMBINATION of
two active ingredients - DICAMBA & PROSULFURON
for DOUBLE THE ACTION**



Bindii



Khaki Weed



Lambs Tongue



Blackberry Nightshade



Milk Thistle



Subterranean Clover



Catsear



Burr Medic



Wireweed



Chickweed



Cotula



Purslane



Creeping Oxalis



Dandelion



Pennywort



Curled Dock



Wonderlawn



White Clover



DO NOT APPLY CASPER TO GOLF COURSE GREENS

DO NOT APPLY CASPER TO BUFFALO GRASS

DO NOT APPLY CASPER TO TURF THAT IS NOT WELL ESTABLISHED

PRE-EMERGENT WEED CONTROL

EFFECTIVE CONTROL OF BROADLEAF WEEDS AND GRASSES

- ✓ Optimised **S-metolachlor** formulation with 35% more herbicidal activity
- ✓ **Pre-emergent control of various annual grasses** – Goosegrass, Nutsedge, Crabgrass, Poa Annua (Winter Grass) – and broadleaf weeds
- ✓ **Safe to use** on recovering turf, all warm-season turf and on all landscaping areas
- ✓ **Minimal effect on new root development** when growing back Bermudagrass (Cynodon spp) or Kikuyu after harvesting and during recovery of sports fields after the winter season
- ✓ **Perfect rotation partner** for K1 turf herbicide group
- ✓ Apply Pennant Magnum when **soil temp reaches 16°C** and do a **follow up application 4-6 weeks later** to prevent annual grasses like Goosegrass and Crabgrass
- ✓ **For optimum results apply to moist soil and water in within 24 hours.** Do not physically disturb the soil after your application as it creates a barrier in the soil which will be broken by mechanical weeding.

WEEDS APPEAR AFTER FIRST RAINS OR SPRING:

- ✓ Apply Pennant Magnum prior to first rains and follow up 6 weeks later to prevent weeds germinating
- ✓ Crabgrass and Goosegrass control when temperatures reach 16°C and 6 weeks later.
- ✓ Nutsedge control - Nov, Dec, Jan, Feb
- ✓ Poa Annua germinates April and August



DO NOT APPLY TO COOL SEASON TURF

MAKING GOOD TURF GREAT FROM TEE TO GREEN

**A key tool for turf managers
throughout the world**

**CONSISTENTLY SUPERIOR
QUALITY PLAYING
SURFACES**



**REDUCED MOWING,
ESPECIALLY ON
FAIRWAYS AND IN ROUGH**



**MORE AVAILABLE LABOUR
FOR OTHER COURSE
MAINTENANCE ACTIVITIES**



**GREATER ROOTING,
DROUGHT TOLERANCE
AND SHADE TOLERANCE**



**REDUCED MACHINERY
MAINTENANCE
AND FUEL COSTS**

**MAKING GOOD TURF
GREAT
FROM TEE TO GREEN**

ESSENTIAL ON GOLF COURSE MAINTENANCE

- ✓ Improves Playability
- ✓ Increase density
- ✓ Improved colour & rooting
- ✓ Improved water efficiency
- ✓ Reduced clippings, scalping & vertical growth.

TEES

IMPROVED WEAR AND STRESS TOLERANCE
REDUCED MOWING REQUIREMENT
DENSER AND HIGHER QUALITY TURF
FASTER ESTABLISHMENT WITH OVERSEEDING
IMPROVED SHADE TOLERANCE

ROUGHS

REDUCED MOWING REQUIREMENT
REDUCED FUEL, MAINTENANCE AND LABOUR COSTS

FAIRWAYS

REDUCED MOWING REQUIREMENT
REDUCED FUEL, MAINTENANCE AND LABOUR COSTS
GREATER FLEXIBILITY IN CUTTING REGIMES
IMPROVED SWARD, DENSITY AND BALL LIE
GREATER RESISTANCE TO DIVOTING
LONGER RETENTION OF MOWING PATTERNS

GREENS

SMOOTHER, TRUER PUTTING SURFACE
GREATER DENSITY AND TURF QUALITY
SUPERIOR ROOTING AND DROUGHT STRESS
MORE CONSISTENT ROLL THROUGHOUT THE DAY
FASTER MOWING
GREATER OVER WINTER DISEASE TOLERANCE
GREATER SHADE TOLERANCE

Producing the ultimate playing surface – making your job stress free with less effort, reduced clippings and decreased costs. Producing superb turf quality.

DEEPER THINKING

Qualibra combines a unique and dynamic penetrant to move moisture, with a powerful polymer to hold moisture.

**PENETRANT
& POLYMER
IN ONE GREAT
PRODUCT!**

PENETRANT

**MOVES WATER
OFF THE
SURFACE**



POLYMER

**HOLDS +21%
MORE MOISTURE
EVENLY & DEEPER IN
THE ROOT ZONE**





DRY SURFACE WHILST KEEPING MOISTURE IN THE ROOT ZONE

- ✓ Quick water movement away from the soil surface
- ✓ 21% more moisture retention deep and evenly in the root zone
- ✓ Maintain plant health and playing surface quality
- ✓ Prevent damaging dry patch developing
- ✓ Make better use of irrigation resources
- ✓ Reduce effects of drought
- ✓ Retain healthy root mass
- ✓ Allows turf managers to produce a firm, fast playing surface
- ✓ Less favourable environment for Poa Annua, algae and moss as moisture is moved off the playing surface into the root zone

Syngenta XC Nozzles



Syngenta XC Nozzles are a breakthrough in turf application technology, to deliver better and more accurate results.

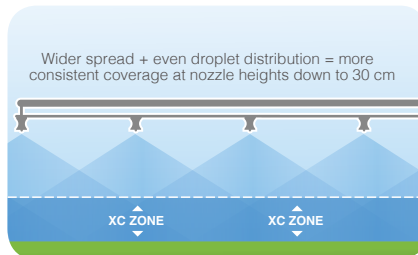
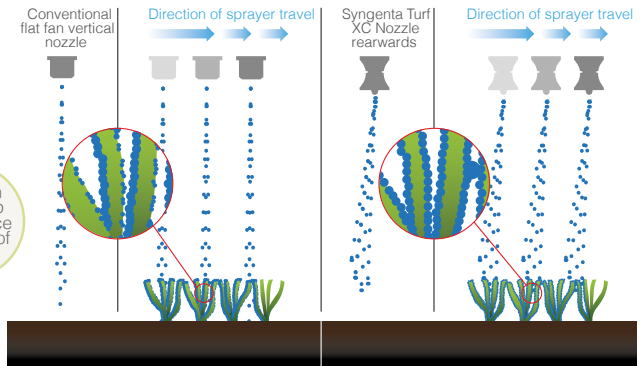
Syngenta Turf XC Nozzle range availability						
Size	Typical water volume (l/ha)	Typical spraying speed (Km/hr)	Recommended use	Best used with	Benefits	
	220-400	5-7	Foliar fungicides; herbicide and growth regulator.	Primo Maxx Heritage Banner Daconil Weatherstik	<ul style="list-style-type: none"> Maintains an even spray Combats spray drift allowing more spray Backwards spray angle enhances coverage even at low water volumes 	
	450-1000	5-7	Fungicides targeted at soil application and wetting agents.	Heritage Meridian		



Angled spray

Fit Syngenta Turf XC Nozzles so that the angled spray pattern faces rearwards. Insert nozzles into the bayonet with the Syngenta logo and moulded arrow on the nozzle to the front (facing direction of travel).

Syngenta Turf XC Nozzles fit ISO standard bayonet caps on most sprayers. Hardi sprayers will require bayonet adapters. These are available from the GreenCast website.



Even coverage

Syngenta Turf Nozzles have been specifically designed to cope with and maintain even coverage when spraying undulating ground.

Nozzles



04 XC Nozzle recommended for:

Foliar fungicides; herbicides and growth regulator.



Foliar nozzle application chart

Nozzle	Pressure (bar)	Flow rate per nozzle (l/min)	Application rate l/ha at respective forward speed (km/hr)					
			3	4	5	6	7	8
04	1	0.924	370	277	222	185	158	139
	1.5	1.131	453	339	272	226	194	170
	2	1.306	523	392	314	261	224	196
	2.5	1.461	584	438	351	292	250	219
	3	1.60	640	480	384	320	274	240
	3.5	1.728	691	518	415	346	296	259
	4	1.848	739	554	443	370	317	277

■ Optimum range



08 XC Nozzle recommended for:

Products targeted at soil application and wetting agents.



Soil nozzle application chart

Nozzle	Pressure (bar)	Flow rate per nozzle (l/min)	Application rate l/ha at respective forward speed (km/hr)					
			3	4	5	6	7	8
08	1	1.848	739	554	443	370	317	277
	1.5	2.263	905	679	543	453	388	339
	2	2.163	1045	784	627	523	448	392
	2.5	2.921	1168	876	701	584	501	438
	3	3.20	1280	960	768	640	590	480
	3.5	3.456	1383	1037	830	691	638	518
	4	3.695	1478	1109	887	739	682	554

■ Optimum range

Mixing Order of Spray Solutions

Mixing Order (WALES Method)

1. **W**ettable Powders (WP) then flowables (F, DF)
2. **A**gitate then add adjuvants such as anti-foaming compounds, buffers
3. **L**iquid and Soluble products
4. **E**mulsifiable concentrates (EC)
5. **S**urfactants

Since many factors influence pesticide compatibility, it is best to conduct your own jar test to determine compatibility, especially when applying a new mixture for the first time. The compatibility of pesticide-fertilizer combinations should also be tested on a small scale before large batches are mixed. If compatibility issues are detected, adding compatibility agent may help maintain the dispersion of the mixture. Always wear protective equipment and work in a safe place.

Water Volumes for Tank Mixing

TANK MIXING FOR GREENS APPLICATIONS:

600 – 800 Litres water volume per hectare

TANK MIXING FOR FAIRWAYS APPLICATIONS:

FOLIAR APPLICATIONS: 300 Litres water volume per hectare

KNAPSACK TANK MIXING:

6 Litres water volume per 100m²

Foliar Feed

TALKING TURF
Foliar
FEED



20 KG

Fertilizer Group 1

Reg no: K9545 Act 36 of 1947

N = 309.22 g.kg⁻¹ P = 1.50 g.kg⁻¹ K = 3.29 g.kg⁻¹
S = 52.61 g.kg⁻¹ Mg = 2.01 g.kg⁻¹ Fe = 61.99 g.kg⁻¹
Mn = 18.44 g.kg⁻¹ Mo = 0.1 g.kg⁻¹

STORE IN A COOL DRY PLACE

WATER SOLUBLE FOLIAR FEED FOR TURF GRASS. A GREAT TOOL TO INCREASE PLANT HEALTH & COLOUR.

GREENS

Apply every 14 days when the soil temp is above 8°C.

This product is not required once your Fe levels exceed 120 ppm in your soil test.

600-750 litres/ha water

8 kg/ha Talking Turf foliar

300 ml/ha Primo Maxx to improve density, colour, rooting, stress tolerance & playability

1 litre/ha Ryder to improve heat & cold tolerance

FAIRWAYS, TEES, SEMI ROUGH, SPORTS FIELDS

Apply when your soil temp is above 8°C or higher.

300 – 750 litres water per ha

Apply 8-12 kg/ha Talking Turf Foliar every 14 – 28 days

Tees – Add 1 litre/ha Primo Maxx every 21-18 days to improve root, colour & shade tolerance

Cool Season Fairways – Add 500 ml/ha Primo Maxx & 1 litre/ha Ryder every 14 -21 days to improve density, rooting, heat tolerance & reduce clippings

Bermuda Fairways – Add 1 litre/ha Primo Maxx every 14-21 days to improve rooting, colour, density, playability, reduce scalping & clippings

Kikuyu Fairways – Add 1,5 - 2 litres/ha Primo Maxx every 28 days to improve rooting, colour, density, playability, reduce scalping & clippings

All Semi-rough – add 500ml – 1 litre/ha Primo Maxx every 28 days to improve rooting, colour, shade tolerance, density & reduce clippings

Sports fields – follow fairways guidelines if your cutting height is 10-20 mm

– follow semi-rough guidelines if your cutting height is 21-40 mm

TRIED & TESTED ON WARM & COOL SEASON GRASSES SINCE 1999

Application rates supplied in this label are only guidelines. Such application rates should be adapted to local conditions such as difference of climate, soil type, temperature, variety of grass, application methods and irrigation/ fertigation systems might necessitate variation of the guideline applications given. To establish the correct application rate for environmental and crop specifics, the product should be applied based on the recommendations of a qualified technical advisor or consultant.

Ferto

TALKING TURF **Ferto**
Organic Fertilizer Range
For The Golf & Sports Field Industry



Send us your soil analysis and we will make you a prescription blend suited to your soil type.



TOP SEED VARIETIES
FOR A BETTER TURF



syngenta



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Build the right plan.
Grow your best turf.

**AGRONOMIC
PROGRAMS**
FROM
THE **GROUND
UP**

syngenta.



Cynodon dactylon

GOBI

Very fast

- New mediterranean variety with semidwarf growth habit.
- Upright growth and short internodes.
- Unbeatable drought and salt tolerance.
- Uses 20% less water than TIFWAY 4-19 bermudagrass.
- Fast establishment and easy recovery ability.
- Less thatchy compared with other hybrid bermudagrass.
- Wear tolerant.
- Less winter dormancy than common varieties.
- Well suited to be mixed with other bermudas or cool season grasses to save water.
- Available seed hulled and coated in order to ensure fastest and uniform establishment.
- Ideal for home lawns, parks, sport fields, racetracks..., where there is a lack of water.



COMPACT AND PERSISTENT



Low water needs



Establishment:
2 weeks



Salt tolerance



Lower maintenance
needs



Disease tolerance



Heat tolerance



Traffic tolerance



Environmentally
friendly

MIXTURE

SPARRING

- Our most popular blend for field with the best performance, providing endurance and excellent recovery.
- Medium to low cultivation needs. Low mowing and fungicide needs.
- High tolerance to heat, drought and salinity.
- Water savings up to 30% compared to standard cool season mixtures.

Uses: Public and private lawns, football, soccer, racetracks, polo fields, roughs, pitch&putt fairways. Sod production.

COMPOSITION SPARRING	% WEIGHT	% SEED COUNT
<i>Festuca arundinacea</i> FESNOVA	30%	25%
<i>Festuca arundinacea</i> TERRANO	30%	23%
<i>Festuca arundinacea</i> BIZEM	25%	19%
<i>Lolium perenne</i> RINOVO	10%	11%
<i>Poa pratensis</i> PRAFIN	5%	22%

Packaging: 1 kg, 5 kg and 25 kg

TURF PERFORMANCE SCORES

Seeding rate g/m ²	35
Overseeding rate g/m ²	40-50
Seeds per gram	737
Days to germination	7-12
Recommended planting dates	Spring, end of summer, autumn
Color	Dark green
Establishment rate	Medium
Growth	Slow
Leaf texture	Medium
Spreading activity	Yes
Maintenance needs	Low
Fertilizing needs	Low
Shade tolerance	Moderate
Winter dormancy	No
Disease resistance	Excellent
Recovery ability	Excellent
Traffic tolerance	Excellent
Heat tolerance	Excellent
Mowing height	20-30 mm
Mowing frequency	Low
Irrigation needs	Low
Salinity tolerance	High



A FAST MOVING LATERAL SPREAD RYEGRASS



Stolons



High density



Persistent



Traffic tolerant

PERENNIAL RYEGRASS **GREENLAND** (PPG-PR-196)

- Heat tolerant
- Excellent density and fine leaf texture
- High tillering capacity
- Improved lateral spread ability
- Excellent salt tolerance
- Gray Leaf spot resistance
- Excellent wear tolerance
- Dark Green color

GREENLAND is a high quality perennial rye grass bred from the varieties All Star 3, Amazing GS, Amazing A+, Crescendo, Grand Slam GLR, Green Supreme, Homerun, Notable and Rio Vista.

With its overall qualities of disease resistance, salt tolerance, wear tolerance, high persistence, heat tolerance and lower maintenance needs **GREENLAND** makes for an excellent choice for all-around cool season grasses





Top seed varieties for the ultimate playing surface



syngenta®

APPLICATIONS AFTER SEEDING

Application immediately after seeding & repeat 21 days later.		
Mix in 600-800 litres/ha water volume & water in after 1 hour		
4kg/ha	Cropboost K	Feed Potassium
5 L/ha	TT AmiNo	Stimulates root development.
10-20 L/ha	Qualibra	Penetrant and Polymer in one.
1-2 L/ha	Ryder	To speed up the seed germination process.
3 L/ha	Subdue Maxx	To prevent seedling damping off.

Mix in 600-800 litres/ha water volume		
4kg/ha	Cropboost K	Apply in Jan-Dec (Feed Potassium)
50 g/ha	NuGrow	Apply in Jan- Dec (21 Beneficial microbes)
2-5 L/ha	Marinure Pro	Apply in Jan- Dec (Improves root development)
1-2 L/ha	Ryder	Apply in Jan- Dec (Improves heat and cold tolerance)
5 L/ha	Daconil WS	Apply in Jan, Feb, Nov, Dec (Cannot build up resistance)
3 L/ha	Subdue Maxx	Apply in Jan, Nov (Controls Pythium spp.)
1 kg/ha	Heritage	Apply in Feb, Dec (Controls 28 diseases)
3 L/ha	Banner Maxx	Apply in Mar, Oct (Best curative product)
3 L/ha	Headway Maxx	Apply in Apr, Sep (Best combo product)
12,5 L/ha	TT Clear Out	Apply in May, June (Improves winter plant health)
-	Primo Maxx	Start apps after 3 rd cut. (Contact Talking Turf for rates)

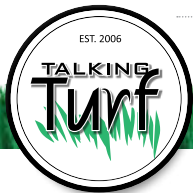
Take Note

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Take Note

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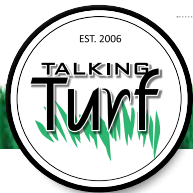
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**Talking Turf have
proudly maintained
Mbombela,
Kanyamazane and
Kabokweni stadiums
since 2014.**



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FOR A BETTER TURF



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